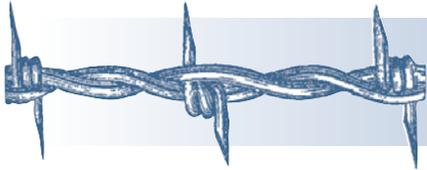




Department of  
Veterans Affairs



# American Ex-Prisoners of War

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THE SECRETARY OF VETERANS AFFAIRS  
WASHINGTON

Message from the Secretary of Veterans Affairs

Our military history is replete with heroes who put love of country above their own well being. Probably no group of veterans has suffered more than Americans captured by the enemy and held as prisoners of war (POWs). These POW's experienced physical torture, starvation, and psychological trauma while in enemy captivity. This American ex-Prisoner of War independent study module will examine the health after-effects of captivity for those soldiers in the European, Pacific, Korean, and Vietnam theaters of conflict.

This study module provides the opportunity to better understand what our captured soldiers experienced, and the medical conditions related to the atrocities and sub-human treatment many of them received.

I am proud of the commitment you show by completing this course. Please accept my thanks for your efforts to improve the quality of care to those who have served and sacrificed for us all.

  
Anthony J. Principi



## Forward

This Independent Study was inspired by the bravery and strength of character of the ex-POW's I have known. I only hope that participating in this study will foster a deeper understanding of the hardships they endured in enemy hands.

Among those captured by the Germans, I respectfully acknowledge the contributions of Donald Britt, Ross Coker, Glen Cleland, Harold Chesterman, Paul Dely, James Vogel, Frank Irizary, Eugene Nagy, Judson Luckhurst, Harley Burnett, Albert Bernard, Furman Davis, George Drew, Elonomac Creel, William Hooper, James Fulton, Richard Sprouse, Charles Stenger and Santos Santoni.

Those captured by the Japanese whom I wish to recognize include Robert Horn, Joseph Moore, Owen Boothroyd, Charles Looper, Stephen Raymond, Antonio Delpino, Max Wilson, John Aldrich, Landys McClamma, Jasper Taylor, Henry Brunet, Jake Austin, Keith Johnson, Stan Sommers, Al Bland and Ralph Levenburg.

From those captured by the North Koreans and Chinese during the Korean War, I would like to thank William Shaddish, Marvin Wallace, Joseph Spano, Robert Buzbee, Al Burton, Paul Lynch, Charles Davis and Wilmer Bartlett.

I also wish to remember those captured by the North Vietnamese and the Vietcong during the Vietnam War, among them James Jackson, Everett Alvarez and Dick Stratton.

I cannot adequately express the influence all these American men have had on my life; however, I especially want to recognize an ex-POW of Germany whose courage has inspired me throughout my entire life: my father, William Paul Skelton Jr.

William Paul Skelton III, MD, FACP



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## Independent Study Outline

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**Background** This independent study module is being released as a part of the Veterans Health Initiative (VHI). The VHI is a comprehensive program of continuing education that recognizes the connection between certain health effects and military service and emphasizes better military medical histories for former prisoners of war and veteran patients in order to provide them with the best available care.

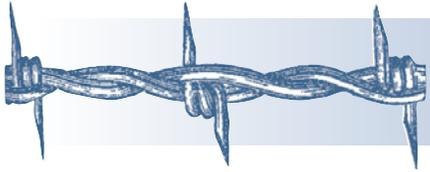
**Purpose** Throughout the history of our democracy, members of our armed forces have served gallantly and often at great personal risk to further the cause of liberty. This independent study is to familiarize clinical staff with the kinds of experiences and resulting conditions that affect veterans who have been prisoners of war in the German, Pacific, Korean and Vietnam theaters of conflict. Furthermore, the health implications of such experiences are discussed and causes of disability are explored. Physical conditions, as well as mental health manifestations as a result of the POW experiences, also are reviewed.

**Objectives** After completing this independent study, participants will be able to:

- Describe the typical kinds of treatment POWs' experienced in the German, Pacific, Korean and Vietnam theaters of conflict.
- Identify the common medical conditions associated with imprisonment.
- Describe psychiatric conditions that may occur as a result of the POW experience.
- Develop an appreciation for what happened to veterans when they were imprisoned.
- Assess for the sequelae of the POW experience in appropriate veterans.
- Provide support and education to prisoners of war and their families.

**Outcome** The expected outcomes of this independent study are to improve the quality and quantity of care provided to American former prisoners of war.

**Target Audience** This independent study is primarily designed for Department of Veterans Affairs clinicians and other interested VA staff. Other health care providers, especially those in VA health care facilities, also are encouraged to complete the study.

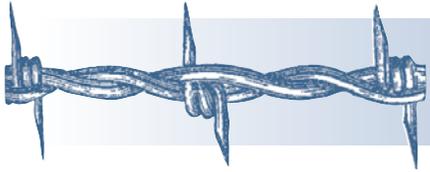


## Program Description

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### Content Materials:

- Introduction
- Biostatistics
- Morbidity and Mortality
- Duration of Internment
- Service Connected Disability Among Ex – POW's
- National Academy of Science Studies
  
- POW's of Germany
  - Camp Life
  - Nutrition
  - Transfers
  
- POW's of Japan
  - Women POW's
  - Nutrition
  - Working Conditions
  
- POW's of Korea
  - Camp Life
  - Nutrition
  - Indoctrination



- POW's of Vietnam
  - South Vietnam
  - North Vietnam
  
- The Presumptive Service-Connected Disabilities
  - Post Traumatic Osteoarthritis
  - Nutritional Depletion
  - Marasmus
  - Kwashiorkor
  - Trace Element Deficiencies
  - Essential Fatty Acid Deficiencies
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  - Beriberi
  - Beriberi, B-1 deficiency
  - Wet Beriberi
  - Dry Beriberi
  - Cardiac Beriberi
  - Long Term Sequelae
  - Ischemic Cardiomyopathy
  - Beriberi Neuropathy
  - Ariboflavinosis
  - Pellagra
  - Avitaminosis: B-2, 3, A, C and the Overlap Syndromes
  - Gastrointestinal Diseases
  - Irritable Bowel Syndrome
  - Peptic Ulcer Disease
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  - Panic Disorder
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  - Obsessive Compulsive Disorder
  - Post-Traumatic Stress Disorder
  - Atypical Anxiety Disorder
  - Depressive Neurosis or Dysthymia
  
- Summary
  
- References
  
- Appendix A – VA Benefits
  
- Appendix B – Description of Presumptive Conditions
  
- Appendix C – Related Websites
  
- Independent Study Questions for CME Credit
  
- Independent Study Program Registration/Answer/Participation Satisfaction Form



## Program Development

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## I. Background Information

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### Introduction

American ex-POW's are exceptional individuals, having experienced a bewildering spectrum of harsh circumstances. Many of them continue to suffer from unique medical conditions as a result of their internment. At one point, more than 144,000 were living. Today, fewer than fifty thousand remain alive.

This publication will discuss in detail the American ex-POW experience in Germany, Japan, Korea and Vietnam. In addition, it will discuss the presumptive service-connected disabilities, how they were derived and the role they play in diagnosis. A bibliography is provided at the conclusion for further reading.

### Biostatistics

#### Morbidity and Mortality

In the World War II European Theater of Operations (ETO), only 1.2% of POW's died in captivity. The low death rate reflects many variables, chief among them the fact that the Germans signed and ratified the Geneva Convention.

The World War II Pacific Theater of Operations (PTO), specifically the Philippines, claimed many more POW lives. This high death rate is attributed to the fact that the Japanese, who signed but never ratified the Geneva Convention, mistreated the POW's. Primary causes of mortality and chronic morbidity among PTO ex-POW's were: (1) starvation; (2) infectious diseases; (3) hazards related to transportation to Japan; and (4) environmental exposure, particularly toward the end of the war when POW's were used as slave labor in Northern Japan and Manchuria.

Available data indicate that, as of the mid-1990's, a greater percentage of ex-POW's from the WWII PTO had died than those from other veterans' groups. Ex-POW's from the Korean Conflict have the second highest mortality rate to date, according to current information, followed by ex-POW's from WWII ETO and Vietnam, respectively.



## **Duration of Internment**

The majority of World War II ETO POW's were captured toward the end of the war, with the average internee spending less than one year in captivity. Their average age at capture was 25 years, reflecting the fact that most ETO prisoners were draftees.

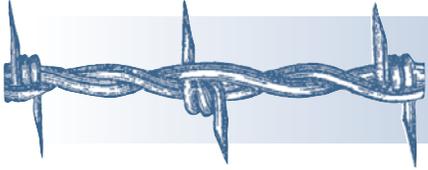
The PTO prisoners, being Regular Army soldiers, were around two years older at the time of their capture. They were interned for a much longer period of time, since the vast majority of PTO prisoners were captured on Bataan and Corregidor at the beginning of World War II and were not released until the end of the war more than three years later. In the Korean Conflict, the average age had dropped to around 23 years of age, again due to the fact that these men were draftees. Their average length of internment was just over two years. Vietnam-era POW's were around thirty years old at the time of their capture. They spent an average of five years in captivity.

## **Service-Connected Disability Among Ex-POW's**

An examination of the percentage of living POW's compared to all living veterans receiving service-connected disability compensation reveals several differences. Based upon information available, the highest percentage receiving disability compensation is found among Vietnam ex-POW's, nearly all of whom receive some degree of compensation. Around 60% of ex-POW's who served in the Korean Conflict are receiving service-connected disability compensation, as opposed to 5% of all Korean Conflict veterans as a group. While some 10% of all WWII veterans receive disability compensation, the percentage increases dramatically among ex-POW's, with roughly half of PTO ex-POW's and around 40% of ETO ex-POW's receiving compensation.

## **Average Degree of Service-Connected Disability**

Available data examining the average degree of service-connected disability indicate that the degree of disability among European Theater ex-POW's is similar to that of age-matched controls from the ETO, whereas the Pacific Theater POW is, on average, around 13% more disabled. Among those who have accessed services through the Department of Veterans Affairs, the Korean POW is, on the average, 6% more disabled than other Korean Veterans.



## **Percentage Of Service-Connected Disabled Veterans Rated $\geq 50\%$**

As expected, the percentage of veterans whose service-connected disability has been rated at 50% or greater is highest among WWII PTO POW's, nearly half of whom suffered this degree of disability. The number of WWII ETO POW's with  $\geq 50\%$  disability is roughly comparable to all WWII veterans, at around 20%. An estimated 35% of Korean ex-POW's are rated  $\geq 50\%$  disabled, as compared to some 25% of all Korean veterans. All figures are approximate.

## **Living Service-Connected Disabled Veterans Rated Unemployable**

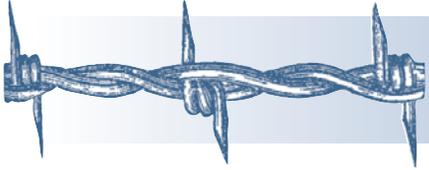
Among living service-connected disabled veterans, the highest percentage of those rated unemployable is among WWII PTO ex-POW's. Some 5% of all WWII veterans are rated unemployable due to service-connected disability. Similarly, around 5% of WWII ETO ex-POW's are rated unemployable. Some 10% of Korean ex-POW's are deemed unemployable, as opposed to around 6% of all veterans of the Korean Conflict. Estimates are based upon available information.

## **National Academy of Science Studies**

There have been several National Academy of Science and National Research Council-funded studies of prisoners of war. The first, by Cohen and Cooper, covering returning World War II POW's and age-matched controls, encompassed the years 1945 to 1951. The second study, completed by Nefzger, included the Korean ex-POW's and covered the period of 1953 to 1965. The third study, completed by Beebe, covered 1946 to 1965 in further detail. The fourth study, by Keehn, encompassed 1965 to 1975. Lastly, Page, in 1992, analyzed self-reported questionnaires and compared these to the POW protocol exams.

## **Cohen and Cooper**

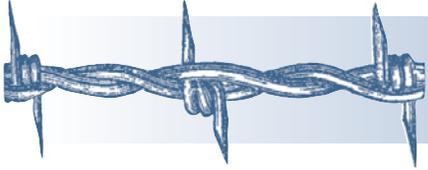
Cohen and Cooper noted that, among the Pacific Theater repatriated POW's, there was an increased incidence of death in the first two years of the study, tapering off in the last four years of the study. The difference was due to the high incidence of trauma, tuberculosis and cirrhosis. They felt the high rate of tuberculosis was secondary to the decreased immunity of the repatriated POW's as a consequence of chronic avitaminosis as well as the high rate of infectivity that was prevalent in the camps. Cirrhosis was felt to be caused by a combination of both alcohol abuse upon repatriation and chronic liver damage from the malnutrition of the POW experience. The high incidence of death due to trauma was generally felt to be secondary to psychological difficulties in readjusting to United States culture.



Post-repatriation hospital admission rates for POW's of Japan were greater than for controls in every category examined, including nervous system, circulatory system, genitourinary system, allergic disorders, psychiatric disorders, respiratory system and infectious diseases.

## Nefzger

Considering percentages of men compensated by degree as a means of expressing morbidity, data by Nefzger reported quite significant differences for every organ system of POW's of Japan vs. Control War Japan. For POW's of European Theater, musculoskeletal, digestive, skin and psychiatric disorders are statistically significant when compared to Control War European Theater. For the POW's of Korea vs. Control War Korea, the eye, systemic diseases, respiratory, digestive, skin and psychiatric diagnoses are all statistically significant.



## II. World War II POW's of Germany

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The military personnel of the European Theater of Operations (ETO) and the ex-POW's therein fell into two distinct groups: (1) fliers and crew members; and (2) infantry soldiers, who were generally of lower rank. In most cases, the fliers and their crew members were captured earlier in the war and, more often than not, were interned in Lufts, camps that were generally operated by the Luftwaffe, or German Air Force.



The vast majority of ETO ex-POW's were in the second group, most of whom were not captured until after the Battle of the Bulge. Often, these men were housed in poorly maintained camps called Stalags. These Stalags, operated by the Wehrmacht, the German Army, did not afford sufficient shelter from the elements, especially during the bitterly cold winter of 1944-45. In addition, the captured infantrymen were not

fed as well as the first group. These men also were subjected to long marches to retreat from the advancing American and Russian armies.

Overall mortality in the ETO was approximately 1%, with 1,124 men dying out of 93,941. There are several reasons for this low death rate:

1. Unlike their Pacific Theater of Operations (PTO) counterparts, the vast majority of these men were captured toward the war's end; therefore, even though they lost a great deal of weight acutely, they did not have to live with malnourishment under adverse physical circumstances for extended periods of time.
2. In general, POW's in Germany received somewhat better treatment at the hands of their captors than those captured by the Japanese. Among the reasons for this difference: the Germans were of the "western" mindset; i.e., they ceased fighting when a situation was deemed hopeless. On the other hand, the Japanese became more fanatical as the war neared its end.



3. Germany signed and ratified the 1929 Geneva Convention accords regarding treatment of Prisoners of War. While they did not abide by all the rules, many of the German camps did, at least initially, follow many of the guidelines set forth by the accords. For example, Germany frequently allowed Red Cross inspectors into some selected camps, while Japan never did.
4. Even though several in the German political high command wanted all commandos, pilots and airmen killed, the regular Luftwaffe officers in charge of actually running the camps were usually much more sympathetic to the POW's. Commander of the Luftwaffe Herman Goering had been a WWI pilot and felt a kinship to all airmen, believing that they were the last truly noble group. He constantly refused to have the airmen executed.
5. Since America had captured several thousand German prisoners in the North African campaigns, it was in Germany's interest to treat American POW's as they hoped their own prisoners would be treated.
6. On the whole, the diet among the POW's in Germany was superior to that provided to PTO POW's. As the Germany manpower pool shrank, POW's were often recruited as farm labor in Germany and the POW's often helped themselves to the fresh fruits and vegetables. The Germans also sometimes supplemented the POW's potato soup and black bread with vegetables, providing much-needed vitamins. Finally, unlike their Pacific Theater counterparts, German POW's sometimes benefited from the delivery of Red Cross parcels.

## Housing

Barracks in the Lufts and Stalags were usually 40' wide by 130' long, each containing ten rooms leading from a central hallway that ran lengthwise. Each room in the barracks was approximately 15 x 23 feet. Rooms were designed to provide facilities for sixteen men with eight wooden, double-deck bunks. In a few instances, the bunks were triple-decked, increasing the capacity of each room to twenty-four men. Later, two or three men were forced to share a single bunk. There were generally two washrooms, each without running water. A pit latrine was located near the rear of the barracks for night use.

## Food

Food in the camps was very diverse. In some of the Luft's, so-called "show" camps, the food was of high quality. In fact, many prisoners in the Lufts lost no weight at all. In most of the Stalags, however, the food was poor in quality and the supply was unpredictable.



The average POW in the Stalags usually received no more than 700 calories per day. Breakfast usually consisted of a cup of ersatz coffee, which the prisoners frequently used as hot water for shaving. Lunch was a ladle of vegetable soup and a small portion of bread. The evening meal often consisted solely of one loaf of bread for six men. This bread was impossible to cut evenly, and few POW's had knives, so many POW camps devised a system wherein the same six men would consistently eat together. Each would take a daily turn at cutting the bread, with the one who cut the bread having the last choice and the man after him having first choice. Rotating into first place became the main event to look forward to every six days. In all probability, intermittent Red Cross parcels kept the POW's interned in the Stalags alive.



## **Luft III — A Bold Escape Attempt**

Life in many of the Luft camps was tolerable, with gardening libraries and other recreational activities sometimes available. For example, Luft III at Sagan, which held British and American officers considered high escape risks, was ostensibly designed to be so pleasant that there would be no desire among the prisoners to escape. In reality, Luft III was a “show” camp for Red Cross inspectors.

Even though Luft III was a true prison camp and not a concentration camp, the British devised an elaborate escape scheme. The purpose of this scheme was twofold — first, to escape, and second, to disrupt the Germans' war effort by harassing them as much as possible. Every POW in the entire camp was sworn to secrecy and enlisted in the escape effort, which centered around digging three tunnels, code named Tom, Dick and Harry. Ingenious uses were found for everyday materials. Mattress slats were replaced with ropes so the wood could be used for



tunnel construction. Heels of shoes were carved into stamps to be used as passport verification stamps. Phonograph records were carved into small discs for use as compass bases.

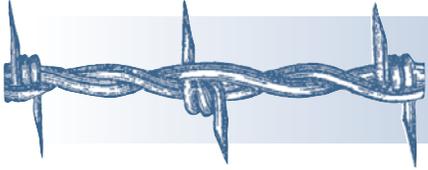
The scheme was interrupted in late 1943, when one of the tunnels was discovered just prior to its use. Despite the setback, work continued, and in early March 1944, seventy-two men escaped. Their freedom would be short-lived. The Germans diverted five million soldiers from the front lines to comb the countryside and retrieve all but three escapees who made it to foreign countries. Then Hitler himself ordered the execution of the escapees, fifty of whom were shot in the head by the Gestapo. The escapees' remains were cremated and returned to the camp, where their fellow prisoners buried them with full military honors and erected a stone memorial engraved with all fifty names.

## Camp VII-A

More often than not, life in the camps was miserable, with boredom punctuated by cruelty and starvation. POW Camp VII-A (1939-1945) was located north of the town of Moosburg, Germany. On September 22, 1939, Colonel Nepf visited the site. Noting the location's poor ground, the closeness of a chemical manure plant, the fact that a marsh was adjacent, and the flatness of the land, Colonel Nepf determined the site was insufficient for a Stammlager (central camp) or Stalag. Despite his recommendation, the site was selected and construction workers were given fourteen days to prepare a camp for 10,000 internees. The camp soon became the major receiving area for thousands of prisoners. In fact, by July 1940, more than 98,000 internees had passed through.

The main camp, which comprised in excess of 3,500,000 square meters, quickly transformed into the appearance of a town with tailor shops, carpenters, a blacksmith and a shop for watch repairs and electrical repairs. Thousands of cards and parcels arrived each week for the 80,000 POW's, 80,000 civilian prisoners and 8,000 guards. Prisoners continued to pour in until the end of 1944.





Towards the end of the war, Hitler ordered that no prisoner fall into the hands of the enemy. The camp commandant, Colonel Burger, intervened through the Red Cross and the camp was not bombed. Later, in April 1945, the commandant tricked the local SS Commander into believing he would send soldiers off to fight. Instead, he secretly turned the camp over to the Americans, thereby avoiding complete catastrophe. Forward elements of General Patton's Army reached the camp and liberated it before any injury could come to the prisoners inside.

## Stalag Luft IV

Approximately 10,000 American Air Force (AAF) personnel were housed at Stalag Luft IV in Pomerania. The sick load here was tremendous. Five allied doctors imprisoned to handle the situation organized the sick into three groups: (1) those who were wounded, burned or otherwise injured in aerial combat; (2) the routine casualties; and, (3) the typical illnesses of overcrowding and malnutrition.

Many AAF and Allied gunners received training on the scene to become medics. All learned fast and worked hard. They would change dressings, treat minor ailments and spot severe cases requiring a physician.

At the prison hospital, vaccines from the Red Cross parcels were collected and stored. When they collected 300 doses of typhus vaccine, word was passed out that the vaccinations would be given — first come, first served. Hundreds of men stood in the bitterly cold January weather for the vaccine. The decision was made to give each man half an injection. This way, 600 men were vaccinated. Despite this effort, hundreds were turned away.

On February 2, 1945, 300 men, including most of the sick and wounded, were placed into trains and shipped out. Four days later, the remaining prisoners were marched out on a journey that would last for eighty-six horrific days during which aerial strafing was common and men were often forced to sleep in the snow. Frostbite affected virtually everyone and hunger was a constant companion. To add to the misery, diarrhea and dysentery were commonplace. At one point, fifty percent of the men soiled their own clothing. There was neither sanitation nor toilet facilities, and the only source of water came from ditches formerly used as latrines. A slimy trail of dysentery and blood was left across Germany. Yet after the group had marched from the eastern front to the western front, they were sent back to the eastern front. All the misery and suffering had been for naught.

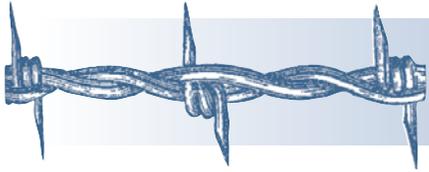


## Transfers

Transfers in Germany were generally carried out by truck or train after the men were initially captured. This was especially true of fliers captured in the beginning of the war, when Germany had complete control of its own skies. By war's end, however, when the Germans were retreating from the advancing American and Russian armies, transfers were often carried out via forced marches or cattle cars. It was during these later transfers that men succumbed to the natural elements of the winter of 1944-45.

The German high command was in a state of disarray in the early months of 1945 and the treatment of allied POW's was not a high priority; therefore, little food was provided and there was virtually no protection from the elements. As happened at Stalag Luft IV, entire camps were often evacuated in front of the advancing Allied Army and marched across Germany, passing several full camps. Then, they would be ordered back to their original departure point again. In addition to freezing to death and dying of dysentery, many were shot during forced marches. Since the allies controlled the skies, strafing attacks were commonplace. Often, horses would be butchered and fed to the hungry columns of POW's. These horses were considered manna from heaven and thanks was given to the Flying Quartermaster Corps.

As the end of the war became very obvious to the Germans, they began to treat POW's better. For example, once-confiscated Red Cross parcels were distributed to those in need. Improvements in treatment were especially evident when the allied guns could be heard in the distance. Many times, the liberating forward allied units would sarcastically, echo the greeting of the former German captors, saying, "For you, the war is over."



### III. WWII POW's of Japan

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Japan captured several thousand Americans throughout the Pacific; however, the vast majority of prisoners were captured in the Philippine Islands. The overwhelming majority of these prisoners came from the fall of Bataan and later, Corregidor. The fall of Bataan alone gave the Japanese in excess of 75,000 troops to deal with — 60,000 of whom were Philippine nationals. The POW's in the Philippines experienced a mortality rate of 40%, with approximately 11,107 deaths out of the total 27,465 internees in the Philippines. Altogether, 12,935 out of the 34,648 total American POW's died at the hands of the Japanese.

On April 9, 1942, U.S. Major General Edward King surrendered to the Japanese 14<sup>th</sup> Army on the northern island of Luzon. The 14<sup>th</sup> Army was commanded by Lieutenant General Masaharu Homma, a British military school graduate. General Homma refused to meet General King and instead sent his senior operations officer, Colonel Motoo Nakayama, who demanded to meet General Wainright, who had been in overall command of the Philippine archipelago ever since General MacArthur left in January, 1942.

Colonel Nakayama screamed for General King to “Go and get Wainright” as General King tried repeatedly to explain that he was there to surrender Bataan only and to request terms for surrender. He explained that he had no control over the rest of the Philippines nor had he any power to bring General Wainright to Colonel Nakayama. Additionally, he told Nakayama that he had enough fuel and vehicles for a rapid and orderly evacuation off Bataan to any area that General Homma chose.



Colonel Nakayama refused to make any concessions. Sternly, Nakayama told General King that since he did not speak for General Wainright and could not surrender all of the Philippine Islands, it was “absolutely impossible to negotiate for the surrender of Bataan.” Nakayama asserted the troops could give up if they wished, but it would be as individual units both “voluntarily and unconditionally.” He therefore refused to be bound by the Geneva accords regarding the humane treatment of prisoners of war and referred to the men as “captives.”

Upon demanding General King’s sword, Colonel Nakayama became enraged to learn that the general had left it in Manila. He took General King’s pistol instead. After the war, Colonel Nakayama testified that the surrender was accomplished by the “voluntary and unconditional surrender of each individual unit. The negotiations for the cessation of hostilities had failed.” He said, “The Japanese Imperial Army are not barbarians.”

## **Bataan Death March**

The men taken captive on Bataan were forced to undertake a 100-mile trek from the southern areas of Bataan to Camps O’Donnell and Cabanatuan. At this time, Americans made up less than 15% of the total U.S. force on the island. The rest were Philippine Nationals, 6,000-11,000 of whom served as scouts in the U.S. Army. During the forced march, which later became known as the Death March, thousands of men died, mostly from beheadings and shootings. In all, 650 Americans and more than 16,500 Filipinos died.

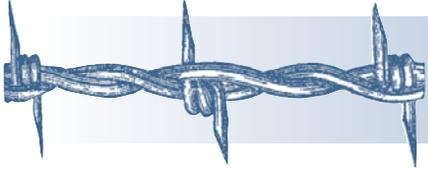
## **Reasons for High Mortality**

There were several reasons for the high mortality rate of the prisoners captured on Bataan and subsequently on Corregidor.

- The Japanese greatly underestimated the eventual number of prisoners.
- The Japanese indiscriminately killed captives.
- The Americans and the Filipinos were in poor physical condition prior to their capture.
- Little transportation was provided for the captured men.
- Insufficient food, water, medical attention and shelter were provided.
- Cruel treatment was rampant.

## **Underestimation of the Eventual Numbers**

According to their Bushido Code, the Japanese felt that death in battle was the highest honor while surrender was the most abject disgrace. They did not recognize the concept of prisoners of war, and they believed that the Americans also would not recognize that concept and would die before surrendering. Augmenting the Bushido Code was the fact that the Japanese had



come to believe that their cause was just and pure and they viewed themselves as a racially pure Asian group self-appointed to rid the hemisphere of all other ethnic groups.

The Japanese had contemplated only taking 10,000 or so captives. When they unexpectedly captured approximately 13,000 Americans, 60,000 Philippine nationals who were members of the military and 25,000 civilians, their ability to cope was grossly overwhelmed.

### **Indiscriminate Killing Along Death Marches**

The Japanese soldier was trained to follow orders only and not to think for himself. He was the product of a stern and coercive society, with a hard and brutal military system in which physical punishment was routine and arbitrary. He endured his lot stoically and without question. Understandably, he treated his subordinates with similar brutality. Fanatically indoctrinated never to surrender, he held in contempt anyone who did. To this revulsion was added the Samurai tradition of revenge reinforced by the heavy casualties suffered by the Japanese in capturing Bataan.

When a group of prisoners would walk slowly, or drop out of the line for a drink of water, the guards would often taunt and beat the prisoners. At other times, they would simply bayonet or shoot them. Many Americans lost their lives to beheadings, which were the favorite form of execution by the Japanese.

Often, enlisted men would give all their possessions to their commanding officer in hopes that the Japanese would respect him and he would be able to protect their possessions. Unfortunately, the Japanese did not recognize the concept of either prisoners' rights or the rank of a prisoner.

All captives were searched for items of value. If an American were found to be in possession of anything of Japanese origin such as money, pictures or merchandise, the Japanese contended that the materials had been removed from the bodies of dead Japanese soldiers of the 14<sup>th</sup> Army. Immediately, the prisoner was thrown to his knees and beheaded.

An incredible act of human cruelty was committed upon the members of the 91<sup>st</sup> Philippine Division. On April 11, 1942, the entire division was being marched northward when it was visited by 65<sup>th</sup> Brigade commander Lt. General Akina Nara, a graduate of the U.S. Army Infantry School at Ft. Benning, Georgia. Although Nara's exact role was never known, all the privates were removed following his visit. After their removal, all the officers and non-commissioned officers had their hands bound behind them with telephone wire. Each man was then bound to the other by the neck and made to stand in four lines of one hundred men each.



The group was marched down into a large ravine and stood with their backs to their captors. Then, a Japanese civilian interpreter told them in Tagalog that they were being punished for siding with the Americans in the war. He further stated, "My friends, don't take it so hard; you must be patient. Had you surrendered earlier, you would not have met this tragedy. We are doing this because many of our soldiers died fighting against you. If you have any requests before we kill you, ask it now."

Major Pedro Felix, the senior officer, requested that the men be killed by machine gun fire or at least be allowed to stand and face their executioners. Both requests were denied. Thereupon, a Japanese officer placed at each side began to decapitate the men one by one. The screams of the dying and terrified men continued for eight hours until the last man had been decapitated.

As in all massacres, there were a few survivors who would later retell the gruesome story. In this case, Major Felix survived the night and chewed through his bindings. Felix, along with two other mortally wounded men, climbed out of the ravine and were met the next morning by other Filipinos to whom they told their story.

## **Poor Physical Condition of Americans and Filipinos Prior to Capture**

Normal work in the Philippines at that time required at least 3,500 to 4,000 calories per day per man. The Morgan Board Debarkation Hospitals documented an average 15-20% weight loss among many POW's prior to their capture.

Due to severe food shortages on Bataan and Corregidor, General MacArthur had withdrawn all the U.S. forces into Bataan in January 1942, but he had only brought enough food for thirty days. Consequently, General MacArthur had put all troops on half rations, which provided each man with approximately 2,000 calories per day.

In February, the daily food rations were cut to 1,500 calories and by March to 1,000 calories. The rations at this time were white, polished rice purchased from the natives. By late March, the 26<sup>th</sup> Cavalry had eaten its 250 horses and fifty mules. Furthermore, the entire local population of dogs, pigs, water buffalo and monkeys in the surrounding jungle had been consumed.

Approximately 70% of the men in the 31st Infantry on Bataan were on the sick list on the day of capture. These men were suffering from malaria, dysentery and malnutrition of various types. No provisions at all were made for assisting the sick and wounded. They had to be carried by healthier prisoners on blankets strung between poles. After the war, General Homma would testify that he had absolutely no idea of the condition of the American troops. He would say he had not been informed of the debilitated state of many of them. He said his only concern was to clear Bataan of non-belligerents in order to take control of Corregidor.



## **Little Transportation Provided for Bataan POW's**

The Japanese wanted to accomplish the evacuation of the prisoners as soon as possible because General Homma was under tremendous political and military pressure back in Japan to complete the occupation of all the Philippines Islands by early April, 1942. The original Japanese plan was to clear the prisoners in phased movements from Bataan to central Luzon. The reality was that the plan was never enacted, as the Japanese were much less concerned with their new prisoners than with taking the island of Corregidor. The prisoners were simply obstacles to their scheduled takeover of Corregidor.

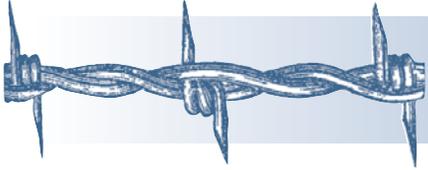
At the most, only a few thousand captives were transported from the front lines in trucks. For the majority, the exodus from Bataan was anything but a carefully organized military movement. It was instead a series of tortuous marches, with needless exposure to the sun, crowded and filthy assembly areas, beatings, torture and arbitrary executions.

The Japanese had anticipated the American forces would surrender approximately three weeks later than they did. They also believed the Americans would surrender in the northern instead of the southern region of Bataan to which they had retreated. This combination of the earlier capitulation and the farther distance, aggravated by the fact that the few vehicles that the Japanese had brought were being used to transport their own troops to the southern region of Bataan, led to their forcing the American captives to march for days on end in the hot sun with little or no protective gear.

## **Insufficient Food, Water, Medical Attention and Shelter**

Along the march, a central collection point for all the prisoners was the town of Balanga, since the Japanese had reckoned that all the captives could walk there from whatever point they had been captured. No provisions were made for feeding the prisoners since the Japanese figured that the entire journey should take no more than one to two days. It was here in Balanga, a small town of 5,000 people with little infrastructure to handle mass numbers of prisoners, that the arriving captives were forced into small, crowded warehouses or animal stockyards and forced to lie beside dead and dying comrades. It also was in Balanga that the Japanese committed several of the horrors of the death march. For instance, it was here that so many stragglers in the march were simply buried alive. If they resisted, they were usually hit on top of the head with a shovel.

Basic necessities were scarce. The Japanese confiscated the captured American medical supplies for their own use. The only food permitted to be distributed to the Americans was scavenged prior to the evacuation, and the only water along the route came from a few scattered artesian wells and water buffalo watering holes. This water, contaminated with parasites,



gave the men severe dysentery. Even so, thirst caused many men to break out of the lines and run toward the watering holes. The Japanese would either shoot them on the spot or bayonet them as they were drinking.

From Balanga, the captives walked to San Fernando and boarded trains for the final thirty miles to Camp O'Donnell. The small, unventilated metal boxcars hadn't been cleaned since being used for animal transport. Once the men were crowded inside, the doors were locked and did not open until the captives arrived at camp. Although this was usually a three-hour ride, the loading process often took hours. Throughout the loading and the journey, the men were forced to stand beside each other in the hot, filthy boxcars. Diarrhea and sweat permeated the air.

The diet among the POW's in the camps of the Pacific, particularly in the Philippines, was a very important factor in the deaths of so many prisoners. In general, the diet was poor in 1942, better in 1943 and worse again in 1944. The daily ration consisted mostly of polished rice. Always of a quality far below that of the rice used by the Japanese, it was contaminated with trash and infested most of the time with insects, parasites and bacteria. The rice was essentially what the Japanese did not consider good enough for their enlisted men to consume.

While the typical diet varied greatly among the camps, it was never adequate, even at the best. The Japanese often issued weeds as substitutes for vegetables. A half canteen cup, usually eight ounces, or 160 calories, of thin rice gruel (lugao) twice, and, on rare occasions, three times a day was the standard. At times, no food at all was available. About once a week, camp veterinarians slaughtered a single water buffalo to feed approximately 10,000 prisoners. Usually this meat supplemented the diet by only a few grams of protein per prisoner.

Any evidence that the prisoners were supplementing their diets was dealt with very harshly. Usually, there was a beating with clubs until a bone was broken. Many times, the offender was simply shot. Thousands of Red Cross parcels were shipped to the men in the Philippines; however, the Japanese kept and ate most of them for themselves. As previously stated, the Japanese refused to allow any Red Cross observers into the camps.

## **Rampant Cruelty**

Many times, captives, especially officers, walking down a road along which a convoy of Japanese soldiers was also traveling would be struck on the head with a bamboo pole or bayonet blade by a passing Japanese soldier. If the prisoner did not immediately get up and continue the march, he would be shot.

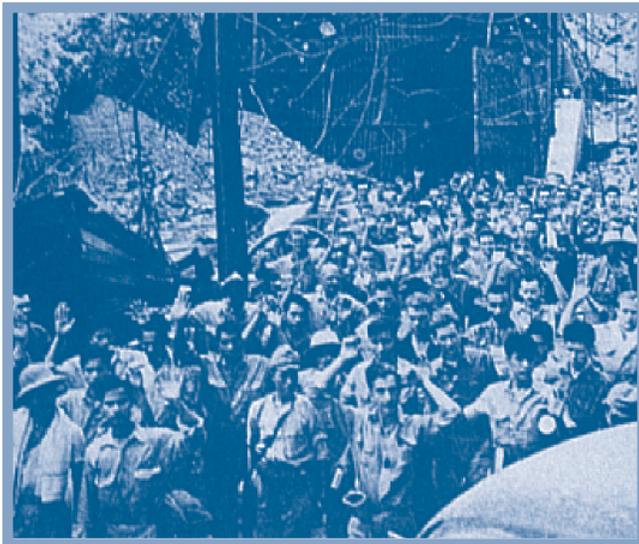


Cruelty seemed to be a common denominator among all of the guards and Japanese officers. Beatings and kicking were common to both officers and enlisted men. The captors would often administer the “sun treatment” in which POW’s were lined up in rows and forced to squat for hours on end in the afternoon sun.

## Military Field Code of Japan

The Japanese War Ministry in Tokyo had issued directives throughout the war regarding the treatment of prisoners as well as their own soldiers who were about to fall into enemy hands. The Military Field Code issued in January 1941 made it clear to all Japanese soldiers that falling into enemy hands brought irrevocable shame to both the soldier and his family. It stated: “Have regard for your family first. Rather than live and bear the shame of imprisonment by the enemy, the soldier must die and avoid leaving a dishonorable name.”

The Field Code directed the Japanese soldier to save the last round of ammunition for himself, or to charge the enemy in a suicidal assault. Armies of Western nations fighting in WWII had a ratio of four soldiers captured to every soldier killed on the battlefield. In the Japanese Army, the ratio was one soldier captured for every 120 deaths.



## Corregidor

The island fortress of Corregidor surrendered on May 5, 1942, one month after the fall of Bataan. Besides the constant shelling, one of the main problems for Corregidor defenders was that of no fresh water. Because it was the dry season in the Philippines and there had been no significant rain for months; the reservoirs were nearly dry. The combination of no food, little water, dwindling supplies of medicines and munitions forced General Wainwright to meet with General Homma to discuss peace terms.

General Homma was enraged to hear General Wainwright came only to surrender the Fortress Island of Corregidor and not the entire Philippine Islands. There was still a significant force on the southernmost island of Mindanao. General Homma then demanded unconditional surrender, and the American POW’s held on Corregidor were used as hostages to guarantee General Wainwright’s ability to persuade the troops to surrender in the southern Philippine islands.



POW's captured on Corregidor were given extremely harsh treatment after their surrender. For 18 days, they were confined to a concrete area of about 20 acres known as the "92<sup>nd</sup> Garage Area." This site, which consisted of a peacetime truck parking area and a seaplane ramp, had no shade and only a meager, intermittent supply of very bad-tasting "gyppy" water. Here, they remained in the open sun, without protection from the elements. General Homma had hinted strongly that if the southern forces did not surrender, these men would be massacred.

The only food available was that which the troops had managed to gather after the surrender, and that was very limited since not much was available before the surrender. Fortunately, the Philippine national civilians were removed from the island during the first two days after its surrender or the situation would have been catastrophic.

The American captives from Corregidor were eventually transferred by ship across Manila Bay to Manila, where they were put ashore and forced to walk down Dewey Boulevard to Bilibid Prison in an effort to disgrace them in front of the local Philippine civilians. In Manila, the Americans were separated from the Filipino POW's and, over the few next days, were moved by rail to the town of Cabanatuan. From here, the Americans were marched to Cabanatuan Camp III, formerly a Philippine Army cantonment area. The Philippine nationals were moved to other camps.

## **The Camps**

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### **Camp O'Donnell**

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For the men who survived the Death March, life in the internment camps was a horrible experience. Camp O'Donnell was a partially completed American airfield eight miles west of the Manila railroad at Capas. It had been nearly destroyed by the Americans during their retreat and had only two poorly functioning artesian wells to provide drinking water for thousands of men.

Each group of internees arriving into Camp O'Donnell was greeted by the Camp Commandant, Captain Tsuneyoski, who informed them in a screaming voice that Japan had occupied all the Allied possessions of the U.S. and Great Britain in Southeast Asia. He also declared that the U.S. and Great Britain were Japan's eternal enemies and would remain so forever until the influence of the Occident was completely wiped out in Asia. With a sneer, he told the men that they were captives, far below the dignity of prisoners of war, and that they owed their lives to the generosity of the emperor.



Under Tsuneyoski's direction, all insignia of rank were to be removed, no American uniforms were allowed and all captives were to wear a loincloth. Also, all captives were to bow to any Japanese, regardless of rank, and all captives were to speak Japanese only. Failure to do so would result in a beating, he warned.

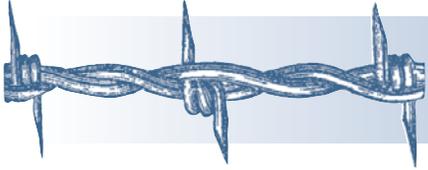
The men were arranged into groups of 10 each, termed "blood brother groups." The entire group would be punished for any infraction committed by any member. Minor offenses such as not bowing soon enough to a Japanese were often punished by the "sun treatment," in which the entire group of 10 were forced to squat or kneel in the sun for two to three days and not move at all or partake of food or water. Major infractions such as stealing or escape were punished by group decapitation.

All foods were considered property of the emperor, and to eat anything without permission was considered the same as stealing from him, a crime punishable by death. Prior ranks of Americans were not to be acknowledged either by the Japanese or by the Americans. In fact, any show of respect for an American officer would result in a beating, which was accomplished with a club, a rifle butt or a tree limb. Many times the beating was continued until the captive either passed out or suffered a broken bone. Because the Japanese were much shorter, the Americans were forced to stand in a hole during the beating so that their faces could be hit with maximum force.

It was at Camp O'Donnell that the American captives first learned that they would not be protected by the Geneva Convention accords of 1929 since, although the Japanese government had allowed its representatives to sign it, the accord was never ratified back in Japan. Given the hatred of the Japanese for the Americans, it is understandable that the death rates soared.

The primary causes of death during the first six months of internment were malaria, dysentery and starvation. The Japanese organized the Americans into grave details for the purpose of burying the large numbers of daily dead. These grave details were composed of two sections: those who dug the graves and those who buried the corpses. Each morning, a large hole was dug for the 30 to 50 Americans who had died the previous day. The carriers had the additional gruesome task of straightening out the twisted bodies in order that they could be stacked on top of each other to create room for more dead prisoners.

The Japanese continued to inform the Americans that they did not care if they lived or died and many guards told the prisoners they hoped they would all die. The Japanese were very successful in their desires. Fifteen hundred out of 8,000 Americans and 22,000 Filipinos died at Camp O'Donnell in the first six months, primarily due to starvation and neglect, coupled with the withholding of basic medical care.



## **Cabanatuan I and III**

On June 6, 1942, the Americans were transferred to Cabanatuan I. This was a complex of camps, the worst being Cabanatuan I, where 2,700 out of the 6,500 American internees died in the first year. Most of the deaths could have been prevented by providing such basic necessities as food, shelter and minimal medical supplies. In June 1942, the hospital had 2,300 patients. Here, the “Zero Ward” was created. Men considered too sick to survive were sent there to die. Five hundred Americans died there in June 1942; 800 died in July. In contrast, Cabanatuan Camp III held the healthier Corregidor survivors and its death rate was much less.

Initially, camp life was typified by boredom and starvation. Later, the Japanese learned they could use the prisoners as slave laborers. In October 1942, 1,500 men from Cabanatuan Camps I and III were assigned to a work detail to be sent somewhere to the north of the Philippines. Most would later be sent to Mukden, Manchuria. Another 1,000 were later sent to the southern island of Mindinau to work in the Davao penal colony. No accurate counts were kept about the eventual numbers of Filipinos who died, but estimates were at least 10 times that of the American numbers.

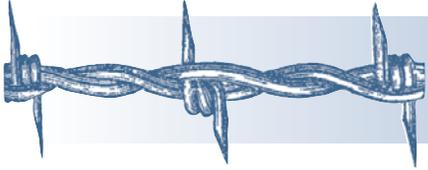
## **Bilibid Prison**

Bilibid Prison was used as a hospital and as a stopover point for POW’s who were being shipped to other islands or to Japan, China or Manchuria. Conditions inside the hospital were pathetic, with fewer calories provided than in the camps. Any POW sent to the hospital for treatment of an illness or waiting transportation was automatically given half-rations.

## **Death on Unmarked Japanese Ships**

The war dramatically cut the Japanese labor supply, and Japan looked to all its conquered territories to provide a labor supply. The healthiest of the American POW’s were chosen for transfer to work in Japan and occupied China. They were held in Bilibid prison until a transport ship could be arranged. The ships, which came to be known as “hell ships,” were large converted cargo and animal transport vessels that were often loaded in Manila Bay and prevented from sailing until the Japanese felt the waters were safe from American submarines.

Conditions inside the ships were deplorable, with no respite from the sweltering heat. The POW’s were packed tightly into the hold, crowded so closely that they could lie down only with great difficulty and much cooperation. They were forced to lie here for the entire trip



across the South China Sea and/or the Yellow Sea. Ventilation was nonexistent and refuse, which was kept in a bucket raised only once a day, often spilled into the faces of the men beneath. Episodes of madness were common during the voyages, as were displays of valor among those keeping the calm. Death was a constant companion. Corpses were piled up at night and tossed overboard the following morning.

- **Tottori Maru**

On October 1, 1942, the Tottori Maru departed with 1,992 Americans, British and Canadians loaded into three holds. It arrived in Formosa on October 11, 1942. There, the men were given a fire hose bath. The Americans were then reboarded and kept for 19 days on the ship. On November 8, 1942, the ship docked in Pusan, Korea where 1,200 prisoners were sent to Mukden. The others were sent to Osaka, Japan on November 12, 1942.

- **Arisan Maru**

One of the most pitiable examples of the loss of lives involving POW's in the Philippines occurred on the Arisan Maru, which carried 1,800 American POW's in its hold. American submarines patrolling in the South China Sea spotted the unmarked ship on October 19, 1944, and torpedoed it. As a result, 1,792 American POW's lost their lives. The American POW's who survived this terrible ordeal rode to China in a lifeboat. These men then walked across China and India and were eventually able to brief the State Department about the little-known conditions concerning our men held by the Japanese.

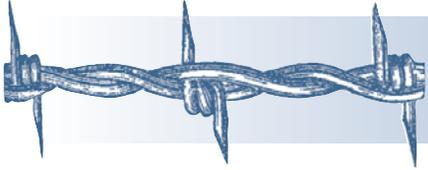
- **Shinyo Maru**

The Arisan Maru was not the only ship on which so many died. On September 7, 1944, the Shinyo Maru was torpedoed, resulting in 668 American deaths.

- **Oryoku Maru**

In December 1944, 1,619 POW's were collected at Bilibid prison for transport to Japan on the Oryoku Maru. The men were placed in the ship's front and rear holds, which were 40 by 80 feet each. While 3,200 square feet would allow 250 men sufficient room to lie down; the Japanese placed 800 men into each hold, leaving them there until the Japanese felt it was safe to head for the open sea. No food was provided at all for three days and the water was rationed by the teaspoonful. The combination of no ventilation and extreme heat generated from the 800 bodies inside made the overall living conditions intolerable, and several men crammed into the corners died of suffocation. Mr. Wada, a Japanese guard called "The Hunchback" by the POW's, continually threatened to shoot any and all POW's who moved or asked for water or assistance.

On December 12, 1944, the Oryoku Maru was sunk in Subic Bay and the weakened, starving and dehydrated POW's had to swim 300 yards to shore. Many drowned along the way in



the waves. The Japanese, enraged at the bombing, took out their anger on the defenseless survivors. Even though they were not directed where to come ashore, all those who exited the water outside boundaries the Japanese considered acceptable were machine-gunned. The Japanese offered no medical assistance to the wounded who remained on board and Lt. Toshino killed the wounded and helpless POW's with what he later termed "mercy shots."

Only 1,341 of the 1,619 originally on board survived the bombing, the swim ashore and the shootings, but more was to come. The prisoners were forced to crowd into an abandoned tennis court for several days. Only one water spigot was available and the line for water was six hours long. No food was provided; the men had to sit one next to another; and there was no room to sleep, lie down or get out of the hot sun. At night, the men were subjected to the cold winter air.

On December 28, 1944, 581 survivors of the Oryoku Maru were transferred into the Brazil Maru, and 1,070 into the Enoura Maru. These two sister ships then set off together to Japan.

- **Brazil Maru**

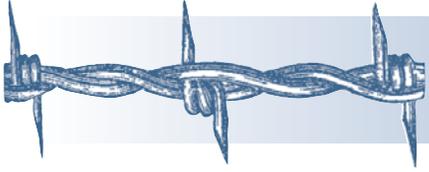
The Brazil Maru was an animal transport ship that had not been cleaned before POW's were crowded into the two holds for the trip to Japan, which took several weeks as the ship dodged roving American submarines. The lack of food, near total darkness and lack of fresh air drove many to madness. Screams often filled the holds at night. Many of the men would cannibalize the weak or dead, and bloodsucking was commonplace.

Once a day, a pot of rice and seaweed soup was lowered to the prisoners. The soup usually spilled and the men would desperately scramble for the dropped rice which had fallen into the animal manure on the floor. Only a few men got any food at all; most got nothing. Water was again rationed by the teaspoonful.

Each morning, the Japanese dropped ropes to haul up the corpses of those who had died during the night. Usually the bodies of the 30 to 50 who died were simply thrown over the sides.

As the ship drew farther north, the warm tropical air gave way to freezing temperatures. Many times, a daily high of 20 degrees was recorded. The men would huddle together and remove the clothes from the dead, as well as the sick and dying.

The mood inside the holds was one of isolation and hopelessness. Of the original 16 chaplains, only four were still alive by the time the ship arrived in Chinese waters. These chaplains could offer only a brief escape from the specter of a lonely and useless death.





The ship was attacked several times by American Navy planes. On January 8, 1945, more than 300 men were killed by explosions. Only the four chaplains and 497 POW's survived the trip to Moji on the Island of Kyushu. Even when the men arrived in Japan, the humiliation was not over. A Japanese medical officer who went aboard smelled the dysentery and ordered an examination. The POW's were forced to publicly strip naked on the open docks and bend over poles so that Japanese medical personnel could insert rods into their rectums in order to examine them for parasites.

- **Enura Maru**

From December 28 until December 31, 1944, the Enura Maru sailed to Formosa, where it remained docked until January 13, 1945, when more prisoners were added. It was attacked several times while docked and full of prisoners. On January 9, 1945, the Enoura Maru was attacked with 300 killed and 250 wounded. On January 10, 1945, it was attacked again, and most of the doctors on board were killed. The survivors were forced to remove 300 mangled bodies of their comrades from the metal girders inside the bombed-out ship. Of the original 1,311 on board, only 619 survived, and on January 13, 1945, all were transferred into Brazil Maru.

- **Nissyo Maru**

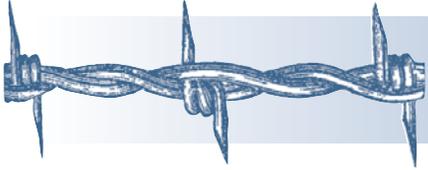
Beginning on July 17, 1944 and continuing over several days, 1,539 men were loaded into the holds of the Nissyo Maru. With no food and unbearable heat, fainting was common. Yet, because the men were crammed into the small spaces and forced to stand with arms to sides, there was no place to fall. The men became crazed: pushing, screaming and swearing at one another. To make matters worse, most had dysentery and there were no toilet facilities. Seasickness and vomiting also were common, caused by the rough waters of the China Sea. For sustenance, rice was lowered twice a day to those fortunate enough to be standing directly under the hold opening.

## Ultimate Death Toll

Despite the senseless and tragic loss of life, the Japanese still refused to mark the ships as carrying POW's. In all, 25 unmarked ships transporting Allied and American POW's were verified as having been sunk. Of the 18,901 men transported, 10,853 died due to submarine and air attacks.

## Slave Labor Pools

Once the POW's arrived at their end point destinations, they were forced, along with other foreign nationals, into slave labor pools and used in such projects as clearing and building railroads through jungles in occupied Southeast Asia. Here, the sanctity of life had very little



meaning; thousands died during railroad construction. POW's also were sent deep into Manchuria to work in mines. In Japan, the POW's were forced to work in factories, on docks and in coal and copper mines. No protective gear was ever provided for their skin or lungs.

## **Typical Barracks**

The typical POW barracks in Japan was primitive. There was usually only one coal or wood-burning stove kept in the center of the room, which was supposed to be used only for heating tea. There were several double bunks in a row. The men were given three woolen blankets, which they wove together into a bag to keep out the freezing air. No latrine was provided in the barracks.

## **War's End**

When news of the war's end reached the camps and the emperor told his soldiers to cease all hostilities, the camp commanders opened up the storehouses and allowed the prisoners to eat as much as they could. The Japanese, who feared vengeance by the Americans, were hopeful that the prisoners would gain weight and therefore not appear to have been badly treated.

As stated previously, the Japanese feudal military code of Bushido allowed the torture and mutilation of unarmed and defenseless prisoners. In addition, the code allowed for revenge to be taken out upon the prisoner in order to have the offended person not lose face. Such was the case at the end of the war. In August 1944, the War Ministry in Tokyo issued a directive to the commandants of various POW camps, outlining a policy for what it called the "final disposition" of prisoners. A copy of this document fell into American hands and became known as the "August 1 Kill All Order." It stated: "When the battle situation becomes urgent, the POW's will be concentrated and confined in their location and kept under heavy guard until preparations for the final disposition can be made. Whether they are destroyed individually or in groups, and whether it is accomplished by means of mass bombing, poisonous smoke, poisons, drowning or decapitation, dispose of them as the situation dictates. It is the aim not to allow the escape of a single one, to annihilate them all, and not leave any traces."

## **Atrocity at Puerto Princesa**

In no instance during the war was this taken to such great lengths as at the Puerto Princesa Prison Camp in Palauan, Philippines. There, the Japanese had seen American surveillance planes flying overhead several times. A few days later, on December 14, 1944, one of the greatest massacres in the history of WWII occurred. The American POW's were forced to dig long pits, which they were told were to be used as air raid shelters. Coverings were then placed over the top of the pits, ostensibly to protect the men from bomb blasts.



The Japanese military commander in charge was Lieutenant Sato, who is described as a “cruel, hateful man.” On the morning of the fourteenth, Sato ordered all 150 American POW’s into the pits. Once they were inside, Japanese soldiers emerged from hiding and doused the POW’s with high-octane aviation fuel. Within seconds, the trenches exploded in flames. Most of the men were trapped like termites in a nest; although a few, with their clothing on fire, managed to scamper out the sides. The Japanese were waiting with swords and swiftly decapitated the escapees. Throughout this grisly massacre, Sato laughed and ordered his men to toss grenades into the pits. As soon as he felt that all 150 POW’s were dead, the general ordered his men to throw gasoline on the bodies. Amazingly, a few POW’s escaped through a small hole in the back of the trench, ran unnoticed down a mountainside and swam across Manila Bay. The obvious fact that all the POW’s would be executed prompted the Americans to launch a raid on Cabanatuan, freeing all 500 U.S. POW’s there.

Most of the highest-ranking military officers demanded to the emperor that they fight to the last man. Furthermore, they wanted all POW’s executed, especially after the first atomic bomb had been dropped.

On August 11, 1945, an American B-29 Superfortress bomber was shot down over Fukuoka. Eight crew members were taken out of their jail cells, severely kicked and beaten. They were forced to watch as shallow holes were dug to receive their bodies. Then, they were decapitated one by one in retaliation for the atom bombing of Nagasaki.



## American Women as Prisoners of the Japanese

The Japanese capture of Corregidor on May 6, 1942 yielded 66 Army nurses, one civilian dietitian and one civilian physiotherapist. Eleven Navy nurses were captured in Manila and later transferred to Corregidor. No nurses were captured on Bataan, as they all had previously been evacuated to Corregidor. At the time of capture, most were undernourished, as were the male defenders of the Philippines. In January of 1942, half-rations were in effect, and in February of 1942 one-quarter rations were being issued. It was during these hard times that the nurses were dubbed “The Angels of Bataan and Corregidor.”

After capture, all the Army nurses were allowed to continue their work in the hospital wing



of Malinta Tunnel on Corregidor for two additional months; the hospital then was moved to an old school on the outskirts of Manila. The 11 Navy nurses eventually were transferred to Los Banos Camp with 400 civilian internees.

Due to their status as volunteers in the Army, the nurses were believed to be dangerous and were housed at the Santa Catalina girls' dormitory across the street from the Santo Tomas University Campus in Manila. Here they were kept in two large rooms with child-sized beds for seven weeks, enduring daily anxiety as to their possible future at the hands of the Japanese. At that time, they were not allowed to engage in nursing duties of any kind, and were allowed to go downstairs to eat only during the daytime.

By the end of August 1942, all the nurses were transferred to nearby Santo Tomas University Internment Camp, where they were housed with the civilian internees. During this time, the nurses persuaded the Japanese to convert the Santa Catalina girls' dormitory into a 150-bed hospital. Here, they were allowed to live and care for non-Axis civilians until they were freed by United States forces on February 3, 1945.

According to their Bushido Code, the Japanese respected the women under their control, so the nurses were not beaten. Neither were there any documented or reported cases of rape by the Japanese soldiers during this period. The Japanese tolerated no displays of affection, however. If a man were caught in the company of a woman, even if she were his wife, he would be punished by a 60-day jail term and the others in the internment camp would be placed on half rations.

After 8 to 12 months in captivity, all of the nurses failed to menstruate. The mechanism here is similar to that seen in anorexia nervosa wherein there is an impaired release of LHRH in the hypothalamus. Baseline LH and FSH are low, resulting in low estrone, estradiol and progesterone levels. The low estrogen and failure to ovulate seem to be solely due to gonadotropin deficiency. The exact mechanism involved in the failure of the hypothalamus to release LHRH is unknown. Menses and ovulation will return with weight gain, and several of these nurses had children after release.

The death rate among the male military POW's was 40% during their internment period under the Japanese. In contrast, not one nurse died during this time. Nevertheless, the average weight loss was 30% and death would have been inevitable had the nurses been rescued much later.



## Data Analysis

Through interviews with survivors, phone calls to VA central office and researching old references, 79 unique names were identified as those of women who had been prisoners of war of the Japanese. Furthermore, we found that no study had been undertaken to analyze them. Using the HINQ (hospital inquiry) data verification method, all 79 unique names were entered. We were hindered by the fact that only a few names had social security numbers available and many were hand-written and likely misspelled. Nevertheless, of the total requested via the HINQ verification method, 41 of the 79 (52%) were retrievable, while 38 of the 79 (48%) had no record matches at all. The latter group could be explained in that the names may have been initially loaded incorrectly into the system, the individual may never have used the VA health system or the veterans' benefits or we were looking for an incorrect file. Nevertheless, our research and data analysis covered the 41 retrieved files, and it is from this universe that our results and conclusions are drawn.

## Service Connected Disability Among Women POW's

In the group of 41, 21 (51%) had an accessible disability rating, and 20 (49%) had no compensation and pension record found, indicating that these latter individuals had gone to the VA hospital or used VA benefits but had never filed a disability claim. Also, two of the latter group had sensitive records and were therefore not accessible. Overall, 39 files were available for analysis and 21 (54%) of these women had a service-connected disability, which is virtually the same as the 50.6% of all male ex-POW's of the Pacific Theater of Operations who have service-connected disabilities. Among the verified women, the average degree of service-connected disability was 37%, again virtually the same as the male ex-POW's of the Pacific Theater of Operations, who had an average degree of 40%.

## Incidence of Disease

Among the 21 women with service-connected disabilities, diseases of the digestive system were the most frequent, with 11 out of the 39 (28%) receiving service-connected compensation. The next most frequent were the avitaminosis (including beriberi and pellagra) and neurologic disorders, each with 10 subjects out of the total of 39 (26%) receiving service-connected compensation. Thereafter, in order of decreasing frequency, 9 (23%) were service-connected for musculoskeletal disorders (including degenerative joint disease and Post-Traumatic osteoarthritis), 9 (23%) for malaria, 3 (8%) for systemic conditions and 3 (8%) for respiratory conditions (including 1 each for asthma, bronchitis and emphysema). Finally, there were 2 (5%) for each of the following: amoebiasis, blood condition, flat foot, sinusitis, peripheral nerve damage, varicose veins and gynecologic conditions.



## MFUA Statistics

When comparing the data with the Medical Follow Up Agency (MFUA) studies, it is quite interesting to note that the data for the men and the women is virtually the same as far as the percentage of individuals with service-connected disabilities, average degree of disability among the disabled, the incidence of service-connected disability for digestive disorders, avitaminosis, neurotic disorders, musculoskeletal disorders, malaria and systemic conditions. These percentages deviate significantly in the percentage of service-connection for pulmonary pathology, however. Among males, tuberculosis was very frequent and was one of the prime causes of death in men for the first 7 years after repatriation, whereas no cases appeared among the women POW's. Also, no complaints of peptic ulcer exist in the women as opposed to the men, among whom it was so common as to be a presumptive service-connected disorder. These differences are likely attributable to the fact that the men experienced a bimodal death rate curve. Deaths were high within the first 6 months of captivity due to the harsh treatment, poor diet and poor sanitation. Also, death rates were high again in the last year due to transport by cargo ships, which were often torpedoed, and working in coal mines and factories without protective gear.



## IV. POW's of North Korea and Communist China

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In the Korean Conflict the mortality rate was 38% with 2,700± confirmed deaths out of 7,140. There were several reasons for this high mortality rate:

- the Koreans never recognized the concept of prisoners of war;
- they had not ratified the Geneva Convention accords regarding the humane treatment of prisoners of war; and
- they regarded all forces hostile to their cause as war criminals, and they would treat them as such.

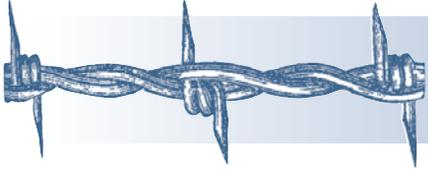
North Korea became a Communist nation in 1946. They would spend the next four years indoctrinating and reeducating their people as to the Communist ideology. They also used this time to develop a highly trained and indoctrinated army in order to invade their ancient southern foe. At 4 a.m. on June 25, 1950, near Kaesong, Communist forces pushed across the 38<sup>th</sup> parallel and invaded South Korea, thereby pursuing North Korea's goal of spreading communism as well as ending the civil war between the Korean people. Six days later, a battalion of the U.S. 24<sup>th</sup> infantry division was rushed to Korea from Japan. The first units to reach Korea were not well prepared for combat. They had been informed that the North Koreans would run away after learning of the American presence. The Americans soon found out how wrong they were.

By July 1950, Seoul had fallen to the Communists. Thousands of civilians and foreign nationals were trapped in Seoul and force-marched out. A few miles below Seoul, the American Army's 24<sup>th</sup> Division was trapped and annihilated. Furthermore, of the four regiments contained therein, only 700 men were captured. Included in this group was their commander, General Dean.

The North Koreans were particularly brutal. Many POW's were executed on the spot. The ones who were captured were forced to take off their shoes and most of their clothes. Over and over the North Koreans repeated to the captured Americans, "We want you to die. You came over here to kill us; now we are the boss!"

The American captives were force-marched into North Korea, along with civilian non-combatants from all over Seoul. There were diplomats and religious peoples, along with South Korean civilians. No help at all was allowed to be given to the injured. If a person was unable to walk under his own power, he was shot on the spot. Many of those stopping to relieve themselves from diarrhea were shot.

On the death march through Manpo, many were executed for not being able to keep up. In one particular column of military POW's, diplomats, journalists, missionaries, women and



children, the North Korean man in charge was known as “The Tiger.” There was light snow and sleet at the time. As the march proceeded, and more and more fell out due to exposure and neglect, The Tiger became angrier and angrier. He ordered the man in charge of the group with the most dropouts to step forward. Lt. Cordus Thornton of Longview, Texas stepped forward. “Death penalty for disobedience in wartime,” screamed The Tiger. “Is that not true for the American Army, as well?”

The lieutenant responded, “In America, I would get a trial.” The Tiger then looked around to see a column of retreating North Korean soldiers and asked their verdict. “Shoot him,” they all shouted in unison. “There, you have your trial,” said the Tiger. The Texan calmly replied “In Texas, sir, we would call that a lynching.” The Tiger then asked him if he wanted a blindfold to which Thornton replied, “Yes.” He was then blindfolded; his hands were tied behind him and he was shot by the Tiger in the base of the head.

## **Escalation**

Under the blessing of the United Nations, the United States began a massive military buildup in Japan and reinvaded the Korean peninsula. Most of the reserves flown from the U.S. were veterans of WW II, and were not as familiar with their weapons as the highly trained North Koreans; however, by November 1950, the U.S. forces had completely beaten the North Koreans and their lands and capital were in U.S./U.N. possession.

By late November, American forces had reached the border of Chinese Manchuria along the Yalu River. Just as the Americans felt the war was over and the problems all settled, the Communist Chinese sent millions of soldiers across the Yalu River against the U.N. forces. It was during this horrible time of fighting in sub-zero temperatures with little food and provisions when most of the 7,190 American POW’s were captured. Of the total captured, 6,656 were Army troops; 263 were Air Force; 231 were Marines and 40 were Navy men.

Generally, after a while in the hands of the North Koreans, the prisoners were turned over to civilian authorities, who forced prisoners to sleep on the floor. No beds or clean clothing were ever provided. Nor was medicine provided. The prisoners were not allowed to shave their beards or to cut their hair. Finally, after China entered the war in late 1950, the prisoners were given over to the Chinese authorities. Thousands of Americans who were captured were later reported missing by the Chinese. It is believed that these men were sent off to slave labor camps, where they eventually died.

## **Three Phases of Captivity**

There were three phases of captivity during which the POW’s were forced to endure extremely



different circumstances. Most of the deaths during the Korean Conflict came during the first phase of the hostilities. The Department of Defense Reports of 1955 revealed that 500 out of the 700 POW's captured in late 1950 were forced to march into North Korea and died either as a result of execution or exposure to freezing temperatures.

## **Phase I**

The American Army had expected victory over the North Koreans by Christmas, and therefore had not issued winter clothes. No one had seriously expected the Red Chinese to enter the war on the side of the North Koreans in the winter of 1950. Because they did, the captured American troops had to walk in the brutally cold winter with high snowdrifts and blowing winds with little more than jackets. Few had protective headgear.

The Korean soldiers were brutal and shot several American POW's in the heads or backs after tying their hands behind their backs. American officers were placed in charge of small groups. Any infraction by a group member was met by beating of the guilty individual and execution of the officer.

For those marched off to "Death Valley," the march took 25 days. The men were forced to walk two to three hours at night, then take a half-hour break. This made the situation worse because the three-hour march left them tired and sweating and the break left them very cold.

During the day, the men stayed in Korean mud huts. Often, 25 men were crowded into an 8' x 10' room, which forced the men to literally sleep on top of each other. They ate in the morning approximately an hour after stopping and again in the evening an hour before departure. The food was four ounces of cracked corn. No utensils were provided, and the drinking water was melted snow.

Over two-thirds of the group developed bloody dysentery during the march. Those too weak to walk were left behind with an enemy guard. Soon, shots were heard, and the guard who had been left behind would catch up to the group. Fifty men were lost on the march. The survivors arrived in "Death Valley" the day after Christmas in 1950.

"Death Valley" was divided into two sections approximately two miles apart. The officers were placed in the south section. In the officer's section, the barracks-like area held 25 men each. At night, two-thirds of the group had to sit with their chins on their knees so the remaining one-third could lie down. After awhile, the men would rotate positions. Food was 400 grams of cracked corn per day. Prisoners were dying at the rate of two to seven daily between December 26 and January 24. On January 21, all but 300 of the sickest were marched out to Camp #5. There were about 200 prisoners in Camp #5.



Virtually all deaths during this time were due to starvation, exposure or harassment. In the first month of captivity, most POW's died as a result of untreated wounds incurred around capture. In the third to fifth month, most deaths were due to dysentery and pneumonia. Injuries resulting from cold exposure were common. After five months, most of the deaths were due to beriberi and pellagra. In one camp, there were between five and 28 deaths per day. In all the camps, only Chinese doctors were permitted to treat patients.

## Phase II

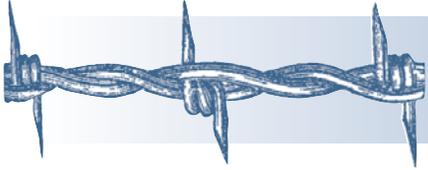
The second phase of captivity was characterized by deprivation of the necessities of life. The diet was totally inadequate and there was almost no sanitation. Men were overcrowded into small rooms in Korean farmhouses with neither bedding nor toilets. Clothing was insufficient. These temporary camps were used from July 1950 to February 1951. Uniformly, the POW's in these camps received worse treatment than those housed elsewhere. Constant beating, mental harassment and forced participation in parades were the norm.

Unlike POW's in earlier wars, the POW's in Korea experienced sophisticated brainwashing techniques. The Korean Conflict was, after all, a United Nations war against Communist aggression and ideology, so the Communists understandably attempted to indoctrinate the American POW's with their philosophy throughout the entire conflict. Few North Koreans could speak English, therefore, the indoctrination sessions were conducted by the Chinese, most of whom had been educated in California Universities. Their knowledge of America and our way of life were extensive, and they often used that knowledge against our men.

The indoctrination program had a two-fold purpose. The first was the selection and conversion of the susceptible person. The second was group neutralization. During the first year of captivity, there was a total regrouping of prisoners in an attempt to isolate all resistance groups. In fact, the North Koreans sent several "re-educated" or indoctrinated Americans back into the American lines in hopes that they would be able to cause dissension among the troops. Predictably, this endeavor never succeeded.

Weakening the physical resistance of the American POW's by exposing them to cold, torture and hunger accelerated the brainwashing. In addition, the Communists rewarded POW's who cooperated with gifts such as extra food, better housing and less torture.

The North Koreans, with the aid of their American-educated Chinese allies, uniformly broke down the military organization's groups and separated individuals according to race and rank. The purpose of doing this was simple: to attempt to heighten any difference among the prisoners. For more than one year, most of the waking hours of the POW's, were spent in study. They

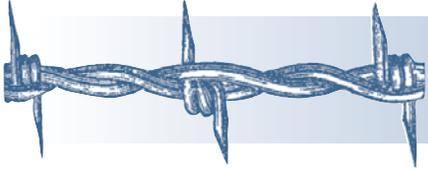


were told, “We are your friends. Your conditions of living are bad now, but we will work together to improve them. We will correct the errors in your thinking. Once you have learned the truth, we will send you back to your families.”

The American POW’s also were repeatedly told that the United States was an imperialistic government run by and for the rich. They were told that the Communist system reflects the aims and desires of all peoples and is the only real democracy.

For years, the Soviets had denied any involvement in North Korea or China as far as the war was concerned; however, the techniques used by the Chinese were exactly those used by the Russians against their Japanese and German POW’s during WW II. The overall goal of the brainwashing was to re-educate and indoctrinate the POW’s and then to send the individual back to his homeland in order to spread communism. Later, it would be learned that although the direct handling of the POW’s was by the Chinese, the treatment was directed by the Soviets.

By the end of the war, 21 American POW’s had refused repatriation back to the U.S. Most later returned. By comparison, over one million North Koreans had refused repatriation into North Korea by the end of hostilities.



## Phase III

The third phase of captivity was characterized by the permanent camps used from March 1951 until October 1953. Essentially much better conditions were available due to the fact that the armistice negotiations had begun to make progress and physical and psychological harassment was greatly decreased.

From November 1951 until repatriation in 1953, there were fluctuations in the captors' attitudes toward the POW's reflecting the progress in the armistice negotiations, but generally there were improvements in the diet and clothing.

The North Koreans totally ignored all aspects of the Geneva Convention. Executions and severe punishments were the norm for trivial offenses. With the North Koreans, the incident was forgotten as soon as the punishment was over; however, the Chinese were different. Under the Chinese "lenient policy," notes were taken about a prisoner's behavior. Then suddenly, the Chinese would say, "Take all and come with." This meant the POW was facing solitary confinement and intense interrogations.

Although the Chinese did not commit many war crimes, they did not follow the rules of the Geneva Convention. While Red Cross parcels sometimes made it to the camps, the Chinese steadily refused to allow any Red Cross inspections. In addition, all interactions with western media were closely monitored under the direction of two western journalists with Communist sympathies. These "journalists" only would release information that was damaging to U.N. forces and beneficial to Communist forces.

Show camps were opened up to international observers during the war to counter the belief that the prisoners were mistreated. Some POW's in these camps were allowed to write home. Others were given better food so they could appear healthy in order to be photographed by outside inspectors. Despite the presence of the show camps, most internment facilities were barbaric, brutal and uncivilized.

The "Bean Camp" near Suan, "Death Valley" near Pukchin and "The Valley" near Kanggye were among the worst camps; however, the two worst of all were "The Interrogation Center" and "The Caves," both near Pukchin. In "The Caves," the men were confined in hillside caverns; they were forced to sleep without blankets; their food was thrown to them and there was no sanitation. In fact, there were no latrines at all and the men had to live among their own excrement. POW's sent to "The Caves" were those accused of insubordination, repeatedly breaking camp rules, attempting to escape or refusing to talk with Chinese military interrogators.



One particularly brutal interrogation center was “Pak’s Palace,” which was located in a brickyard flanked by houses near the city of Pyongyang. The chief North Korean interrogator was Colonel Pak, a sadist. A cruel man known as “Dirty Pictures Wong” assisted him. “The Palace” was operated to obtain military information. When a POW refused to talk, Colonel Pak would use violence, such as kicks, cigarette burns and torture. Several U.S. Army officers went through “The Palace,” and most Air Force officers went through it. They all were beaten.

Many of the prisoners found ways to avoid the continual beatings. If you could convince the guards that you were stupid, crazy or the lowest graduate in your class, they often were not interested in you. A prisoner who refused to cooperate would be called a “reactionary” and sent to a bad camp, while prisoners who were docile, seemed to cooperate, were polite and read the Communist literature were called “progressives.” These “progressives” graduated to “Peaceful Valley,” a Communist show camp where POW’s were given better food and even tobac-





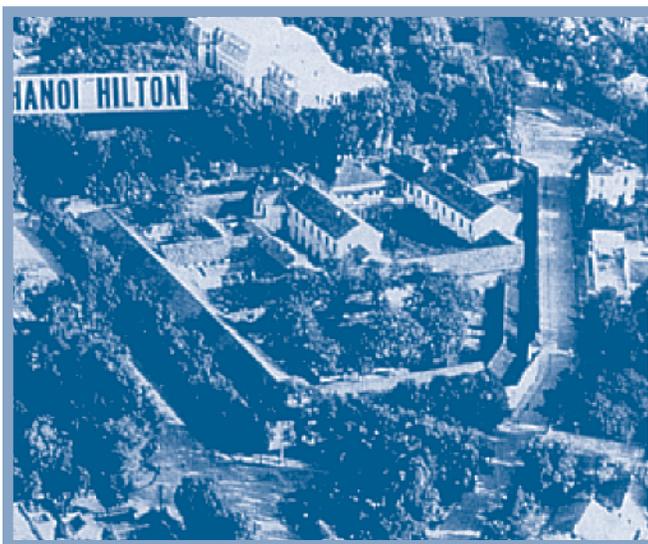
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## Food

The diet in Korea was mainly of a corn or millet variety. The average weight loss confirmed by the debarkation hospitals was 40-50% per man from the pre-internment weight.

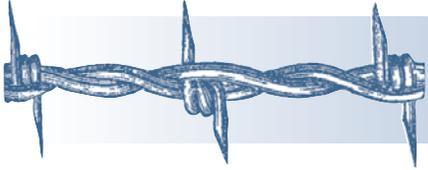
## Repatriation

Operation Little Switch, which took place April 20-May 3, 1953, was the exchange of sick and wounded Korean War POW's. From August 5 through December 23 of 1953, Operation Big Switch took place. Operation Big Switch was the final exchange of prisoners of war by both sides. Both operations were marked by controversy over voluntary repatriation.



Repatriation procedures were initiated to handle the numbers of POW's who would be returning. For the "Little Switch" POW's, this medical survey was to be accomplished by U.S. military hospitals in Japan. The "Big Switch" procedures required that returnees would be given immediate first aid, followed by a triage which would sort out the POW's requiring movement by ambulance and those POW's who could be moved by truck to the reception center.

Once at the center, the POW's were disinfected by spraying. They then would proceed in robes from the showers to the reception hospital, where a medical record was to be initiated. Laboratory tests, a dental examination, chest X-ray and physical examination were then performed. Based upon these tests, the POW's were classified as patients and non-patients. Patients were flown to military hospitals in Japan. Non-patients were then placed aboard ships



returning to the U.S., where intelligence and processing took place. Once home, the former POW's were given a 30-day rest period for recuperation and recovery, prior to reassignment or discharge.

## V. POW's of Vietnam

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Vietnam had a presumed mortality rate of 114 out of 772 confirmed captured men. This war had two separate theaters. In South Vietnam, the soldiers who were involved with the Viet Cong generally were U.S. foot soldiers (77 Army and 26 Marine). Twenty-five percent of these captured men died. There was generally less torture and fewer interrogations here than in North Vietnam; however, since the Viet Cong themselves were poorly fed, the Americans, who were at the end of the food line, suffered from a chronic food shortage.

North Vietnam was very different. Most were kept in Hanoi, literally, "ha noi," meaning "inside the river," so named because the city sits on the delta of the Red River, 60 miles from the port of Haiphong. The POW's here were mostly downed aviators, 5% of whom died. They were often used for psychological and propaganda purposes, and there was severe physical and mental torture, with somewhat inadequate food.

### The "Hanoi Hilton"

Many prisoners were kept in Hoa Lo prison, built by the colonial French near downtown Hanoi. Hoa Lo was sarcastically renamed the "Hanoi Hilton" by the Americans in a mock tribute to the quality of life within its walls. Regular cells measured 7' x 7', contained two beds and enough room to pace off three steps. Solitary confinement cells were 4-foot cubes, with no space to stand or lie down.

In August 1964, the Hanoi Hilton received its first U.S. prisoner, Navy Lieutenant Everett Alvarez. Lieutenant Alvarez was an A-4 pilot stationed aboard the U.S.S. Constellation and was one of two pilots shot down August 5 when the U.S. launched its response to the Gulf of Tonkin incident. Said Lieutenant Alvarez, "They had everyone in there. They brought in droves of kids. They brought in women, too. I could hear them screaming at night."

Air Force Colonel Jack Bomar says, "We were criminals, and we had bombed those people without a declaration of war, and that's the way we were treated."

Lt. Colonel Richard Kiern, who endured prison in both WW II and Vietnam, compared the two experiences thusly: "Captivity in Germany was rough, but at least I was treated like a human being. Captivity in North Vietnam was unreal, unbelievable, not of this world."



Pilots at the Hanoi Hilton were kept alive because they had a special value to their captors. The North Vietnamese saw them as hostages. Because no communication was allowed between the prisoners and the U.S. government for several years, information on the total number of prisoners was unavailable. A young seaman was to become instrumental in providing this information, however.

## **Douglas Hegdahl**

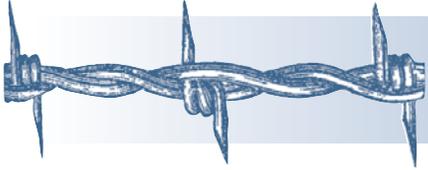
On April 6, 1967, 19-year-old Douglas Hegdahl was below deck on his ship, the USS Canberra, which was cruising the waters in the Gulf of Tonkin. Without authorization, Hegdahl went topside to witness a night bombardment. When the guns opened fire, their concussion knocked him down and the 6' 2", 225 pound Sailor fell into the ocean, losing his glasses. Since he was a powerful swimmer, he was able to spend ten hours in the water before being found by the North Vietnamese.

At first, Hegdahl was felt to be a spy or infiltrator. After several days of interrogation, he was believed to be just a common sailor unknowledgeable of any useful military secrets. The Vietnamese thought of him as a fool for falling into their hands. When the prison staff began to treat him like an ignorant country boy, he recognized what they were doing and played the role to the hilt. The loss of his glasses and inability to see accurately made the role even more believable.

Throughout his imprisonment, he capitalized on his role as the village idiot, often displaying seemingly erratic behavior. For example, Hegdahl hummed the tune of "Old MacDonald's Farm" continually. He was used by the Vietnamese in their propaganda shows as a "poor defective peasant." The Vietnamese could not wait to get rid of him, because they thought he was stupid, ineffective and unthreatening; however, he was actually highly intelligent. He did not want to leave, because, using his guise, he was able to assist his fellow POW's.

Hegdahl was removed from the country in 1969, however, after making an obscene gesture during a propaganda photograph with peace activist Tom Hayden, throwing away extra food given him and refusing to write a public amnesty request to Ho Chi Minh. The Vietnamese forcibly moved Hegdahl ahead of others on the "early release roll" and he was released in 1969, four years ahead of the remaining prisoners.

In failing to observe Hegdahl's intelligence, the North Vietnamese had allowed him to move freely around the compounds. Hegdahl used this freedom to communicate with the other prisoners. In doing so, he became a valuable reconnaissance worker in the POW resistance network. For example, when he hummed "Old MacDonald's Farm," he was actually using the tune as a mnemonic device for remembering the names of his 250 fellow American prisoners.



While in the Plantation POW complex, Hegdahl had been placed in a cell with Dick Stratton and the two became great friends. Stratton ordered Hegdahl to accept early release if it were available in order to inform Washington about the situation. Upon his release, Hegdahl was immediately debriefed and the information he provided to intelligence authorities was of inestimable value. Up to that point, there had been no accounting of many of these men.

## The Zoo

Close by the Hanoi Hilton was Cu Loc, affectionately called “The Zoo,” where there was the infamous solitary confinement area known as “the gatehouse.” Here, troublesome POW’s were tortured by the Vietnamese, as well as Cubans, for hours on end for false confessions. A favorite technique was to hang the POW’s for hours by ropes with their hands behind their backs. Another ploy was beating them with rubber hoses. Withholding of food and especially water was common. In addition, guards at The Zoo often gave the POW’s boiling soup and forced them to drink it quickly before it would be taken away.

## Skid Row

Very troublesome prisoners were taken later in the war to “Skid Row,” a maximum-security prison that had been built by the French 10 miles southwest of Hanoi.

## The Plantation

“The Plantation” was a show camp primarily designed for peace delegates to view the overall good conditions of the American POW’s. Many POW’s here were specifically chosen for their willingness to talk to the peace delegates.



## Physical and Psychological Tortures

POW’s of North Vietnam experienced a variety of physical and psychological tortures. When the pilot was initially shot down, the local captors and then the jail guards would usually beat him. The downed pilot then would be quickly transported to an interrogation center, where he



routinely would be forced to undergo a morning, afternoon and evening medley of questions, lectures, indoctrination and bullying. The same questions would be asked over and over in hopes of tricking a prisoner into divulging a different bit of information. Typical questions included the following:

- Who were the members of your squadron?
- What were your air tactics, roll in altitudes, dive angles and air speeds?
- What defensive altitudes were used to avoid the North Vietnamese MiGs or Surface-to-Air missiles?
- What were the offensive maneuvers for attacking the North Vietnamese?

Many times, medical treatments were withheld in order to force the men into writing confessions that they were, in fact, war criminals. The prisoners would be publicly displayed and the crowd would be excited into frenzy, often attacking and beating the prisoners.

Physical torture was common well after all useful information had been extracted. This was done in order to break the morale of the men and to use them for propaganda purposes. The prisoner's body would often be tied into various contortions in which bones would not be broken, but great pressure would be placed on the ligaments. Sleep deprivation was another commonly used tactic. The prisoner would be kept chained to a stool in a bright room awaiting his confession. For days at a time, he would not be allowed to sleep. If he were to drift off, he would be hit with a thick pole.

## **John McCain**

Navy Lieutenant Commander John McCain III, who had volunteered to stay in combat after his ship was assigned to go home, was captured in October 1967, when his plane was shot down over Hanoi. McCain landed in the middle of the dried-out bed of Sword Lake. He sustained a broken leg and other severe injuries, yet he was offered no medical treatment. Soon thereafter, the North Vietnamese captors learned that his father was Admiral John McCain, Jr., Commander in Chief of U.S. forces in the Pacific, whom they called the "Chief War Lord in the Pacific." Knowledge of McCain's identity thrilled the Vietnamese, who quickly dubbed him the "Crown Prince."

The year following his capture, McCain was offered an early release ahead of his fellow prisoners, but, since accepting the early release would have been a violation of his personal code of ethics, McCain refused the offer. Enraged and furious about his refusal for the release, his captors stated: "They have taught you too well, McCain! They have taught you too well!" The North Vietnamese then rebroke his leg, broke his arm, and knocked out his front teeth. McCain was tortured for over a year and was finally forced to sign a confession of criminal



wrongdoing and apology. The North Vietnamese got little more from McCain, however, as he swamped them with useless information, once listing the offensive line of the Green Bay Packers as members of his squadron. Others offered early release literally stepped over John McCain's stretcher on their way out.

McCain, who was considered an inventive resister and a master at interfering with propaganda broadcasts, was referred to by the Vietnamese as a "black criminal."

In 1970, McCain further enraged his captors by refusing to meet with a group of "peace delegates," self-appointed diplomats who traveled regularly from the United States to North Vietnam for talks. His punishment was to spend the entire summer locked in a 6 by 2 foot cell.

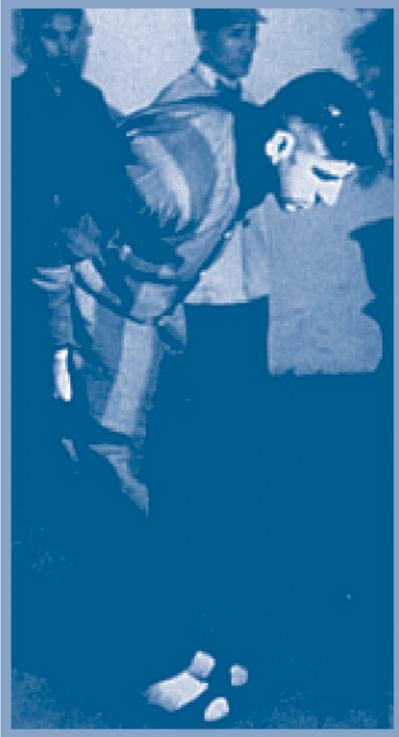
## Peace Delegates

None of the prisoners was forced to meet with the war's best-known delegate, actress Jane Fonda. Instead of meeting with POW's, her time in North Vietnam was spent making propaganda films to be shown to the prisoners. In one film, she is standing beside a dam that had been bombed, weeping bitterly. Most of the POW's felt as though her performance was of academy award caliber. Her most notorious film was one in which she crawled into a North Vietnamese anti-aircraft battery placement and pretended to be taking aim at her fellow Americans who were bombing North Vietnam. For these reasons, she was reviled by most of the POW's and anyone who met with her was considered a collaborator with the enemy.

Jane Fonda continues to be looked down upon by living POW's. Says Everett Alvarez, "No matter what your political beliefs, there is still a basic faith in your young men out there. These are your own people. You can't do that to your own people."

For all of the POW's, the arrival of the peace delegations was dreaded. Their presence placed the men in a state of conflict. On the one hand, if they met with the delegates, they would be permitted to speak English openly, would be served good food and cookies and possibly would be allowed to send a letter home to loved ones. On the other hand, the POW's knew they were being used as propaganda tools. The Vietnamese required that they pose for photographs with the delegates and often, they were made to give staged confessions concerning America's use of force.

One encounter with the peace delegates did not proceed as planned. POW Larry Carrigan had agreed to meet with members of the Women's Strike for Peace. Yet not only did he admit to war crimes and the bombing of women and children, Carrigan vigorously defended the U.S. air strikes, informing the delegates that the U.S. airmen had been disciplined from straying



away from military targets. The furious Vietnamese had him pulled from the room and sent back to the Hilton for correction. He was beaten with sticks and fists for days. Then he had his hands tied behind him and was lifted to the ceiling, where he was left to dangle in pain. At times he would be lowered and allowed to stand on a chair. Then the chair would be kicked out from under him, again forcing him to dangle in excruciating pain.

### **Communication — Outwitting the Captors**

The American POW's felt it was vital to maintain contact with one another in order to provide moral support. Because talking among themselves was strictly forbidden, the prisoners developed elaborate methods of communication. Hand signals were common, as was tapping on the walls.

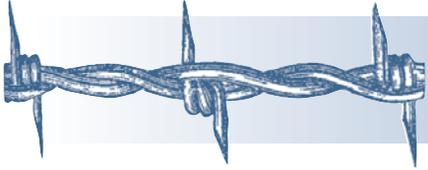
While public displays of the American POW's for propaganda purposes were commonplace, the POW's had the upper hand and made their captors look foolish more often than not. Such was the case with Navy Commander Jeremiah Denton, Jr. who blinked T O R T U R E in Morse code. When put on display for cameras, most POW's simply sat expressionless and spoke one word answers, which indicated they were being forced to participate. Others, such as Paul Galanti, were photographed making obscene hand gestures to their captors. The picture of Galanti giving the Vietnamese the finger was airbrushed and appeared on the cover of *Life*; however, an untouched version appeared in a West German newspaper, which infuriated the Vietnamese.

### **Metheny, Overly and Black (M.O.B.) - POW's Held in Contempt**

In an attempt to break up any communication and cohesiveness among the POW's at the Plantation, the North Vietnamese were able to persuade three POW's to accept early release on February 16, 1968. This was meant both as a propaganda ploy as well as a morale breaker to the remaining POW's. Three prisoners, Ensign David Matheny, Captain Norris Overly and Captain Jon Black were released to the peace activists. Their release was a carefully staged event with foreign journalists, party officials and distinguished guests in attendance. Cameras and taping devices recorded the entire proceedings. Although Douglas Hegdahl was able to get Overly to memorize the names of 70 POW's, which was of immense benefit to Washington, the immediate effect to POW morale was devastating, both at the Plantation and throughout



the POW system. The trio was referred to as MOB, an acronym for the first letters of their last names (Matheny, Overly and Black), and their fellow countrymen left in confinement held them in disdain.



## Dick Stratton

Similarly, Commander Dick Stratton was held in contempt for mimicking the robot-like actions of film's Manchurian Candidate when he bowed 90 degrees to all in the room, including the wall, four times. He also read a written confession and apology to the Vietnamese people for the U.S. bombing of their country. Along with seven photographs of somber pilots, Stratton's picture and story were published in the April 7, 1967 edition of Life Magazine with the title "North Vietnam Under Siege." The images caused an uproar in the United States. When the North Vietnamese learned that they had been tricked, they beat Stratton badly. Stratton feels the episode saved his life, because, as he said, he had become so famous "the Communists had to keep me alive."

Although it was meant as a parody, Stratton's behavior was never forgiven by many hardline American officers who viewed his actions as dishonorable and against the code of conduct. U.S. Ambassador-at-Large Averell Harriman took a different view, though, saying, "From the photographs, videotapes and descriptions that I have seen of the so-called 'news' conference at which Captain Stratton was exhibited, it would appear that the North Vietnamese are using mental or physical pressure on American POW's. Hanoi has refused to allow the International Committee of the Red Cross or any neutral intermediary to visit the prisoners, a right required by the Geneva Convention to which Hanoi has adhered. Without such independent verification, North Vietnam's professions of 'humane treatment' cannot be accepted."

Dick Stratton was kept in a variety of facilities over the years. After he was separated from Hegdahl, he was required to copy in his own handwriting material that POW's at the Zoo had been forced to write under pressure. He refused to do so and was placed into a room in the Warehouse of the Plantation in total darkness. For seven weeks, he battled roaches, rats and loneliness. As expected, he lost all track of night and day.

## The 4<sup>th</sup> Allied POW Wing

By 1971, the POW's had organized themselves into the Fourth Allied POW Wing with Colonel John Peter Flynn, the highest ranking captured officer, as their commander. The wing's motto was "Return with Honor." The Hoa Lo authorities placed each senior officer into a single large cell in an attempt to isolate them from the other prisoners. This was an error as the senior officers were now able to communicate even easier. The senior officers offered blanket amnesty to any prisoner who might have collaborated to any degree for whatever reason. The offer remained open until the war's end.



## Countering Propaganda

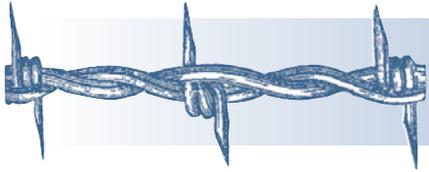
On the Fourth of July, 1969, three U.S. POW's, Navy Lt. Robert Fishman, Air Force Capt. Wesley Rumble and Douglas Hegdahl were released. Once back in the U.S., they were allowed by the Nixon administration to go public with word of the torture and humiliation forced upon the U.S. POW's. It was a calculated campaign by the administration to counter the Communist propaganda.

## Operation Homecoming

Operation Homecoming was carried out at Clark Air Base in Luzon in the Philippines in 1973. The first to arrive on February 12, 1973 was Navy Captain Jeremiah Denton, senior officer among the first group of prisoners out of Hanoi. His first words upon landing were, "We are honored to have had the opportunity to serve our country under difficult circumstances. We are profoundly grateful to our Commander in Chief and to our nation for this day. God bless America."

Thirty-nine fellow POW's accompanied Denton. Another 473 American prisoners were evacuated by the end of March. Operation Homecoming contained built-in safeguards, carefully balanced diets and total security from the press. An escort officer, a man of equivalent rank, service branch, background and experience, greeted each POW and served as a buffer between the POW and the New World. The escort carried in his briefcase up-to-date information about the world and the POW's family.

Of all the Americans missing or captured in North Vietnam, 76 prisoners had been released prior to Operation Homecoming, 34 had managed to escape from North Vietnamese prisons, and 1,948 soldiers still are considered missing in action.



## VI. The Presumptive Service-Connected Disabilities

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Public Law 97-37 established the Presumptive Service-Connected Disabilities, which are Arthritis (traumatic), Avitaminosis, Beriberi (including Ischemic Heart Disease with a history of Wet Beriberi or edema), Chronic Dysentery, Frostbite, Helminthiasis, Malnutrition, Pellagra, any other nutritional deficiency, Psychosis, Panic Disorder, Generalized Anxiety Disorder, Obsessive Compulsive Disorder, Post-Traumatic Stress Disorder, Atypical Anxiety Disorder, Depressive Neurosis or dysthymia, Peripheral Neuropathy, Irritable Bowel Syndrome and Peptic Ulcer Disease.

### Disruptive Articular Trauma (Post Traumatic Osteoarthritis)

In 1954, Cohen and Cooper showed that POW's from the Pacific theater of action have an incidence of post-traumatic Osteoarthritis of 3.3% compared to 1% in Control War Japan (WJ), and POW's from the European Theater of Operations (PWE) have an incidence of 2.3% compared to 1% for Control War Europe (WE). Also, per Nefzger as of 1965, the hospital admission rate per 1000 was 2.5 for POW's captured by the Japanese (PWJ) vs. 0.5 for Control War Japan (WJ), and 0.4 for POW's from the Korean War (PWK) vs. 0.2 for Control War Korea (WK). Among those service-connected for disease of the musculoskeletal system, PWJ was 25.9%, WJ was 11.9%, PWE was 22.4%, and WE was 16.4%.

There are three types of joints in the body, any of which may be involved in disruptive articular trauma. The first type includes the amphiarthrosis as seen in the parietal bones in the skull characterized by tight fibrous bands connecting these bones. The second type is the synarthroses characterized by the bones of the spinal column with flowing fibrous sheets and tight, almost immovable joints. The third type, and the most severely and commonly affected are the diarthroses, characterized by the joints of the long bones of the body possessing two distinct movable areas.

The diagnosis of post-traumatic osteoarthritis is difficult to make in retrospect. In general, however, the following points are helpful: The joint had to be normal prior to the injury; an effusion or structural damage had to occur after the injury; and similar disease is not present in other non-traumatized joints. This is the difference between post-traumatic osteoarthritis, which is a secondary form of osteoarthritis, and primary, or degenerative joint disease which is a diffuse disorder affecting joints symmetrically.

Other points favoring a traumatic origin are that the affected joint is localized to either a mono or pauci articular location and significant osteoarthritis is seen in a joint not usually severely involved with degenerative joint disease such as the ankle, wrist, elbow or metacarpophalangeal joint. Finally, X-rays may be helpful in demonstrating healed fractures or foreign bodies near the joint in question.



## Nutritional Depletion

Nutritional depletion likely accounted for more deaths in POW camps and more morbidity and mortality upon repatriation than any other single cause, because as individuals are malnourished, they are predisposed to the development of several different disease states. Recognized nutritional deficiency states may take the form of vitamin, protein, essential fatty acid or mineral deficiency.

## Marasmus

Generalizations always are difficult to make; however, if one wishes to look at a global picture among the European Theater ex-POW's, these individuals suffered primarily from a lack of sufficient calories throughout and especially towards the end of the war. This produced Marasmus, a deficiency of total calories in the absence of other deficiencies, which produces a thin and weakened individual often without long-term sequelae.

The lack of calories especially was true of the Soldiers and Airmen who were captured in the latter months of the war in Europe, were not fortunate enough to be placed in any controlled prison setting.

Virtually all POW's in the European Theater had low but minimally sufficient vitamin intake, primarily due to intermittent dietary vitamin supplementation with potatoes, cabbages, turnips and any other of a variety of vegetables, as well as intermittent Red Cross parcels which also provided some protein supplementation. This explains the paucity of cases diagnosed with avitaminosis upon repatriation. When comparing European Theater POW's to those of all three Asiatic Theaters, the dietary nutritional differences are striking, particularly in the Pacific and Korean theaters of action.

The Pacific and Korean War POW's had, primarily in the early months of captivity, a virtually total lack of vitamins, which was in some cases not only a hypovitaminosis but an actual avitaminosis, or absolute lack of vitamins. This was primarily of the B complex vitamins and vitamin A. These individuals also were fed a very low number of calories in the diet. It was the total protein, energy and carbohydrate starvation diet imposed on these prisoners in the early months of capture which killed so many and predisposed the survivors to several problems later.



## Kwashiorkor

Kwashiorkor, an African word meaning an individual with characteristic body appearance, results from a total deficiency of protein in the diet.

The loss of protein in the diet yields a decreased plasma albumin, which manifests itself clinically as dependent edema. In addition, there is a decrease in plasma transferrin, which is the protein responsible for the transfer of iron in the circulation from the intestinal lumen to the liver and bone marrow. Without this transport protein, hypochromic microcytic anemia results due to lack of incorporation of iron into the hemoglobin. Lack of protein in the diet also affects hemoglobin production, as protein is needed for the globin portion of the hemoglobin.

The immune system is especially involved in Kwashiorkor. Initially the lymphatic tissues begin to atrophy; there is decreased activity in the polymorphonuclear cells and a failure of maturation of the T-Cell division. The inevitable sequence of events is an increased morbidity and mortality from common infections, as well as opportunistic organisms such as viruses, fungi and parasitic diseases not normally seen in healthy people. This, in effect, would present quite similarly to an acquired immune deficiency syndrome.

In an individual on a progressive protein and vitamin deficient diet, the B-complex vitamins, responsible for energy production, are primarily involved. Several adaptive physiologic changes occur when the body is exposed to starvation, including decreased insulin secretion, increased levels of glucagon and cortisol, and decreased peripheral production of triiodothyronine (T3) from thyroxine (T4). The result of the decreased insulin levels is mobilization of free fatty acids from adipose tissue for utilization, allowing glucose to be utilized by the brain. Ketone-induced diuresis occurs, accompanied by loss of magnesium, phosphorus and calcium. This becomes especially important, as lack of phosphorus decreases the ability of the body to produce adenosine triphosphate (ATP) and further prevents energy production by the inability to convert thiamine into thiamine pyrophosphate (TPP). A 5% weight loss occurs in the first week of total starvation. The gastrointestinal tract, liver and skeletal muscle lose considerable mass during this time. Skeletal muscle is the primary reservoir for TPP in the body. Gastrointestinal mucosal loss is enormous during the first week of starvation, with marked atrophy of the villous projections, thereby largely decreasing the absorptive surface in the gastrointestinal tract. Cardiac muscle atrophies at a much slower rate. Hypoalbuminemia leads to small bowel edema, resulting in malabsorption. Continued protein deficiency has disastrous effects on the hematopoietic and immune systems. Decreased hemoglobin, hematocrit, total lymphocyte counts, albumin, and transferrin result from severe protein depletion at five weeks of starvation, with an average weight loss of 15 percent. Cell-mediated immunity is altered and the bactericidal activity of polymorphonuclear leukocytes is reduced. T-cell defects result from loss of thymic hormone and deficiency of zinc and Vitamin C.



Within one and one-half months anemia becomes manifest. Hypoalbuminemia follows shortly thereafter. By two months, there is a decrease in T-Cell function, which is manifested by depressed cell mediated immunity, and the individual at this time becomes susceptible to opportunistic infections. By two and one-half months broncho-pneumonias begin to become commonplace. Death is inevitable if protein energy sources are not quickly restored.

Total starvation in the first week produces a weight loss of four to five kilograms. Twenty-five percent of this is from adipose tissue, 35% is extracellular fluid loss and 40% is protoplasm loss, primarily from skeletal muscle. Accompanying this is a loss of nitrogen from the body with associated depletion of other electrolytes such as magnesium, phosphorus, calcium and selenium. This becomes especially important, as lack of phosphorus decreases the ability of the body to produce adenosine triphosphate and further prevents energy production by not being available to convert thiamine into its active form, thiamine pyrophosphate (TPP).

Also noted during the first week of starvation are huge skeletal muscle losses, much greater than cardiac muscle losses. What is especially bothersome about this is that skeletal muscle is the primary reservoir for thiamine pyrophosphate in the body. If skeletal muscle mass is decreased, then thiamine pyrophosphate will have very few storage sites. Gastrointestinal mucosal loss is enormous during the first week of starvation, with marked atrophy of the villous projections, thereby decreasing, to a large extent, the absorptive surface area in the small intestine and colon. Renal parenchymal loss is minimal. The central nervous system is not affected at this time. This individual represents the Musselman Syndrome in which there are decreased but adequate sources of protein and vitamins to sustain life, but a virtually total deficiency of calories, primarily carbohydrates, in the diet. This presents with severe wasting of the extremities. Individuals with the Musselman Syndrome are not overly susceptible to opportunistic infections, in contrast to those with protein deficiency or vitamin deficiency states.

## **Trace Element Deficiencies**

Zinc deficiency is manifested by acrodermatitis, poor wound healing, decreased taste and worsened immune function. Copper deficiency is manifested by hypochromic microcytic anemia. Chromium deficiency is manifested by encephalopathy and peripheral neuropathy. Selenium deficiency produces a peripheral unresponsiveness to the actions of PTH, causing a hypocalcemia which is unresponsive to treatment until the magnesium is replenished. Hypophosphatemia produces rhabdomyolysis.



## Essential Fatty Acid Deficiencies

Essential fatty acids include linoleic acid, deficiency of which was manifested by dry scaling dermatitis, coarse hair, alopecia and diarrhea; and linolenic acid, a deficiency of which was manifested by numbness, paresthesias, weakness and blurred vision.

## Vitamin Deficiencies

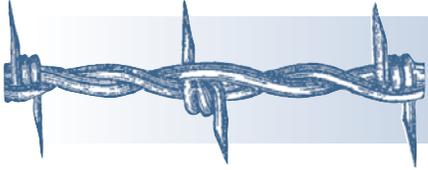
A cruel and agonizing cause of death in the camps was to suffer from a vitamin deficiency syndrome.

Deficiency of the B complex vitamins was the most lethal of all the vitamin deficiencies, if individuals were so unfortunate as to lack supplementation with these vitamins. This vitamin complex is divided into two groups. Group A is represented by: thiamine, also known as Vitamin B-1; riboflavin, also known as Vitamin B-2; nicotinic acid or nicotinamide, also known as Vitamin B-3; pantothenic acid and biotin. Group B is composed of: folic acid, also known as Vitamin B-9, and cobalamin, also known as Vitamin B-12.

Within group A, the B vitamins are amines responsible for the intracellular metabolism of carbohydrates, fats and proteins and are responsible for the production of adenosine triphosphate for the maintenance of the respiratory chain. They are the energy releasing vitamins, and a deficiency of any of these vitamins manifests itself in tissues with the highest metabolic activity and turnover rate. These amines are present in every cell of the body and are vital, hence the name vitamin. They all are water-soluble.

Among group B, The B vitamins are vital for red blood cell production and are termed the hematopoietic vitamins. They also are water-soluble. Vitamin B-12 is bound to protein in the liver, and a deficiency takes three to five years to develop.

Syndromes: Several physicians who were themselves prisoners of war later wrote about their observations and experiences in Japanese POW camps. Beriberi was seen and written about by Doctors Hibbs, Lewis and Nardini, physician POW's in the Philippines. The castration syndrome was identified and written about by Dr. Jacobs, as was the oculo-oro-genital syndrome. Pellagra was seen with great regularity in many of the camps. Strachan's Syndrome was a deficiency syndrome different from the above and spinal spastic syndrome was seen with regularity in some camps. Dr. Gottlieb noted malnutrition liver diseases.



## Beriberi

In all likelihood, beriberi was the most devastating of all the vitamin deficiency states, as it not only had immediate side-effects but also severe chronic sequelae.

Beriberi is the Sinhalese word for weakness. It is caused by a deficiency of the water-soluble Vitamin B-1, thiamine, in the diet. The body is able to store only a total of 30mg of this vitamin. With food ingestion, one can only absorb five milligrams of Vitamin B-1 in any one day. Therefore, one can manifest total body thiamine deficiency within only a few days on a deficient diet. Virtually all POW's were at least somewhat thiamine deficient. Thiamine is necessary in the diet at roughly 0.33mg per 1,000 calories consumed. Normal individuals consume 0.50mg per 1,000 total calories per day, while POW's consumed many less mg per 1,000 calories per day. In addition, the higher the carbohydrate load ingested, the more thiamine is required. Also, polished rice adds a nutritionally empty carbohydrate load, which further depletes thiamine stores.

The best sources of thiamine are pork, organ meats (primarily liver, heart and kidney), leafy green vegetables, nuts and legumes. These foods were not common in any of the POW diets that have been described. Therefore, many POW's were, in essence, living in areas of endemic beriberi.

Since thiamine is stored throughout the entire body, one would expect its depletion to present as a multi-system disease, but in fact the cardiovascular system and the nervous system are the predominant ones affected in beriberi. The presenting clinical manifestations often overlap but, for purposes of description, are termed cardiac beriberi, dry beriberi (affecting the peripheral nerves only), wet beriberi (affecting the peripheral nerves and the heart) and central nervous system beriberi.

A brief review of biochemistry is essential before proceeding. Dietary thiamine enters the body and is phosphorylated into its active coenzyme form, thiamine pyrophosphate, by the addition of two adenosine triphosphates. If phosphorus is also lacking, the body will not be able to form the adenosine triphosphate necessary to make thiamine pyrophosphate (T.P.P.). Thiamine pyrophosphate is an important coenzyme to release energy from carbohydrates and form adenosine triphosphate. In addition, thiamine pyrophosphate itself is necessary in two other steps to form ATP. Pyruvic acid, which is in equilibrium with lactic acid, enters the Krebs cycle. If thiamine pyrophosphate is not present, pyruvic acid and lactic acid levels build up in the body. This is extremely important in the pathogenesis of beriberi, as pyruvic acid

is a neurotoxin. When it is withheld from the diet of experimental animals, the ability of the different tissues to utilize pyruvate does not decline uniformly. This indicates that in some tissues, the bound thiamine pyrophosphate is tenaciously retained, whereas in others, it is more



readily lost through metabolic degradation or excretion.

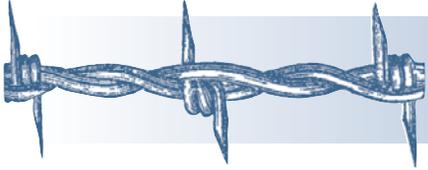
Dr. Ralph Hibbs made perhaps some of the most detailed observations about patients affected with beriberi in Cabanatuan Prison Camp. Hibbs made notes on the effect of the deficiency disease on the nervous system, eyes, skin and heart. He noted that most POW's in his camp were affected either by dry or wet beriberi. It is unknown why some individuals develop dry beriberi, while others develop wet beriberi. Inactivity and a relatively low-carbohydrate diet possibly enhance the development of **dry beriberi**, which is characteristically associated with aphonia or hypophonia, foot and wrist drop and extremely weak muscles. Symptoms were frequently noted after a malarial chill, diarrhea, vomiting or heavy work. Dependent edema rarely responded to supplemental thiamine therapy. The first symptoms of peripheral neuritis were stiffness, heaviness or a tired feeling in the arches of the feet. If left untreated, these symptoms proceeded to a shooting, burning type of pain.

On the other hand, individuals with **wet beriberi** are in general a bit more active and ingest higher amounts of carbohydrates in their diet. It is this high carbohydrate diet which accelerates the use of thiamine and its depletion. Painful edema, some cyanosis and dyspnea characterize wet beriberi. Also seen with wet beriberi is an increased cardiac silhouette. Both wet and dry beriberi can progress to central nervous system beriberi.

Dr. Hibbs noted a tremendous amount of visual pathology associated with beriberi; most patients developed retinal degeneration with contraction of the visual fields, an enlarged blind spot and central scotomata. Hibbs termed this syndrome **beriberi amblyopia**. With time, there was a progressive visual disability, a temporal pallor with macular degeneration and associated poor pupillary reflexes. Hibbs noticed that beriberi amblyopia did not respond well to replacement therapy with thiamine. Additionally, he noticed that among the patients with peripheral neuritis, 50% had visual complaints. Of these, 10% had an associated severe diminution in vision. It would stand to reason that if visual cranial nerves were affected in beriberi amblyopia, the auditory system would be affected also; however, Dr. Hibbs noted no impairment or demonstrable loss of auditory acuity.

Skin changes associated with beriberi were common. Frequently seen were beriberi spots which were lesions similar to erythema nodosum. Also characteristic in **beriberi skin changes** were an erythema in the palms of the hands and soles of the feet associated with excessive sweating and pronounced dermatographia.

In July 1942, Hibbs wrote that the highest incidence of **acute beriberi heart disease** occurred at 3 months. This, no doubt, reflected the poor diet, which consisted primarily of polished rice and was practically devoid of thiamine. Acute cardiac beriberi presented a major problem in the camps. In 95% of the individuals, it took a mild form, characterized by dyspnea and non-



fatal cardiac arrhythmias. On physical examination, the heart was usually hyperactive with heart rates between 130 and 140. An irregular rhythm was usually present, but due to the lack of monitoring devices, the assumption was atrial irregularities. Additionally, the patient was usually hypotensive with BPs in the 80/40 to 100/60 range. There was no evidence of cardiac decompensation or heart failure. For those who died, an autopsy revealed a heart of normal size and anatomy.

The moderate form was somewhat more aggressive. Affected individuals were extremely short of breath. Physical examination revealed hepatomegaly, edema, cyanosis and ventricular failure, rales in the lungs and tachycardia. Most of these individuals died within the year. Autopsy revealed an enlarged heart.

Finally, shoshin, or **acutely pernicious cardiac beriberi**, is an acute right and left ventricular failure, with death occurring in minutes to days. Either unaccustomed high caloric intake or sudden work may precipitate this, as both quickly consume thiamine stores.

Pathologic examination of the heart of an individual who has died of beriberi reveals edematous myocardial cells, loss of intracellular protoplasm, a decreased number of fibrils intracellularly and virtually no other pathological findings.

**Acute beriberi heart disease** is characterized by high output cardiac failure with the virtual sine qua non of associated lactic acidosis, again involving the equilibrium of lactic acid with pyruvic acid. For some unknown reason, the sympathetic ganglion cells develop lesions in the nuclear regions, possibly predisposing the individual to peripheral vasodilatation, which is the first of three major pathophysiologic steps in the development of beriberi heart failure. Peripheral vasodilatation results in a high-output state associated with increased antidiuretic hormone secretion. This results in a ruddy skin discoloration, primarily involving the feet and hands. The kidney interprets the peripheral vasodilatation as decreased total intravascular blood volume and increases aldosterone production. Hemodynamically, these individuals present with very low systemic vascular resistance. Cardiac output can be 5 to 10 times normal and stroke index may be enormous. Total blood volume and heart rate are increased. If left untreated, moderate bi-ventricular heart failure develops. Finally, massive retention of sodium and water occurs, with painful dependent edema. Face and arm edema are characteristic after remaining supine overnight. The combination of high-output congestive heart failure, decreased systemic vascular resistance, increased cardiac index and heart rate and lactic acidosis often is present in acute beriberi heart disease. Physical examination often reveals low systolic and diastolic pressures, elevated jugular venous pressure and dependent edema. The heart rate is usually rapid;  $S_3$  and  $S_4$  gallops are common. The EKG may reveal sinus tachycardia, S-T segment changes or low QRS and T-wave amplitudes.



There is no agreement as to the long-term effects of thiamine deficiency on the heart. Several large retrospective studies have demonstrated no association, while a few small studies have suggested an association between thiamine deficiency and ischemic heart disease (IHD). Also seen is an increase in antidiuretic hormone production. Hemodynamically, these individuals present with a very low systemic vascular resistance. Their cardiac output can be 5 to 10 times normal and their stroke index may be enormous. Total blood volume, as well as heart rate, is increased.

## **Ischemic Cardiomyopathy**

Ischemic cardiomyopathy is among the newer presumptive service-connected disabilities. For service-connection, ischemic heart disease may be established by such findings as the presence of characteristic EKG changes, a documented history of myocardial infarction, etc. The evaluation level for disability compensation currently is based mainly on the level of exertion that produces angina, the type of employment that is feasible and whether there has been a myocardial infarction.

The four oldest Medical Follow Up Agency (MFUA) studies were all American, and were retrospective as well as prospective. Of these studies, Cohen first demonstrated a higher number of deaths than expected among ex-POW's.

In contrast, the foreign cardiovascular studies were all retrospective. Richardson found a higher number of cardiovascular deaths than expected among ex-POW's.

Page analyzed the self-reported questionnaires as part of the POW protocol analysis of the most recent NAS/NRC study. His report dealt only with the survivors; only 50% of all invited ex-POW's chose to participate and only 20% of controls participated. He noted through his analysis that the prevalence of ischemic heart disease was 1.7 times higher among ex-POW's who reported edema in prison camp than in ex-POW's who did not report it. Until recently, the VA allowed presumptive service-connection for heart disease in former POW's on the basis of a history of beriberi only when beriberi heart disease was specifically diagnosed. As of August 1993, "beriberi heart disease" includes ischemic heart disease when there was a localized edema during captivity.

## **Beriberi Neuropathy**

The hallmark of the neurologic pathology of beriberi is axonal and myelin sheath destruction. Thiamine is essential for the formation of acetylcholine. Acetylcholine is formed in the spinal cord and transported down the axon. It is an essential nutrient and neurotransmitter and is



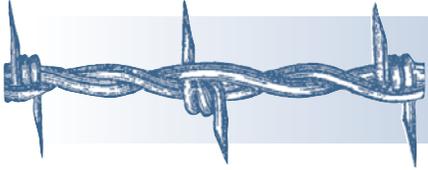
vital for the maintenance of both the axon and myelin sheath. Thiamine deficiency leads to decreased acetylcholine levels and, as already discussed, increased pyruvic acid levels. It is believed that this combination of decreased levels of acetylcholine and increased levels of pyruvic acid is responsible for the characteristic destruction of the nerves seen in beriberi, and results in weakness, pain and central nervous system manifestations.

The neuromuscular symptoms of thiamine deficiency are the first to be manifest. In virtually all individuals, weakness is the initial presentation. Characteristic is a difficulty rising from a sitting to a standing position, which is what the term beriberi means in Sinhalese. In 25% of the individuals, however, the first symptoms are paresthesia and pain. These are initially worse distally but will proceed proximally if left untreated. The legs always are affected earlier and more severely than the arms. These symptoms are insidious and relentlessly progressive unless adequately treated. In POW camps, the most important differential test performed by the camp physicians was the ability of the patient to perform the squatting test. In this test, the patient was asked to place his arms over his shoulders and his hands on the back of his head. He was then asked to do a deep knee bend and attempt to raise his body into an upright position. If he could not perform this test, he most likely had early beriberi.

A recent study of thiamine deficiency revealed the immense peripheral neurologic variability of this disease. Of 189 patients presenting with leg symptomatology, 45 revealed loss of reflexes alone, 10 revealed loss of sensation alone, 2 had weakness and sensory loss, 40 revealed reflex and sensory loss and 66 revealed sensory, motor and reflex loss. This incredible heterogeneity in the presentation of the neuromuscular involvement of this disease is truly unique. In the same individuals, only 57 had arm involvement. Of these, 6 had loss of reflexes alone, 10 revealed loss of sensation alone, 5 weakness alone, 10 weakness and sensory loss, 2 reflex and sensory loss, and 17 sensory, motor and reflex loss.

Destruction of the myelin sheath is a non-inflammatory and segmental process. As the segmental destruction proceeds proximally, the axons begin to die. Normal impulses are carried in a rhythmic fashion back to the brain. With the loss of the myelin sheath and the axon, impulses are erratically generated, propagated up the spinothalamic tract, erroneously registered in the thalamus and interpreted by the brain as pain, even though noxious stimuli are not actually present. The end result is initially dorsal foot pain. The S1 dermatome innervates the sole and lateral aspect of the feet, and therefore, it is the first affected. Followed closely thereafter is the L5 dermatome, which innervates the medial aspect of the dorsum of the foot.

The pains are on a continuum from a dull, constant ache in the feet or the legs, as seen in most individuals, to sharp, severe, piercing fleeting pains. A cramping, tight sensation in the feet or the calves is virtually characteristic of this disease, as is tightness and tenderness of the calves upon palpation.



**Lewis** made several clinical observations regarding thiamine deficiency, noting the development of a hyperesthesia and hypersensitivity of the feet, primarily on the dorsum and soles, with most prominent painful sensations presenting from June to August 1942. Wet beriberi appeared most frequently by September 1942, according to his observations.

**Nardini** noted that 90% of American POW's in his section of Cabanatuan had some type of Beriberi. The best type to have had was a numbness and hyperesthesia of the feet and anterior aspect of the legs. The worst type involved painful burning feet accompanied by the Cabanatuan Shuffle, or gait, in which the affected POW's would walk on the lateral aspects of their feet and fling their arms upward in an attempt to relieve the pressure resulting from walking.

The motor system reveals symmetrical pathologic involvement that is definitely worse distally. Absolute paralysis is rare. Hibbs noted that only two percent of the individuals affected with beriberi in his camp manifested paralysis which, when present, only involved the limb musculature. Thoracic muscles, due to the short length of their nervous innervation, are virtually never involved.

In this setting of peripheral neurologic damage and painful polyneuropathy, nerve conduction studies and electromyography reveal a demyelinating process early in the course of the disease. Either a decrease in nerve conduction velocity, or more commonly, a decrease in amplitude of the motor and sensory-evoked responses, suggesting a demyelinating process and axonal loss characterizes this process. Electromyography findings reveal mild to moderate slowing of the motor and sensory conduction and marked reduction in the amplitude of the sensory axon potentials. In addition, the conduction velocity is usually reduced in the distal dermatomes, but is normal proximally.

In a recent study conducted at the Livermore VAMC, 32 former POW's of the Japanese with a history of beriberi neuritis were evaluated. Upon entry into the study, seven individuals had no neurologic complaints, while 25 individuals were symptomatic. Among the seven ex-POW's with no symptoms, three had both abnormal EMGs and abnormal nerve conduction studies, and one had abnormal nerve conduction studies only; hence four out of the seven asymptomatic individuals had abnormal electrodiagnostic studies while only three were normal. Among those with symptomatic peripheral neuropathy, 14 had abnormal EMGs and abnormal nerve conduction studies, 10 had abnormal EMGs and only 1 was normal. In summary, in this study, 28 out of the 32 individuals with a history of beriberi neuritis had abnormal electrodiagnostic studies.

Recently, a large non-controlled study was conducted in England of nutritional neuropathy



symptoms among 898 Far East POW survivors examined 23 to 36 years after captivity. This was not a controlled study, but rather, the individuals examined were all willing participants. Among individuals with definite neurologic symptoms, 24 had evidence of peripheral neuropathy, 19 had evidence of optic atrophy, 13 had evidence of sensorineural deafness and 2 had evidence of myelopathy. This total of 58 abnormalities among the 49 symptomatic Far East POW's represented a prevalence of 5.5% in the 898 individuals studied.

In the same study of possible neurologic diseases, 21 had impaired deep tendon reflexes, 13 had impaired sensation, five had optic atrophy, one had fasciculations, one had muscle wasting and one had spastic monoparesis. This total of 42 abnormalities among the 38 Far East POW's represented a prevalence of 4.2%.

There are several avenues to which this disease may turn: dry beriberi, with its weakness and aphonia; wet beriberi, with its dyspnea and cardiac irregularities; and CNS beriberi with its cranial nerve abnormalities and dementia.

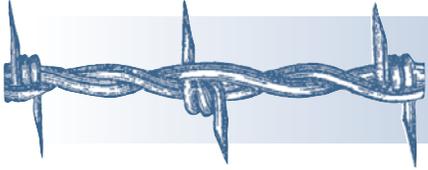
Concerning the effects of thiamine deficiency on the CNS, alcoholics are at increased risk for Wernicke's encephalopathy. Initially, mild disorientation, drowsiness and inattentive responsiveness characterize this thiamine deficiency dementia. Later, the full-blown triad of cerebellar ataxia, oculomotor disturbances and mental confusion develops. The most common ocular abnormalities are horizontal and vertical nystagmus and bilateral cranial nerve III, IV, VI and X involvement producing abducens and conjugate palsies. If not diagnosed and treated quickly, Wernicke's encephalopathy is potentially fatal, with an estimated acute mortality rate of 17 percent. Stupor and coma are common in patients presenting to emergency departments. Confabulation with retrograde and anterograde amnesia are frequent symptoms. In more than 50 percent of cases, recovery is incomplete despite thiamine replenishment. In the non-institutionalized elderly with vitamin deficiency, oral thiamine has been demonstrated to improve cognitive function.

## **Ariboflavinosis**

In order to prevent riboflavin deficiency, the body needs between 1.2 and 1.6 mg of riboflavin per day.

Primarily seen in this disease is a sometimes sore, non-painful tongue. The tongue takes on a magenta hue and becomes edematous and inflamed, making it difficult to eat and swallow.

Also characteristic of this disease is stomatitis, an inflammation of the lining of the mouth, and cheilitis, an inflammation of the lips. The cheilitis may be unilateral, but is usually bilateral. This inflammation at the corners of the mouth is very painful and the affected individual has



a difficult time fully opening his mouth. Secondary bacterial infection is common. The inevitable result of cheilitis is scarring and strictures at the corners of the mouth, which cause a decrease in the buccal aperture, termed microstomia. The normal buccal aperture in a man is 5.8 cm + - 0.4 cm. Anything less than this, with evidence of scarring, may represent a history of ariboflavinosis.

In addition, the facial skin may take on a roughened or shark-like appearance, termed ichthyosis. The patient may have a sore throat with hyperemia and edema of the pharyngeal and mucous membranes. The cornea also is a target of the epithelial changes. The capillaries proliferate, exudates form and ulcerations of the cornea are common late in the course of an untreated case.

Finally, a pure red cell aplasia develops in many patients and is manifested by a normocytic normochromic anemia. Cognitive dysfunction has been correlated with low levels of Vitamin B-2.

## **Pellagra**

Pellagra is a disease recognized in ancient writings in the Middle East caused by a deficiency of the water-soluble Vitamin B-3, niacin, in the diet. Deficiency of niacin or nicotinic acid in the diet produces pellagra, Italian for pelle, meaning skin, and agro, meaning rough. The disease was first seen in Europe after the importation of maize from the New World when corn became the primary caloric source. It was common in the American South due to a diet heavy in the three M's: meat, meal and molasses. Dr. Goldberger of the U.S. Department of Public Health was the first to recognize it as a deficiency rather than infectious disease based upon his study of orphanages in rural Mississippi.

Excellent sources of niacin are yeast, beef, pork, fruit, most vegetables and grain cereals. Niacin is needed in the amount of 12 to 18 mg per day. Human intestinal bacterial flora can convert tryptophan into niacin in the presence of Vitamin B-6 (pyridoxine), if B-6 is present. The disease of pellagra was unknown in Europe until corn was imported from the Americas. Once it was recognized, it was felt for centuries to be an infectious disease. Refined and milled maize contains less tryptophan and nicotinic acid than whole meal maize flour obtained from pounding the maize into flour. Although maize contains more nicotinic acid than oats, rye and some wheats, most is in a bound form unusable to the patient. Furthermore, zein, the protein of maize, is deficient in tryptophan. Corn also is high in leucine, which further antagonizes the body's ability to absorb niacin.

The disease also is seen in patients with carcinoid syndrome, as the tryptophan is used by the carcinoid cells and converted to serotonin. Secondary pellagra is occasionally seen in



patients on poor diets who are given isoniazide and not supplemented with pyridoxine. Herein isoniazide antagonizes pyridoxine necessary for the conversion of tryptophan to nicotinamide. Finally, pellagra is seen in poorly fed dialysis patients on no B vitamin supplements

In addition to the numerous cases of pellagra among ex-POW's of the Japanese, pellagra also was especially prevalent in the POW's in Korea, where the diet was primarily corn, millet or sorghum, all of which are practically devoid of usable niacin.

For simplicity's sake, pellagra is known as the disease of the three D's — diarrhea, dermatitis and dementia. Often the fourth D, death, was a complication. Both riboflavin and niacin are needed by the body for the electron transport chain in respiration and in the generation of water and carbon dioxide. As opposed to many other of the vitamin deficiencies, pellagra does not seem to cause anemia.

The diarrhea results from pathologic changes involving primarily the esophagus, stomach and colon. The changes here are very similar to those found in the skin, namely erosive, weeping lesions in affected areas. These ulcerations further decrease the absorptive surface area for what little nutrients are in the diet.

The dermatitis is symmetrical with sharply demarcated borders, and worse on the sun-exposed or trauma-exposed areas of the body. Initially the dermis becomes erythematous, hyperemic and thickened. Later, there is a desquamation of the epidermis, with denuding of the superficial layers and ulcer formation underneath. The chronic effects of this are strictures, chronic infection and hyperpigmentation in the affected areas of the body.

The tongue also is involved in pellagra. It may appear deeply fissured and scarlet and raw and very painful.

The skin is involved in niacin deficiency, with the characteristic sharply demarcated margins of prior sun exposure assisting in the diagnosis. Initially, the skin is erythematous and has a thickened, scaly appearance. Later, chronic inflammation and edema result in desquamation or ulceration yielding hypopigmentation. Finally, the skin thickens as a result of subcutaneous fibrous deposition and becomes hyperpigmented. The changes in the anterior neck look as if the patient has a necklace, termed Casal's necklace, named after the Spanish physician who first described it. The chronic dermatitis in the hands is known as pellagrous glove.

The central nervous system effects are consistent with a central neuritis, primarily affecting large cells of the motor cortex. Also seen is a symmetrical degeneration of the dorsal column, with effects very similar to B-12 deficiency, namely loss of position and vibratory sense. In addition, cortico-spinal tract and spinothalamic tract involvement occurs as would be



seen in beriberi, producing sensations of numbness and dysesthesias. In fact, the neurologic manifestations of this disease are quite indistinguishable from beriberi. Some authors state that the peripheral neurological sequelae of pellagra are present in about 75% of the individuals involved. Early on, the central nervous system manifestations affecting the brain consist of psychoneurosis, insomnia, irritability, anxiety and depression, which are all reversible if adequately treated. Later, the Betz cells are affected, with central nervous system neuritis, producing a psychosis that is irreversible despite supplementation with massive doses of niacin.

Nicotinic acid deficiency encephalopathy presents with an impaired consciousness progressing to coma, extra-pyramidal rigidity, tremors and uncontrollable grasping and sucking reflexes, representing frontal release signs.

The treatment is niacin replacement. The skin is generally quite responsive; the strictured and hyperpigmented areas from long-standing niacin deficiency do not respond to therapy, but the early lesions do. The gastrointestinal tract at least superficially completely regenerates, often leaving scars. The glossitis dissipates and finally disappears. The sensory system, at least partially, recovers peripherally and the patient regains much sensation. However, there often are residual peripheral sensory defects. In general, the dementia is unresponsive to therapy and the affected individual usually succumbs to starvation and disease. In many POW camps, no work meant fewer rations, just the opposite of what was needed for recovery. In the Philippines, the American physicians would grow cultures of yeast from the air and give affected patients a spoonful daily with excellent results. Since only a small amount was available on a daily basis, only the most severely affected patients were treated.

## **Folate Deficiency**

Deficiency of folic acid, Vitamin B-9, is common among all malnourished people. The vitamin is present in ample quantities in leafy green vegetables, nuts, legumes and fruits. Human intestinal flora also synthesize a tremendous amount. Unfortunately, folate is very heat labile and cooking food will destroy the ability of the vitamin to work. It is necessary for the synthesis of purines, and its absence hinders DNA production and maturation, hence the RBCs produced by the bone marrow are immature, large and easily burst when introduced into the peripheral circulation. Folate deficiency causes no long-term sequelae.

## **Scurvy**

Scurvy is a deficiency of ascorbic acid, Vitamin C, which is a water-soluble and heat-sensitive vitamin. Scurvy was seen regularly in the concentration camps of Europe and in some POW camps, primarily in the Pacific. The need for this vitamin in daily life is becoming increasingly obvious. This vitamin is essential for the formation of collagen, ground substance, osteoid,



dentine and intercellular cement substance. Cooking food to any degree destroys the usefulness of this vitamin. Humans lack the ability to produce the vitamin and therefore, are wholly dependent on fruits, vegetables, fish and dairy products. Deficiency occurs mainly in the elderly on poor diets, breast-fed infants ages 6 to 12 months, the malnourished, the critically ill and alcoholics.

Vitamin C is rapidly absorbed in the intestines and therefore deficiency usually represents malnutrition rather than intestinal pathology. Because the vitamin is ubiquitous in most fruits and the body retains a large supply, clinical deficiency suggests a long period of deprivation. Vitamin C is susceptible to heat, cooking in water and extended exposure to room temperature.

The major signs of deficiency are nosebleeds, melena, hemarthrosis, subperiosteal hemorrhages, loose teeth, bleeding gums and ecchymoses. Eighty percent of patients with scurvy are anemic. Blood loss is thought to occur primarily through lesions in the gastrointestinal tract. The anemia is in addition to blood loss alone; hematologic studies reveal variable presentations in both the peripheral smear and the bone marrow.

## **Lipid Soluble Vitamins**

Vitamins A, E, D and K are lipid-soluble. Their transportation across the intestinal mucosa is extremely decreased in steatorrhea, a common occurrence in gastrointestinal infections.

## **Vitamin A Deficiency**

Vitamin A deficiency is the most common nutritional cause of blindness in the world. Vitamin A is needed in relatively small doses in the diet, around 5,000 IU per day in the average adult. Vitamin A is tenaciously stored in the liver and a deficiency in the primary state takes months of no vegetables and no dairy products to become manifest. It is seen more frequently as a secondary condition due to malabsorption

The first alteration in vision is a decrease in dim light acuity. This is associated with dryness and ulcerations of the cornea. Skin changes resembling goose bumps also appear; these will not disappear when rubbed.

After dim light acuity is altered, later changes in the conjunctival mucosa are seen, referred to as Bitot's spots. These are keratin debris deposited on the limbal conjunctiva. As these aggregate, total blindness ensues.



Most individuals with Vitamin A deficiency develop a hypochromic, microcytic anemia. Plasma levels of Vitamin A correlate with hemoglobin concentration. In general, the lower the level of Vitamin A in the serum, the lower the hemoglobin level. In developing countries, Vitamin A deficiency is thought to be as common a cause of anemia as iron deficiency.

In addition, the cells in the body's linings and coverings undergo a squamous metaplasia. The result is xerophthalmia of the conjunctiva, keratomalacia of the cornea, follicular hyperkeratosis in the skin, loss of cilia in the bronchial tree later predisposing to infections, ureteral colic and possibly development of calculi in the urinary tract. Bitot's spots affect the limbal conjunctiva.

## Overlap Syndromes

Gottlieb's observations of **malnutrition-related liver disease** in Cabanatuan were as follows: this entity initially begins as a fatty liver and later predisposes individuals to infectious hepatitis. Cirrhosis also commonly developed in men with no prior alcohol history. Affected individuals often developed gynecomastia, as well as loss of the characteristic male hair pattern.

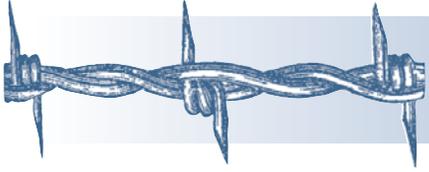
Jacobs described the **oculo-oro-genital syndrome** in his POW camp in Cabanatuan. This constellation of symptoms, affecting 75% of his 8,000 fellow internees, consisted of amblyopia accompanied with a scrotal dermatitis manifested by erythema and pruritis, and later an exfoliative dermatitis with ulcerations and painful glossitis,. He felt that this syndrome was likely due to a combination of deficiencies of Vitamin A and Vitamin B-3.

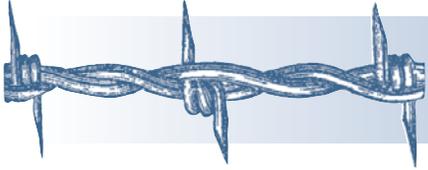
Jacobs also described the **castration syndrome**, a set of conditions afflicting some men with the oculo-oro-genital syndrome and consisting of loss of libido, total loss of body hair and loose, dry skin.

**Strachan's Syndrome** was seen with some regularity in POW's of the PTO. The primary symptoms are amblyopia, painful neuropathy, vertigo and orogenital dermatitis.

**The spinal spastic syndrome** was seen in many camps, with symptoms of mental and emotional changes, dimness of vision, and later widespread muscular rigidity, delirium, coma and death. In all likelihood, it is a combination of deficiencies of Vitamins A, B-1 and B-3.

Other identifying features germane to the spinal spastic syndrome include weak legs, clonus, extensor-plantar responses, absent abdominal reflexes, increased deep tendon reflexes, and loss of position and vibratory sense. Muscle pain, myocardiopathy and hemolytic anemia due to selenium deficiency are very common in Asiatic theaters.





## Gastrointestinal Diseases

Gastrointestinal diseases were extremely common in all of the POW camps. This was primarily due to the lack of hot running water and unsanitary conditions, such as open pit latrines and contaminated drinking water.

## Irritable Bowel Syndrome

Irritable bowel syndrome is a complex mixture of organic disease with psychological overlay affecting one in five Americans. It is defined as a variable collection of chronic (greater than three months) and recurrent symptoms not explained by structural or biochemical abnormalities. The disorder may affect anywhere in the GI tract, from the mouth to the anus. However, it primarily affects the large and small intestines.

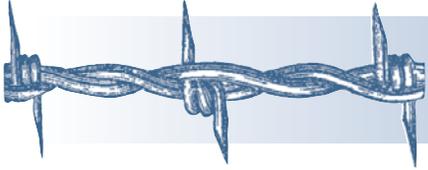
Irritable bowel syndrome is a diagnosis of exclusion. Affected patients often present with lower abdominal pains, disturbed defecation, alternating diarrhea and constipation and bloating. In the U.S. general population, 15% of people are affected. There is no universal agreement as to the exact pathophysiology, however altered intestinal motility is common. Stress seems to promote an exaggerated response in susceptible individuals. Also, visceral hyperalgesia a feeling of discomfort in the colonic areas with painful provoking stimuli, is more pronounced in these individuals. Also, there seems to be less cortical control over painful stimuli traveling up the midbrain nociceptive fiber tracts. Among patients tested with the Minnesota Multiphasic Personality Inventory (MMPI), 35% show hypochondriacal tendencies, 25% reveal depressive tendencies and 25% reveal hysterical tendencies.

Three different types appear to be present. The first, known as spastic colitis, has increased gas, constipation and abdominal pain as the primary symptoms. The second consists of chronic intermittent diarrhea possibly related to the ingestion of foods or increased psychological stress. The third is a mixture of the two, with alternating symptoms of constipation and diarrhea.

## Peptic Ulcer Disease

Peptic ulcer disease is defined as any ulceration along the esophagus, stomach or duodenum caused by the actions of both hydrochloric acid, secreted by the stomach, and the enzyme pepsin. This was very common in many of the POW camps and had a very high incidence in the post-repatriation period, as well.

According to data assembled by Neftzger regarding peptic ulcer disease, the hospital admission rate per 1,000 was 1.6 for PWJ versus 0.4 for WJ, 1.7 for PWE versus 0.0 for WE. For those service-connected for peptic ulcer disease, the figure is 4.2 for PWJ vs. 0.6 for WJ, 1.5 for PWE vs. 1.0 for WE and 4.0 for PWK vs. 0.7 for WK. Retrospective Canadian studies verified



the American findings. They analyzed all hospital admissions between 1946 and 1964 involving 100 Far East POW's and found 4 had had gastric ulcers and 13 had duodenal ulcers. This was twice the Canadian rate for age-matched populations. Australian studies also revealed higher prevalence rates.

In general, this disease may be considered an infectious etiology with the causative agent, **helicobacter pylori**, identified in the drinking water of these men. Anyone with a symptomatic infection has the characteristic endoscopic finding of the surface epithelial layer of the stomach becoming irregular with a cobblestone-like appearance. Usually seen is an active chronic gastritis, primarily involving the antrum, but also the fundus of the stomach. Seventy to 80% of people with gastric ulcer are Hp+, whereas 90% to 100% with duodenal ulcer are Hp+. A typical ulcer has a crater with a necrotic covering over the crater. If not treated, some ulcers may continue burrowing through the muscularis and erode into an artery, at which time the individual can exsanguinate.

*Helicobacter pylori*, a micro-aerophilic aerobe, is spread by the fecal-oral route, with the major risk factors for spreading being a lack of soap, a lack of hot water and crowding and sharing of beds. Even under the same conditions, Blacks and Hispanics are more susceptible than Caucasians to have symptoms from infection with the bacteria. Therefore, any infected Caucasian should raise the suspicion of acquisition of the bacterium in the POW camp under unsanitary conditions with poor nutrition. Essentially, the bacteria enter the normally sterile stomach and by using phospholipases, bury themselves under the protective mucus coat. There, they secrete urease, which degrades urea into ammonia and water. The ammonia combines with stomach acid and neutralizes it, thus allowing the bacterium to exist in an acid free environment within the stomach. Catalase is secreted, which protects the bacterium against oxygen metabolites produced from the granulocytes. The bacteria also secrete proteases, which dissolve the stomach's own proteins and provoke an inflammatory response in the host. This causes the host to increase gastrin production, resulting in an increase of hydrochloric acid production in the stomach. In addition, the ammonia neutralizes much of the stomach's acidity, diluting the normal acid feedback mechanism. As a result, a tremendous amount of acid is produced in the stomach. This acid falls into the usually neutral duodenum, producing duodenitis and finally, a duodenal ulcer.

Almost 100% of all duodenal ulcers have been found to be infected with this bacteria and 80% of patients with gastric ulcers have the bacteria. Only 25% of individuals infected with *H. Pylori* develop symptoms and even fewer develop a duodenal ulcer. Many other host variables therefore are involved. Infection with this organism also has been associated with gastric cancer and the mucosa associated lymphoid tissue (MALT) lymphoma.



## Hepatitis

Hepatitis infections were very common in all POW camps. Unsanitary conditions, poorly cooked food and contaminated water spread Hepatitis A. The hepatitis can be quite severe, not usually life-threatening in a properly nourished individual, but definitely life-threatening in a poorly nourished individual. No chronic carrier state has ever been demonstrated.

Hepatitis B is seen primarily with parenteral and sexual modes of transmission, however, rare documented cases have been seen in individuals through the oral route. Chronic carrier states are seen in this particular infection. Non-A/Non-B Hepatitis, which includes Hepatitis C, also can have a severe acute phase and can eventuate in a chronic carrier state.

## Helminthiasis

Helminthiasis is an intestinal infection caused by parasitic worms. The Morgan Board examination studies found that 60 to 70% of the returning POW's from the Philippines harbored intestinal parasites, usually ascaris and hookworm.

## Strongyloides

This intestinal nematode has a very complicated life cycle. Briefly, the larval forms penetrate the skin, primarily in the feet. In penetrating the skin, they cause a local inflammatory reaction. From the penetration site, they move into the lymphatic system and migrate to the lungs, where they begin to mature. This, in most cases, causes an eosinophilia.

Once in the lungs, strongyloides migrate through the alveoli and mature further. They then migrate up the main-stem bronchi and are swallowed. They withstand degradation by stomach acid, mature in the duodenum and burrow into the wall. Here the female is inseminated by the male and produces her fertilized eggs.

In studies of Far East-POW's of the British, upon wet-prep examination of duodenal aspirates, viable parasites were found in up to 27% of studied individuals up to 40 years after repatriation. The parasite can auto-reinfect the host and possibly remain viable forever. In addition, an area of chronic inflammation is always present, with unknown long-term sequelae.



## Ascaris Lumbricoides

*Ascaris lumbricoides*, also known as the giant round worm. The fertilized eggs are spread by fecal contamination of the soil. The eggs enter through the mouth, mature in the intestine, migrate through the intestinal wall, enter the lymphatic system and develop in the lungs. Similar to the life cycle of other worms, the mature forms migrate up the trachea, are swallowed again back into the esophagus, enter the small intestine and attach to the walls of the small and large intestines. When mature, these worms are usually 12 to 15 inches long.

Heavy infestations of one's colon by these parasites may cause a severe malabsorption syndrome, limiting use of available foodstuffs or even worse, an intestinal obstruction, a common way to die in POW camp.

## Ancylostomiasis

The buccal capsule of ancylostomiasis, also known as hookworm, has an aggressive appearance and hence the name of this parasite. A heavy infestation of one's colon can be associated with blood loss of up to 100cc a day. These parasites derive both their oxygen and glucose supply from the host's blood. Their life cycle is similar to that of strongyloides in that they penetrate unprotected feet and migrate in the lymphatics to the lungs, where they traverse through the alveolar sacs. Here, they mature and migrate up the trachea, are swallowed and become attached to the wall of the duodenum. Heavy infestations with this parasite decrease the absorptive surface area of the duodenum. These worms eventually succumb to host defenses that eliminate them, and they are not able to propagate a chronic carrier state like *Strongyloides*.

## Salmonella Typhi

The bacteria *Salmonella typhi* was one of the most common of all intestinal infections.

The bacteria *Salmonella typhi* produce the disease known as typhoid fever, which is spread by the fecal-oral route, primarily due to contaminated water. This disorder usually produces a self-limited illness, however, in individuals who are malnourished, any presentation is possible. The host's defenses attempt to ingest these bacteria in the phagocytes. Unfortunately for the host, these bacteria are able to withstand bactericidal degradation, and intracellular multiplication takes place. It is the involvement of the Peyer's patches in the intestinal wall that causes the general destructive nature of this disease. In addition to the intestinal involvement of the immune system, these bacteria also secrete an endotoxin, causing secretory diarrhea. Most patients experience a profuse watery diarrhea. In some extremely malnourished individuals, systemic dissemination of the typhoid bacilli may localize in any tissue of the body, with the production of a localized suppurative infection.



Approximately one-third of infected individuals are asymptomatic; in another third, the diarrhea is primarily watery, and in the final third, frequent watery, bloody feces are the initial presentation. Severe infection is accompanied by a malabsorption syndrome, primarily of the fat-soluble Vitamins A, E, D and K. The endoscopic view of infected colonic mucosa reveals superficial ulcerations over the entire bowel mucosa, a common presentation of advanced disease. Necrotic sloughing of the superficial layers and immense blood loss also are common in more advanced cases.

## **Shigella**

The fecal-oral route, primarily contaminated water and food, also spreads shigella, known as bacillary dysentery. Symptoms consist of mild, watery diarrhea in the majority of individuals. In a malnourished state, however, virtually any colonic presentation is possible, and severe dysentery can occur. A very high fever, cramping abdominal pain and tenesmus accompany almost all cases.

As viewed through the endoscope, shigella colitis can mimic ulcerative colitis with large ulcerative lesions, friable-looking intestinal colonic mucosa and extensive hemorrhagic areas.

## **Amebiasis**

Consuming contaminated water spreads amebiasis, caused by the motile single-celled parasite *Entamoeba Histolytica*. This unicelled organism lives primarily on fecal debris and bacteria found in the colon. Some particular strains have an affinity for burrowing through the intestinal wall and do so in certain individuals for unknown reasons. They produce a small ulceration on the intestinal surface, with a much larger lesion underneath, creating an almost bottle-shaped deformity. The colonic mucosa between affected areas appears normal. As viewed from the endoscope, discrete ulcers are a hallmark of this disease.

The prognosis in affected individuals may be severe scarring and an irritable colon. Uncomplicated infection readily responds to treatment; unfortunately, little immunity is conferred by this infection and recurrences are frequent.

## **Giardiasis**

A multiflagellar protozoan that parasitizes the duodenum and the jejunum causes giardiasis. It attaches to the mucosa by means of a ventral suction disc. The parasite forms cysts and is transmitted by the fecal-oral route. It is a major cause of diarrhea in Third World Countries.



The symptoms of this disorder are an explosive, watery diarrhea and right-upper-quadrant pain. Occasionally, in heavy infestations, malabsorptive syndrome results due to a decrease in the absorptive capacity of the small intestine, particularly for fats and carbohydrates, further inhibiting the absorption of Vitamins A, E, D and K.

Most patients produce a tremendous amount of intestinal gas, resulting in abdominal discomfort and flatulence. They stay nauseated, which leads to anorexia and a further depletion of energy reserves. Their stools are foul smelling and greasy. This infection is rarely chronic and recovery is usually complete.

## **Cold Injury and Frostbite**

Frostbitten feet were very common in POW's of Europe, POW's of the Japanese who were transferred to northern Japan, Manchuria and Korea, and POW's of the Korean conflict. Several factors predispose to frostbite. The most important is heat loss rather than heat gain. Eighty percent of total body heat loss can result from an uncovered head and neck. Wetness accelerates heat loss through convection. Fatigue and being in combat over 30 days also are major risk factors. Blacks are more susceptible to frostbite than Whites. Finally, poor nutrition is very important.

Frostbite injuries are classified according to degree. Numbness, erythema and white or yellow plaques usually characterize first-degree frostbite injuries. Second-degree frostbite injuries are associated with epidermal injury and the formation of superficial skin vesicles with clear fluid. Dermal involvement and deeper blisters containing bloody fluid characterize third degree frostbite injuries. Fourth degree frostbite injuries produce transdermal destruction with mummification primarily involving muscles, tendons and joints.

The course of the pathology is as follows: from zero to three hours following the injury, edema forms; vesicles, or blebs, appear within six to twenty-four hours. Over the next several days, the blebs rupture and eschars form. It is much better for the individual to have a deeper injury that occurs once and is adequately treated, than to have superficial injuries which thaw out, re-freeze and re-thaw, because it is the recurrent freezing and thawing that causes the severe damage. This freeze-thaw cycle was responsible for the deaths of so many of Napoleon's troops when retreating from the Russians.

The clinical appearance of frostbite is often deceptive when evaluating its severity. Color variations range from white, yellow-white to mottled blue. Examination of the extremity reveals it to be cold, hard or waxy to the touch. Most patients complain of numbness and some report decreased or absent sensation to the touch. Upon rapid rewarming, the extremity



usually responds with flushing. Approximately 75% of those individuals who complained of numbness describe a severe pain upon rewarming. Sensation usually returns soon after thawing and continues until the formation of blebs. Edema usually appears within three hours of rewarming, and vesicles form within six to 24 hours. These blisters usually rupture within three days and scab over. Associated symptoms then include various degrees of pain, tingling, burning and electrical shock-like sensations that last months and often longer.

The injury in frostbite is due to the formation of ice, both intra-cellularly and extra-cellularly. In general, extra-cellular ice forms first. The formation of ice in the extra-cellular spaces will, in effect, pull fluids and electrolytes out of the cells resulting in cell dehydration and shrinkage. Furthermore, alterations in intracellular lipids and electrolytes occur, and massive protein damage results. As this proceeds, microvascular injury occurs, which is often irreparable.

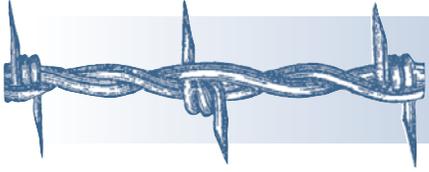
The prognosis is favorable if, after rewarming, the affected extremity regains sensation, warmth and normal color, and if large clear blebs form early on and extend to the tips of the affected digits. This indicates that no severe damage was done to blood vessels. A poor outcome is associated with small blisters that are bloody, appear blue, do not extend to the tips of the affected digits, and no swelling is involved in the extremity. This indicates that blood vessels have been irreparably damaged and gangrene is setting in.

The long-term effects of frostbite range from non-existent to severe. In order of decreasing frequency, long-term symptoms include pain, cold sensitivity, numbness, excessive sweating, tingling and burning. Nerve conduction tests performed shortly after the frostbite have consistently revealed injury; however, no long-term studies have been performed to verify permanent damage. Physical findings often reveal persistent nail abnormalities, as well as scarring and skin discoloration. If the freezing was deep enough, joints may have been involved, along with the development of osteoarthritis.

The skeletal changes may take months to become manifest and include osteoporosis, cysts and joint space narrowing. In all likelihood, temporary interruption in blood flow to the subchondral bone leads to degeneration of the articular cartilage and loss of joint space. If the patient presents with these changes, and they are confined to the extremities, he is likely to have osteoarthritis as a result of frostbite.

## **Peripheral Neuropathy**

In Greek “peripheral neuropathy” literally means the suffering of nerves outside of the brain and spinal cord. Among former POW’s, there are several different causes of peripheral neuropathy, such as vitamin, essential fatty acid and selected mineral deficiencies. Infections, such as leprosy, are the most common cause of neuropathy in the world. Other causes to be considered are various toxins such as lead, copper and mercury, a hereditary predisposition to neuropathy,



deposition of amyloid and multiple other less common causes.



## VII. The Psychiatric Presumptive Service-Connected Disabilities

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The Psychiatric Presumptive Service-Connected Disabilities are quite numerous and well beyond the scope of this presentation; nevertheless, a brief description is provided to the reader. From my personal experience, many of these men have been active and independent in their lives; however, with the loss of loved ones or a decline in their own health, many decompensate — especially when they are forced to rely on others to provide their care. This often produces flashbacks to the POW experience in otherwise psychologically healthy individuals. PTSD and dysthymia are very common, and should be recognized for what they are and compassionately treated.

### Psychosis

The first presumptive is psychosis, narrowly defined as delusions or prominent hallucinations occurring in the absence of insight into their pathological nature.

### Panic Disorders

According to DSM-IV, panic disorders are recurrent, unexpected panic attacks lasting at least one month or longer with several different diagnostic criteria. It can be either with or without agoraphobia, but not due to the direct effects of a chemical substance or medical condition. To meet the criteria for panic, a veteran's symptoms should not be better explained by another disorder.

### Generalized Anxiety Disorders

Generalized anxiety disorder is an excessive anxiety with worry occurring more days than not for at least six months, with several different characteristic symptoms. The anxiety causes significant distress or impairment in every day function but not due to the direct effects of a chemical substance or medical condition. To meet the criteria for generalized anxiety disorder, a veteran's symptoms should not be better explained by another disorder.

### Obsessive-Compulsive Disorder

Concerning the obsessive-compulsive disorder, obsessions are defined as recurrent and persistent thoughts, impulses, or images that are experienced as intrusive and inappropriate and not simply excessive worries about real life problems. The person attempts to ignore these thoughts and realizes they are a product of his or her own mind. Compulsions are repetitive behaviors or mental acts that the person feels driven to perform in response to an obsession or according to



rigidly applied rules. These behaviors have as their aim preventing or reducing stress or preventing some dreaded event. The person has recognized that the obsessions or compulsions are excessive, may cause marked distress and are time consuming. The obsession or compulsion is not due to the direct effects of a chemical substance or medical condition. To meet the criteria for obsessive-compulsive disorder, a veteran's symptoms should not be better explained by another disorder.

## **Post-Traumatic Stress Disorder**

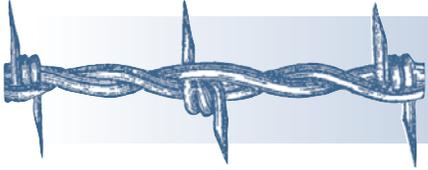
In post-traumatic stress disorder, the affected individual experienced, witnessed, or was confronted with scenarios that involved actual or threatened death, or serious injury or a threat to the physical integrity of self or others. The person's response involves intense fear, helplessness or horror. The traumatic event is presently re-experienced in multiple different ways, including recollections and dreams of the event. The affected individual persistently avoids stimuli associated with the traumatic event, as indicated by several different criteria. The affected individual also has persistent symptoms of increased arousal, which were not present before the trauma, as indicated by several different criteria. The duration of the disturbances is more than one month, and the disturbance causes clinically significant distress or impairment in social, occupational or other important areas of functioning. Acute symptoms are less than three months in duration. Chronic symptoms are greater than three months in duration. Symptoms with delayed onset occur at least six months after the stressor.

## **Anxiety Disorder Not Otherwise Specified**

"Anxiety disorder not otherwise specified" is a mixed anxiety-depressive disorder with clinically significant symptoms of anxiety and depression not meeting criteria for a specific mood disorder or a specific anxiety disorder.

## **Dysthymic Disorder**

Dysthymic disorder is characterized by a depressed mood for most of the day, for more days than not, as indicated either by subjective account or observation by others for at least two years and without the symptoms for more than two months at a time. The presence of specific diagnostic criteria are necessary, and the disturbance is not better accounted for by chronic major depressive disorder, active or in partial remission. The symptoms are not due to the direct physiological effects of a chemical substance or a general medical condition. The early onset of the disease occurs before the age of 21. Delayed onset of the disease occurs at the age of 21 or older, and the disease may have atypical features.



## Summary

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In conclusion, the American ex-POW has been exposed to an almost incomprehensible array of treatments. The torture, starvation diet, cold and filth exposure has left permanent scars in the survivors. The purpose of this program has been to enlighten all those so honored to be associated with the American ex-POW as to the most statistically common conditions which may affect any one ex-POW. However, one should bear in mind that many other conditions are possible on an individual basis. Although not intended to be an all inclusive, in-depth authority on all aspects of the POW experience, this program along with the DSM-IV and the following bibliography, completes the most concise reference yet assembled.



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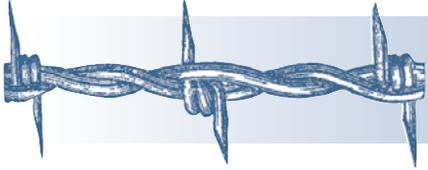
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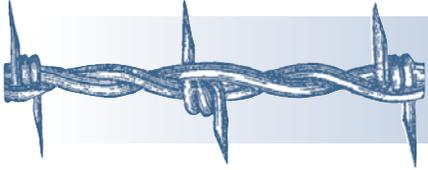
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## APPENDIX A

### AVITAMINOSIS/RELATED SYNDROMES

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## Federal Benefits for Ex-Prisoners of War and Their Dependents

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Most American ex-POW's are unaware of the benefits to which they are entitled from the Department of Veterans Affairs. The following information is provided to help inform the former prisoners of war and VA providers of these benefits and how to access them.

### Disability Benefits

The VA administers two disability programs. Both pay monthly benefits to disabled veterans.

### Disability Compensation

Studies have shown that the physical hardships and psychological stress endured by POWs have life-long effects on health, social and vocational adjustment. These studies also indicate increased vulnerability to psychological stress.

The laws on former POW benefits recognize that military medical records do not cover periods of captivity. Former POW's who were incarcerated for at least 30 days are presumed to be eligible for disability compensation if they become at least 10 percent disabled from diseases or disorders associated with POW's. Compensation is paid based upon the degree of disability. The presumptive service-connected disabilities associated with POW's can be found in Appendix B.

### Current Monthly Compensation According to Degree of Disability

Percentage Disability	Amount of Compensation
10	\$ 101
20	194
30	298
40	427
50	609
60	769
70	969
80	1,125
90	1,266
100	2,107



## APPENDIX B

### Education and Training

The VA pays benefits to eligible veterans, dependents, reservists and service members while they are in an approved training program. Generally, veterans have 10 years from the date they were last released from active duty to use their education benefits.

### Vocational Rehabilitation

The VA can help certain service-disabled veterans get and keep suitable employment.

### Home Loans

VA loan guaranties are made to service members, veterans, reservists and un-remarried surviving spouses for the purchase of homes, condominiums and manufactured homes, and for refinancing loans. VA guarantees part of the total loan, permitting the purchaser to obtain a mortgage with a competitive interest rate, even without a down payment, if the lender agrees. VA home loans may be obtained more than once.

### Burial Benefits

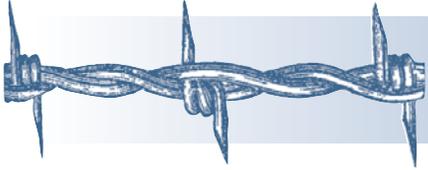
The VA offers certain benefits and services to honor our Nation's deceased veterans.

***Headstones and Markers:*** Headstones and markers are provided for the unmarked graves of veterans anywhere in the world and of eligible dependents of veterans buried on military posts or in state veteran or national cemeteries.

***Burial Flags:*** VA provides an American flag to drape the casket of a deceased veteran. Veteran must have been separated from the service under conditions other than dishonorable. After the funeral service, the flag may be given to the next of kin, close friend or associate of the deceased veteran. Burial flags may be obtained at VA regional offices, national cemeteries and most local post offices.

***Reimbursement of Burial Expenses:*** VA will provide a burial allowance of up to \$1,500 if the veteran's death is service-connected. VA will pay \$300 burial and funeral expense allowance for veterans who, at the time of death, were entitled to receive pension or compensation or would have been entitled to compensation but for receipt of military retirement pay.

***Burial in a VA national Cemetery:*** Veterans and service members are eligible for burial in a VA national cemetery. Burial benefits in a VA national cemetery include the gravestone, a



headstone or marker, opening and closing of the grave and perpetual care. Many national cemeteries have columbaries or gravesites for cremated remains. Spouses and minor children of eligible veterans and of service members also may be buried in a national cemetery. Gravesites in national cemeteries cannot be reserved. Funeral directors or others making burial arrangements must apply at the time of death.

## **DIC Payments to Surviving Spouse**

Dependency and Indemnity Compensation (DIC) payments may be available for surviving spouses who have not remarried, unmarried children under 18, helpless children, those between the ages of 18 and 23 if attending a VA-approved school, and low income parents of deceased service members or veterans. To be eligible, the deceased must have died from: (1) a disease of injury incurred or aggravated while on active duty or active duty for training; (2) an injury incurred or aggravated in line of duty while on inactive duty training; or (3) a disability compensatable by VA. DIC payments also may be authorized for survivors of veterans who were former prisoners of war who died after September 30, 1999, and who were continuously rated totally disabled for a period of at least one-year immediately preceding death. Surviving spouses of veterans who died after January 1, 1993, receive \$881.00 per month. Plus, \$191.00 if the veteran received 100% service-connected compensation for at least eight continuous years prior to death and the surviving spouse had been married to the veteran for those eight years. This is paid without regard to your income from other sources. Additional amounts also are payable depending upon your specific circumstances. Ischemic heart disease, or coronary artery disease, is one of the POW presumptive disabilities and often is a contributory cause of death, which may entitle you to DIC.

## **Health Care Benefits**

Former POWs are not subject to VA's health care eligibility assessment and are entitled to VA hospital care. VA may provide outpatient care without limitation to former POWs. POWs held for more than 90 days are eligible for dental treatment. Those held for less than 90 days are eligible for dental treatment for service-connected, noncompensatable dental conditions. Their primary care provider may refer POWs to other specialists. Health care services may include outpatient, inpatient, intermediate care, nursing home care, pharmacy and prosthetic services.

VA provides medically prescribed prosthetic and sensory aids to eligible veterans. These aids include artificial limbs, hearing aids, communication aids, eyeglasses, orthopedic braces and shoes, clothing, wheelchairs, crutches and canes. For additional information, contact the prosthetic representative at the nearest VA medical center or outpatient clinic.



The Home Improvements and Structural Alterations program provides funding for eligible veterans to make home improvements necessary for the continuation of treatment or for disability access to the home and essential lavatory and sanitary facilities. Disabled veterans may be entitled to a grant from VA for a home specially adapted to their needs or for adaptations to a house. In addition, a veteran can get automobile assistance in the form of a payment toward the purchase of an automobile and adaptive equipment that may be needed on that automobile.

***Nursing Home Care:*** The Veteran's Millennium Health Care and Benefits Act requires that the VHA (Veterans Health Administration) provide nursing home care, either directly or through contracts, when clinically indicated to a veteran who needs nursing home care for a service-connected disability, and to any veteran needing such care who has a service-connected disability rated at 70 percent or more, or to any veteran in need of such care for a service-connected disability. VHA may provide nursing home care based upon available resources, either direct or through contracts, when clinically indicated to all other eligible veterans who need nursing home care.

VHA ensures that a veteran described above, who continues to need nursing home care, is not, after placement in a Departmental nursing home, transferred from the facility without the consent of the veteran or, if the veteran cannot give consent, the veteran's designated representative. Patients should be placed in Home and Community-Based Care when clinically appropriate, and patients receiving VA Nursing Home Care or Community Nursing Home care will be transferred to appropriate assisted living or home and community-based care settings when nursing home care, at any level, is no longer clinically indicated.

### **Aid and Attendance or Housebound Benefits**

A veteran in a nursing home, who is otherwise determined by VA to be in need of the regular aid and attendance of another person or who is permanently housebound, may be entitled to higher income limitations or additional benefits, depending upon the type of pension received. The A & A form is completed by the primary care provider and is sent to the Regional Office for disposition.

### **Assistance with Insurance**

Policyholders with National Service Life Insurance can contact 1-800-669-8477 for additional information.



## Military Recreation Centers

Four Star hotels are available at reduced cost to veterans throughout the world. Call 1-800-527-2345 or 703-527-0203 or go online at [www.military\\_living@aol.com](mailto:www.military_living@aol.com)

## National Service Officer

Legislation in the last few years has made significant changes to benefits and health care available through the Veterans Health Administration. Veterans who have not sought services from the VA since these changes went into effect should contact a ***National Service Officer*** to learn which resources are available to them. A Service Officer is an advocate for the veteran, and is not an adversary of the VA. He helps a claimant in preparing a well-grounded claim. The Service Officer is thoroughly familiar with the process and will assist from the development of a claim to the final adjudication.

Many former POWs do not consider all of the things that happened to them while they were in an enemy's hands, including the physical abuse, such as beatings and forced marches; the mental abuse of being questioned over and over about military matters, spending time in solitary confinement or other forms of torture. Were you well fed? Did you have adequate clothing and housing? Did you have leisure time in the company of your buddies? Unfortunately not. Maybe you have managed to get along fairly well right after you returned home, but how are you feeling now, 50 or 55 years later?

**For further information, contact the Ex-Prisoner of War Coordinator at the VA Medical Center.**



## **Presumptive Service-Connected Disabilities Associated with Ex-Prisoners of War**

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### **ARTHRITIS, TRAUMATIC**

This disorder looks and is treated just like a degenerative arthritis (arthritis associated with age), except it is caused by severe damage to a single or few joints producing early onset arthritis. This is an extremely difficult diagnosis to make, but in general, one has to prove that a specific trauma occurred to a single or very few joints, and other changes consistent with degenerative arthritis are not present throughout the rest of the body at the same time. In short, these changes need to be localized.

### **AVITAMINOSIS**

The total lack of vitamins in the diet. This disorder is a fatal condition unless it is supplemented with vitamins within a few weeks. Therefore, most individuals suffer from hypovitaminosis, which is a relative deficiency of vitamins in the diet. The specific type, intensity and duration of deprivation determine the long-term effects.

### **BERIBERI**

Caused by a severe lack of Vitamin B-1 (thiamine) in the diet. This produces changes in the nerves (both in the brain and extremities) and the heart. Brain changes could produce dementia or psychosis. Nervous changes usually are associated with numbness and /or painful feet. Beriberi heart disease is an acute condition, similar to congestive heart failure, except that the heart pumps more blood than in normal congestive heart failure and it is associated with the presence of an excessive amount of lactic acid in the body.

### **DYSENTERY, CHRONIC**

A disease characterized by frequent and watery stools, usually with blood and mucus, and accompanied by rectal and abdominal pain, fever and dehydration. This is an infection in the colon and it can be caused by a multitude of different organisms, the most common of which is amoebae, which can produce a mild or severe dysentery, possibly is associated with a chronic irritable colon.



## **FROSTBITE**

The actual freezing of tissue. This is graded on a continuum with one representing mild to four representing mummification of the tissue. The extremities farthest from the heart are usually affected, with primarily the nose, ears, fingertips and toes being involved. This usually produces long-term side effects, such as numbness, discoloration, excessive swelling and pain in the affected area.

## **HELMINTHIASIS**

Infection with any type of worms that parasitize the human. Most infections usually resolve spontaneously either with proper treatment or as the natural course of the disease.

## **MALNUTRITION**

Merely means bad nutrition. The nutritional depletion may be either caloric, vitamin, fatty acid or mineral deficiency, or more likely a combination. Depending upon the type, intensity and duration, it may yield permanent side effects, or no lasting side effects at all.

## **PELLAGRA**

Literally meaning rough skin in Italian, also known as black tongue in dogs. It is caused by a virtual lack of Vitamin B-3 (niacin) in the diet, producing the classical triad of diarrhea, dermatitis and dementia. All easily are treated early on with no side effects. The dementia, if left untreated, may produce permanent mental deficits.

## **OTHER NUTRITIONAL DEFICIENCY**

The lack of protein and calories in the diet generally produces no lasting side effects. However, vitamin deficiencies other than the aforementioned B-1 (beriberi) and B-3 (pellagra) can have very disastrous effects on one's body. Also, deficiencies of certain fatty acids and essential minerals in the diet can have lasting and long-term consequences.

## **PSYCHOSIS**

A generic term for any of the insanities. Generally, it is thought of as a mental disorder causing gross disorganization of a person's mental capacity and his ability to recognize reality and communicate with others regarding the demands of everyday life.



## PANIC DISORDER

Characterized by discrete periods of apprehension or fear, with at least four of the following during an attack: shortness of breath, feelings of heart skipping, chest pain, dizziness, sweating, fainting, trembling, fear of dying or doing something uncontrollable during an attack. These attacks need to occur at least three times within a three week period, and not be associated with physical exertion or life threatening situations. Also, there needs to be an absence of severe physical or other mental illness, which could cause these symptoms.

## GENERALIZED ANXIETY DISORDER

Characterized by generalized persistent anxiety and with symptoms of at least three of the following four categories: (1) motor tension as characterized by shaking, jumpiness, trembling and restlessness; (2) autonomic hyperactivity, such as sweating, cold or clammy hands, high or irregular heart rate, dry mouth, etc.; (3) apprehensive expectations, anxiety, worry, fear or anticipation of misfortune to himself or others; (4) tendency to insomnia, hyper-attentiveness and irritability. All of these symptoms had to have lasted at least one month. Also, there needs to be an absence of all other mental disorders and physical disorders, which could explain the symptoms.

## OBSESSIVE COMPULSIVE DISORDER

This may be either obsessions or compulsions. Obsessions are recurrent, persistent ideas or impulses. Attempts are made to ignore or suppress them. Compulsions are repetitive and seemingly purposeful behaviors that are performed in certain similar manners. The behavior is felt by the individual to produce or prevent some future event. Generally, the individuals recognize the senselessness of the behavior and do not derive pleasure from carrying it out, although it often relieves tension. Also, obsessive or compulsive individuals are associated with a significant sense of distress because it interferes with social or role functioning.

## POST TRAUMATIC STRESS DISORDER (PTSD)

The re-experiencing of a trauma of a past recognized stressor that can produce symptoms of distress.

- **Intrusive recollections:** remembering painful experiences when you do not want to. *Can occur with or without reminders.* The recollections must be recurrent, intrusive and distressing. They seem to have “a life of their own.”



## APPENDIX C

- **Recurrent and distressing dreams:** may be straightforward dreams of war events, but more frequently, with the passage of so many years, they contain intermingling of war and post-war themes and elements.
- **Flashbacks:** were experienced by a minority in the years right after the war. The person has a sense of reliving the trauma in the here-and-now, and briefly loses the ability to distinguish between the past and present.
- **Distress when reminded:** fear, anxiety, sadness or sense of impending doom in the face of a symbolic representation of the traumatic event. A variety of common and idiosyncratic stimuli may elicit memories of trauma. They may be visual, auditory, olfactory or tactile. Less obviously, interpersonal interactions that typically elicit modest levels of emotional reactivity in most people may produce intense, painful reactions in POWs. Feelings of love and caring may elicit associations with the loss of fellow soldiers. Interpersonal conflicts may produce memories of hostile combat or prison camp situations.
- **Physiologic reactivity to reminders:** may be expressed in a variety of ways: heavy or irregular breathing, rapid or irregular heartbeat, knot in the stomach, sweating or feelings of numbness or tingling in the extremities.
- **Avoidance of trauma-related thoughts, feelings, or conversations-Avoidance of trauma-related situations:** intentional efforts to avoid must have been made, but need not have been successful. Avoidance efforts may be obvious or subtle, relatively adaptive or clearly maladaptive. Examples include avoiding not only “war movies,” but any portrayal of violence. Less obvious forms might include substance abuse to suppress trauma-related thoughts or emotions, or working long hours to distract one’s thoughts.
- **Psychogenic amnesia:** one or more parts of a traumatic experience cannot be remembered; complete amnesia for an event is less common, and should be distinguished from failures of memory formation due to head injury, delirium, etc.
- **Trauma-related diminishment in interest:** This loss is most often noticed upon return to civilian life following service discharge. Try to distinguish it from changes in interest associated with maturation and aging, loss of physical capability to engage in the activity and anhedonia, a core depressive symptom.
- **Detachment/estrangement from others:** again, the essential feature is change after the trauma — the person felt markedly more distant/cut off from others after the war than before. POWs often report that they have few or no one outside of their immediate family



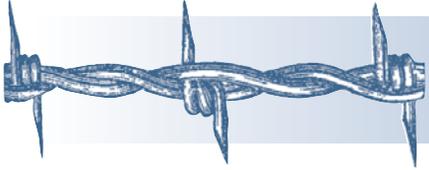
## American Ex-Prisoners of War

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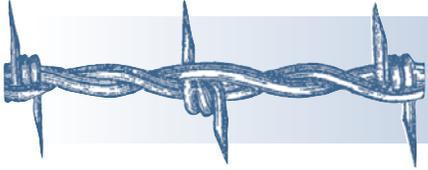
### Independent Study Test Questions for CME Credit

*Instructions: Using the Independent Study Participant Registration/Answer Sheet, please completely fill in the lettered box corresponding to your answer next to the appropriate number.*

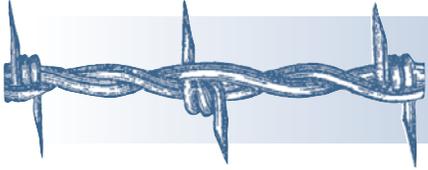
1. As a group, which Theater of Operations has produced the most American ex-POW's?
  - a) Germany
  - b) Japan
  - c) Korea
  - d) Vietnam
  
2. As a group, which Theater of Operations had the highest mortality?
  - a) Germany
  - b) Japan
  - c) Korea
  - d) Vietnam
  
3. As a group, which Theater of Operations has the highest morbidity?
  - a) Germany
  - b) Japan
  - c) Korea
  - d) Vietnam
  
4. Which Stammlager (Stalag) in Germany during WW II held the most American POW's?
  - a) Stalag VII-A
  - b) Stalag Luft IV
  - c) Stalag XIII
  - d) Stalag XX



5. During the early portion of WW II, most Americans captured by the Germans were from which branch of the service?
  - a) Infantry
  - b) Army Air Corps
  - c) Navy
  - d) Marines
  
6. During the death march in the Philippines, approximately how many American soldiers died?
  - a) 650
  - b) 1,650
  - c) 2,650
  - d) 3,650
  
7. The primary causes of death in American prisoners of the Japanese in the Philippines during the first six months of internment included all except:
  - a) Malaria
  - b) Dysentery
  - c) Worm infections
  - d) Starvation
  
8. After the fall of Corregidor, where were the American survivors sent?
  - a) Bilibid Prison
  - b) Camp O'Donnell
  - c) Cabanatuan Camp I
  - d) Cabanatuan Camp III
  
9. Which Maru had the most Americans killed while on board?
  - a) Arisan Maru
  - b) Oryoku Maru
  - c) Brazil Maru
  - d) Enura Maru



10. Because of the basic diet, the most common vitamin deficiency among Americans held prisoner by the Japanese was:
  - a) Scurvy
  - b) Beriberi
  - c) Pellagra
  - d) Aribinoflavinosis
  
11. Regarding American women captured by the Japanese, which statement is true?
  - a) The same percentage died in captivity as their male counterparts.
  - b) Most were captured on Bataan.
  - c) They were initially kept with the men in Camp Cabanatuan.
  - d) Less than 100 were captured.
  
12. During the Korean War, most prisoners captured by the Chinese were from which branch of service?
  - a) Army
  - b) Air Force
  - c) Marines
  - d) Navy
  
13. Because of the basic diet, the most common vitamin deficiency among Americans held prisoner by the Koreans/Chinese was:
  - a) Scurvy
  - b) Beriberi
  - c) Pellagra
  - d) Aribinoflavinosis
  
14. Which of the following statements is false regarding the Chinese brainwashing techniques used against the American prisoners of the North Koreans?
  - a) The program was used to convert susceptible prisoners.
  - b) Exposure to cold, torture and hunger were common.
  - c) Forced reading of Communist literature was common.
  - d) The program was successful.



15. Most soldiers captured by the Viet Cong in South Vietnam were
  - a) Army
  - b) Navy
  - c) Air Force
  - d) Marines
  
16. Which North Vietnamese show camp was used for propaganda?
  - a) The Zoo
  - b) Skid Row
  - c) The Plantation
  - d) Hanoi Hilton
  
17. Characteristic findings useful in the diagnosis of Post-Traumatic Osteoarthritis (PTOA) include all the following, except:
  - a) Similar disease is not present in other non-traumatized joints.
  - b) An effusion or structural damage had to occur after the injury.
  - c) The joint in question had to be normal prior to injury.
  - d) The amphiarthrotic joints are the most commonly involved.
  
18. The most common type of nutritional depletion among American prisoners of the Germans during WW II was:
  - a) Vitamin deficiencies
  - b) Mineral deficiencies
  - c) Caloric deficiencies
  - d) Essential fatty acid deficiencies
  
19. The most detrimental type of nutritional depletion among American prisoners of the Japanese during WWII was:
  - a) Vitamin deficiencies
  - b) Mineral deficiencies
  - c) Caloric deficiencies
  - d) Essential fatty acid deficiencies



20. Vitamin B-1 (thiamine) deficiency affects all of the following systems, except:
- a) Cardiovascular
  - b) Nervous
  - c) Skin
  - d) Pulmonary