Endometrial Ablation- Techniques

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Resectoscope

- Older technique using either a heated loop to remove the *base layer* or a heated "roller-ball" to destroy the base layer
    - The *base layer* is the part of the uterine cavity lining that must be destroyed to either eliminate or reduce bleeding
    - Success is dependent on operator experience
    - Can require a long operating time
        - risk of fluid overload and electrolyte imbalance
- May be used with both large and misshaped cavities
- Should be done in a hospital setting

Balloon technique (ThermaChoice)

- Blind technique
    - Cannot directly see the position of the probe so there is a risk of the probe pushing through the top of the uterus then heat from the instrument damaging a section of bowel
- Balloon is inserted then inflated with a hot fluid that circulates inside the balloon
- Requires hormonal thinning of *functional layer* before procedure

    - The superficial part of the uterine lining that is shed each month causing a period
    - Generated each month from the *base layer*
- Compared to other techniques, may be associated with more pain during the procedure
    - due to expansion of the uterine cavity with the balloon
- Should not be used in large cavities, cavities with abnormal shapes or cavities containing a mass

Metallic mesh fan Technique (Novasure)

- Blind technique
- Instrument is inserted then opened- the cavity lining tissue is heated with radiofrequency (electrical energy) while suction is applied to draw the cavity lining closer to the mesh
- Shortest procedure time of all techniques
- Does not require hormonal thinning
- Pre-activation cavity check designed to detect perforation but has failed to detect perforation in a small number of cases
- Should not use in large cavities, cavities with abnormal shapes or cavities containing a mass

Freezing (Her Option)

- Blind technique
- Does not have a safety check for possible perforation

    - Monitored with ultrasound during the procedure
- Probe is inserted then cooled with liquid nitrogen
    - Creates an ice ball within the tissue
    - Cells are destroyed by the expansion of freezing
- Requires two or more freezes across the cavity
- Least amount of discomfort of all techniques
- May be associated with heavy bleeding several days after the procedure

Microwave (Microwave Endometrial Ablation)

- Blind technique
- No safety check to detect perforation
- A microwave probe is inserted into the uterine cavity
- Microwave energy heats the lining to destruction
- May be used to treat large cavities
- Should avoid in any uterus with a thin wall
- A small number of patients will require hospitalization after the procedure for heavy bleeding

Heated water technique (Hydro ThermAblator)

- Heated water is circulated inside the endometrial cavity using a scope- provides direct observation of the cavity

    - Allows treatment of difficult to reach or irregular sections plus direction of flow to undertreated areas
    - Effectiveness is not dependent on cavity shape or size or presence of a mass
- Since technique is not “blind”, uterine perforation and bowel damage are avoided
- Does not require hormonal thinning
- Original model had a small risk of vaginal burns
    - Very rare since instrument was modified

Return to Acacia Ob/Gyn Website