Atlas of Robotic GI Surgery with SSI Mantra

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Chapter 3.9. Robotic Appendectomy

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1. Indications:

• Acute uncomplicated appendicitis.
• Interval appendectomy following conservative management of appendicular mass or abscess.
• Chronic or recurrent appendicitis causing persistent right lower quadrant pain.
• Incidental appendectomy during other robotic procedures (when indicated).
• Appendiceal mucocele or benign lesions requiring removal.

2. Preoperative Preparation & Planning

A. Desirable:

• Clinical and laboratory confirmation (CBC with differential count, CRP).
• Ultrasonography or CT scan of abdomen and pelvis to confirm diagnosis and rule out complications such as perforation or abscess.
• Preoperative optimization of comorbidities.
• Informed consent including discussion of potential conversion to open or laparoscopic approach if indicated.
• Antibiotic prophylaxis administered prior to incision.

B. Optional:

• MRI abdomen in pregnant or pediatric patients.
• Additional imaging in atypical or recurrent presentations.

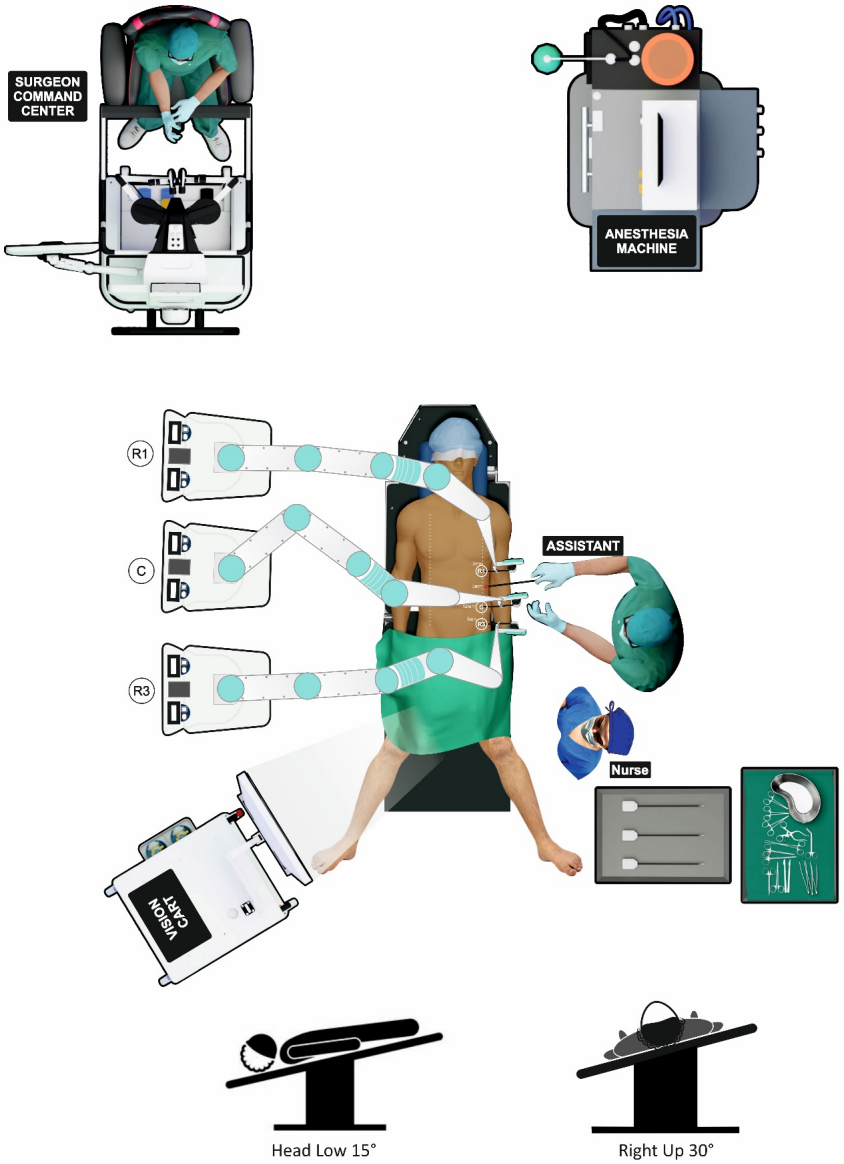
3. Key Steps:

- Diagnostic laparoscopy to confirm diagnosis and rule out alternate pathology.
- Robot docking after placement of ports.
- Identification of appendix and mesoappendix.
- Dissection and control of mesoappendix using bipolar or vessel sealer.
- Ligation, suturing or stapling of the appendiceal base.
- Specimen retrieval in endobag.
- Inspection of appendiceal stump and washout of pelvis.
- Port closure after ensuring hemostasis.

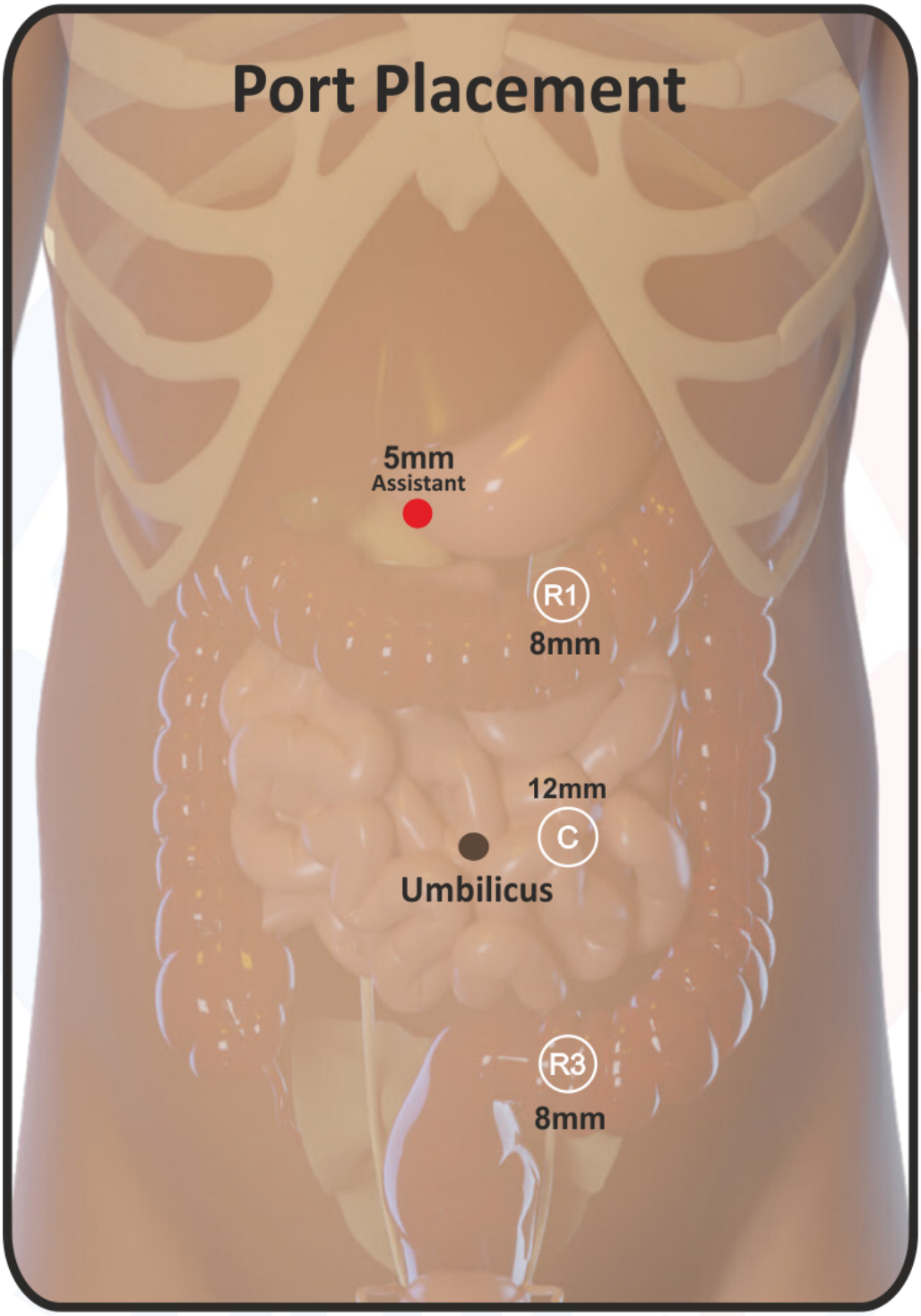
4. Intraoperative Plan:

1. **Patient Position, Arm Placement, Operating Room Layout/Setup**
2.

Robotic - Appendectomy



3. **Port Placement**



1. **Instrumentation for Right & Left Hand:**
   Right hand – energy device, monopolar scissors, ultrasonic shears.
   Left hand – bipolar or grasper for traction.
   Additional – Endobag, clip applier or endoscopic stapler.
2. **Video Link:**

6. Operative Steps: Establish pneumoperitoneum and evaluate appendix and other intra-abdominal organs. Identify any pus, adhesions, or mass formation. Then locate the cecum and trace taenia coli to the base of the appendix. Gently mobilize the tip if adherent. Lift the appendix

with the grasper. Using bipolar or vessel sealer, divide mesoappendix from tip to base, securing hemostasis of appendicular artery. If tip is not visible due to dense adhesions or deep retrocaecal location, resort to retrograde appendectomy. Clear peritoneal attachments near base. Apply two proximal and one distal endoloop/sutures or stapler as per preference. Divide between 2 proximal and one distal suture/loop. Then, **p**lace appendix in endobag and remove via 12 mm port. Inspect cecal base for bleeding or leakage. Irrigate pelvis with warm saline, especially in complicated or suppurative cases. Suction fluid and debris. Place drain in pelvis or right paracolic gutter in complicated or perforated cases. Release pneumoperitoneum, inspect port sites, close fascial defect of 12 mm port, and skin closure with absorbable sutures.

7. Postoperative Care:

POD 0–1:
Early ambulation, oral sips once awake. IV fluids and antibiotics continued. Pain control as per protocol.

POD 1:
Advance to oral diet as tolerated. Monitor for fever, abdominal pain, or ileus.Discharge when afebrile, tolerating oral intake, and with normal bowel function. Remove drain if minimal output and non-purulent.

Medications:
Analgesics, proton pump inhibitor, and antibiotics if complicated appendicitis.

Discharge Criteria:
Afebrile, tolerating oral diet, ambulating, no signs of intra-abdominal infection.

8. Follow-up:

- Wound check at 5–7 days.
- Clinical review at 1-month post-surgery.
- Histopathology correlation for all specimens.
- Advise gradual resumption of physical activity over 2–3 weeks.
- Educate on recognizing symptoms of postoperative infection or intra-abdominal collection.