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

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