SUTURED GI ANASTOMOSES

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Principles of Suture Selection (1)

- When a wound reaches max. strength, sutures are no longer needed.

Slow-healing tissues (skin, fascia) - non or slowly absorbable

Fast-healing tissues (GI, bladder) - absorbable
Principles of Suture Selection (2)

● Regarding suture size

Use finest size commensurate with natural tissue strength
Principles of Suture Selection (3)

- FB in contaminated tissues may convert to infection.

Avoid multifilament
Use monofilament or absorbable
Principles of Suture Selection (4)

- FB in fluids of high crystalloid conc. may precipitate stones.

Use smallest inert absorbable monofilament in urinary and biliary tracts
Needle-holder

- Correct size match to suture/needle
- Removing thumb from ring allows improved axis of rotation
- Hold needle 2/3 from the point
- Place and pass needle once only
- Release needle when holder is stopped by tissue
Techniques

- Sutured or stapled
- Single or double layer
- Continuous or interrupted
- Full thickness, seromuscular or submucosal
- Inverted or everted
- End-end, side-side or end-side
- Others- leak test, omental wrap, tissue glue, drains
## Factors affecting anas. healing

<table>
<thead>
<tr>
<th>Favourable</th>
<th>Unfavourable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good vascularity</td>
<td>Poor vascularity</td>
</tr>
<tr>
<td>No tension</td>
<td>Under tension</td>
</tr>
<tr>
<td>Healthy bowel ends</td>
<td>Diseased bowel ends</td>
</tr>
<tr>
<td>Free distal flow</td>
<td>Distal obstruction</td>
</tr>
<tr>
<td>No abscess</td>
<td>Associated abscess</td>
</tr>
</tbody>
</table>
Common Errors

- Error in judgement
- Poor handling
- Suture-line defect
- Everted anastomosis
- Poor hemostasis
- Poor drain placement
- Mesenteric vascular injury
- Strangulating sutures
- Intestine caught in fascia closure
Suturing patterns(1)

- Enter perpendicular
- Distance b/w stitches equal to width of each stitch
- Tie 'loosely' to allow for edema
- Tight continuous suture can pursestring and constrict
- Continuous locking suture prevents slippage and bleeding but may strangulate
- Vertical mattress – precise edge approximation
- Horizontal mattress – eversion
Suturing patterns(2)

- **Connell stitch** - continuous inverting suture commonly used for inner anterior layer of bowel anas.
- **Lembert stitch** - continuous or interrupted outer layer inverting suture
- **Halsted stitch** - interrupted seromuscular horizontal mattress
- **Cushing stitch** - continuous seromuscular horizontal mattress