Transversus Abdominis Release
November 2014

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Operative Planning: Preoperative Goals

**Table IV.** Comorbidities shown to increase the risk for postoperative infection$^{12-14,32}$

<table>
<thead>
<tr>
<th>Comorbidity</th>
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<tbody>
<tr>
<td>Smoking</td>
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<tr>
<td>Diabetes</td>
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<tr>
<td>COPD</td>
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<tr>
<td>CAD</td>
</tr>
<tr>
<td>Nutritional status</td>
</tr>
<tr>
<td>Immunosuppression</td>
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<tr>
<td>Chronic corticosteroid use</td>
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<tr>
<td>Low serum albumin</td>
</tr>
<tr>
<td>Obesity</td>
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<tr>
<td>Advanced age</td>
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</tbody>
</table>

*COPD,* Chronic obstructive pulmonary disease; *CAD,* coronary artery disease.
Operative Planning: Preoperative Goals

• Set realistic expectations:
  – Goals of repair
  – Timing of repair
  – Understanding of magnitude of procedure
  – Complications
  – Recovery
Operative Planning: Preoperative Goals

• Weight Loss
  – Set specific goals
  – Bariatric surgery first if necessary
• Smoking cessation (ideally ≥ 4 weeks)
• Heal chronic wounds
• Increase physical activity
• Optimize nutritional status
• Optimize cardiopulmonary status
Operative Planning

- Routine H & P
- CT Scan
  - Recurrent hernia
  - Atypical location
  - Obesity
- Old operative notes whenever possible
- Routine laboratory studies, nutritional panel
Mesh Placement

Overlay

Inlay

Underlay

Figure 4. The different methods of surgical prosthetic repair commonly used. a, onlay repair; b, inlay repair; c, preperitoneal repair; d, sandwich repair; e, sandwich repair; f, intraperitoneal repair. A, skin and subcutaneous tissue; B, prosthesis; C, rectus abdominis; and D, peritoneum. (Illustrations provided by Atif Iqbal, MD.)

Awad ZT (2005) JACS 201(1):132
Retromuscular, preperitoneal prosthetic repair
Open Repair: Rives-Stoppa

1. Expose hernia sac and associated fascial defects.
2. Establish a plane between posterior rectus sheath and rectus muscle with wide overlap for mesh placement.
3. Dissection stays extraperitoneal and sac is reduced.
4. 5-10 cm margin between edge of created plane and fascial defect(s).
5. Mesh fixation accomplished through circumferential stab incisions.

Table 5 Long-term outcome

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow-up duration (months), mean ± SE and range</td>
<td>70 ± 3 (24–177)</td>
</tr>
<tr>
<td>Reported satisfaction</td>
<td></td>
</tr>
<tr>
<td>Satisfied</td>
<td>197 (89%)</td>
</tr>
<tr>
<td>Not satisfied</td>
<td>24 (11%)</td>
</tr>
<tr>
<td>Worse pain at follow-up</td>
<td></td>
</tr>
<tr>
<td>No. of patients with pain at follow-up</td>
<td>60 (27%)</td>
</tr>
<tr>
<td>Mean ± SE (scale 0–10, where 0 = no pain)</td>
<td>4.3 ± 0.3</td>
</tr>
<tr>
<td>Hernia recurrence rate</td>
<td></td>
</tr>
<tr>
<td>No infection group</td>
<td>10/244</td>
</tr>
<tr>
<td>Infection group (n = 10)</td>
<td>3/10</td>
</tr>
<tr>
<td>Overall</td>
<td>13/254</td>
</tr>
</tbody>
</table>

* No infection vs. infection

Transversus Abdominis Muscle Release (TAR)

• A posterior component separation technique based on a modification of Rives-Stoppa retrorectus repair

• Advantages
  1. Significant mobilization of the posterior rectus sheath
  2. Extensive lateral dissection in the space between transversus muscle and underlying transversalis fascia/peritoneum
  3. Preservation of neurovascular supply to rectus muscle and anterolateral abdominal wall skin

Transversus Abdominis Muscle Release (TAR)

1. Exposure of posterior rectus sheath (PSR)

2. Incision of PSR medial to linea semilunaris to expose underlying transversus muscle

3. Division of transversus muscle to expose underlying transversalis fascia

Transversus Abdominis Muscle Release (TAR)

Development of lateral space, dissection caudal to arcuate line toward space of Retzius

Transversus Abdominis Muscle Release (TAR)

Medialized posterior rectus sheaths are approximated in the midline

Mesh is placed in the retromuscular space

Anterior rectus sheaths are reapproximated

Fig. 9 The anterior rectus sheaths then are reapproximated in the midline ventral to the mesh to re-create the linea alba.