

February Medications Update –

As each new patient walks through our door we embark upon a subjective history that will hopefully identify all the different factors that could be contributing to their condition. As physiotherapists, the impact of the thousands of possible medications is a daunting world that is hard to keep up with. In each newsletter I will simply choose a medication to review that I think is relevant to women's health physiotherapists (I need some advantage of the nursing degree that I 95% completed!). If there is a specific medication you would like reviewed in the next newsletter, please feel free to email me.

This Month: Panadol, Panadeine, Panadeine Extra.....

Now: Panadol Extra???



Interestingly, all the products shown above are S3 or lower medications. This means that they can be purchased over the counter in a pharmacy without a prescription. The question I often wonder though is whether people really know what they're purchasing.

I am sure you are all very aware of the names "Panadol" and "Panadeine". You may have even seen Panadeine Extra. But have you seen the new ads around the country for "Panadol Extra"??? It was first approved by the TGA in October of 2009, became an S2 pharmacy medicine in May 2010, and became a major player on the market last year with the company's large advertising campaign. It ultimately won the Adult Medicine Product of the Year 2011.

So what is it??? Well, whilst Panadeine and Panadeine Extra are reasonably similar, Panadol Extra is very different. I will go through each of them, starting with the original Panadol.

Panadol is obviously the GlaxoSmithKline brand name version of Paracetamol 500mg. This 500mg of Paracetamol is the common factor in all the above products and is both an **analgesic** and **anti-pyretic** (reduce temperature). Note.... Unlike Ibuprofen (found in Nurofen), it is not an anti-inflammatory. The adult dose is usually 1000mg, which means 2 tablets are required, usually taken 4hourly.

The active ingredient Paracetamol is absorbed by the gastrointestinal tract with peak plasma levels usually occurring 30-60minutes after administration. It has a half-life of ~1-4hours, with another 35-40% (total 85-90%) then eliminated from the system within 24hours. Because a reasonable amount of paracetamol remains in the system for 24hours there is a maximum daily dosage of 4000mg (4 x 2tablet doses) within any 24hour period.

Panadeine tablets basically contain the same 500mg of Paracetamol that is in Panadol, but with an additional **8mg of codeine phosphate**. Codeine is from the opiate/narcotic family, with strength of about 1/6th of morphine. In fact, a small amount of codeine actually converts into morphine when metabolised within the body. The codeine acts centrally, blocking not only the sensation but also the emotional response to pain within the CNS. It does have a mild sedative effect, with some people experiencing dizziness and drowsiness, and prolonged high doses of codeine can result in dependence.

Panadeine extra is then basically a stronger version of Panadeine. It still has the same 500mg of paracetamol but now has **15mg of codeine** added to each tablet. It is an S3 medicine which means that although it can be purchased without a prescription it requires a pharmacist's involvement in the sale (it will only be found behind the counter and the pharmacy assistant needs to get clearance from the pharmacist before selling it to you).

Women's Health Note regarding *Panadeine* and *Panadeine Extra*:

Both these products therefore have Codeine. Opiates such as codeine and morphine have long been known for not only their pain relieving effects but also their smooth muscle relaxant effects. Historically they were often used to treat diarrhoea as they slow the peristaltic movement of faeces through the intestine, increasing the water re-absorption time and thereby resulting in firmer stools. However, this also means that in a person with normal bowel motions, the taking of a pain reliever such as Panadeine or Panadeine Extra can result in constipation. Obviously this then has all the associated repercussions of constipation and straining which obviously increases the risk of prolapse. In addition, the constipation may then cause incomplete bladder emptying or increased bladder sensation during filling.

As opiates cause smooth muscle relaxation it is not surprising that both systemic and intra-theal (spinal) morphine have been shown to dramatically inhibit detrusor contractility. This is also the case for a number of other narcotics / opiates. However, there appears to be nothing in the literature that indicates the 16-30mg of Codeine that is consumed when taking two tablets of Panadeine or Panadeine Extra is sufficient to cause a side effect of difficulty voiding. Logically however, it can probably be assumed that it at least isn't going to worsen detrusor overactivity if the usual impact of opiates is to reduce smooth muscle activity.

So what about Panadol Extra????

Like all the other Panadol and Panadeine varieties, Panadol Extra is an analgesic and antipyretic, it is not an anti-inflammatory. Basically, Panadol extra is once again 500mg of Paracetamol per caplet but this time they have added 65mg of **Caffeine**.

The Caffeine in Panadol Extra is absorbed easily in the body after oral administration. It has been shown to reach peak plasma concentrations within 1 hour, with a half-life of 3-7 hours. The standard dose of two caplets results in a total consumption of 1000mg Paracetamol and 130mg of caffeine, which has been suggested is equivalent to ~2 cups of instant coffee.

Note:

Every 1 Panadol Extra caplet provides the equivalent caffeine of 1 cup of coffee.

The usual dose of two tablets is therefore equivalent to 2 cups of coffee.

If someone has 8 Caplets of Panadol Extra in a day (4 x 2 Caplet doses) they will have the equivalent of 8 cups of coffee, not including any caffeinated food or beverages they have consumed through the day.

Caffeine has long been known to be a pain reliever in its own right. The question is whether it provides additional benefit to paracetamol alone. Clinical trials have shown that 7 out of every 10 people who took paracetamol plus caffeine felt that their pain had been significantly relieved. However, so did 6 out of 10 people who took paracetamol alone.

Most of the studies have been of the single dose effects on tension and non-migraine type headaches, dysmenorrhea, postoperative pain and uterine cramping.

Some of the concerns with Panadol Extra is that it has been shown that even small doses of 50mg of caffeine can cause Tachycardia and anxiety in some people. Toxicity is normally seen at >500mg caffeine, and pregnant women are advised to not consume more than 200mg of caffeine per day.

Unlike Panadeine Extra, Panadol Extra is an S2 medication. This means that whilst it is sold in a pharmacy it does not require input from a pharmacist and can be found on a standard shelf not behind the counter. A person can pick it up and take it to the cashier at the register without anyone questioning or advising of what is in it.

Women's Health Note regarding *Panadol Extra*:

At present there are no studies looking at the effect of Panadol Extra on bladder function, urgency or detrusor overactivity. Obviously, we all usually encourage our patients to trial limiting caffeine if these symptoms are present. Interestingly.... We now have Panadol with no additive, Panadeine that adds codeine - a smooth muscle relaxant, and Panadol Extra that adds caffeine which can be a bladder irritant.

At least they have sort of colour coded the packets. Green packets are straight paracetamol, Blue has codeine added, orange/red has caffeine added (I find this helpful when patients aren't sure what they are taking).

It would be interesting to hear your thoughts on these products generally, but particularly if you have noticed a change in your patients' bladder or bowel symptoms with their use. We could include any short letters from you all on this in the next newsletter???