Enhanced Recovery After Surgery
ERAS
Education–Counseling
Prehabilitation

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• ERAS programs typically include multidisciplinary and multimodal interventions aimed at minimizing the physiologic changes associated with surgery.

• Patient benefits
Early removal of catheters
Early oral nutrition
Audit of compliance
Preadmission counseling
No bowel preparation
Carbohydrate loading
No premedication
No nasogastric tubes
Regional Anesthesia
Non-opioid Analgesia
Non-opiate oral analgesics
Early mobilization
Warm air body heating
Short incisions, No drains
Fluid management
PreOp
PostOp
ERAS
IntraOp

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- ERAS protocols in general, focuses on optimizing patient education and perioperative expectations:
- Decreasing the perioperative fasting period
- Euvolemia and normothermia
- Increasing mobilization
- Providing multimodal pain relief
- Providing multimodal nausea and vomiting prophylaxis
- Decreasing unnecessary or prolonged use of catheters and drains
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<td>Short-acting anesthetic</td>
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<td>Smoking cessation four weeks preoperatively</td>
<td>Standardized ventilation strategy</td>
<td>Extended chemoprophylaxis for patients with laparotomy for abdominal or pelvic malignancy</td>
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<td>Alcohol cessation four weeks preoperatively as indicated</td>
<td>Postoperative nausea and vomiting prophylaxis</td>
<td>Maintenance of normovolemia: Discontinue IV fluids within 24 hours postoperatively</td>
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<td>Avoidance of mechanical bowel preparation preoperatively</td>
<td>Minimally invasive surgery when appropriate and available</td>
<td>Initiation of a regular diet within the first 24 hours postoperatively</td>
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<td>Ingestion of clear fluids up to two hours prior to anesthetic induction</td>
<td>Avoid routine nasogastric intubation; remove at end of procedure if used</td>
<td>Consider use of postoperative laxatives and chewing gum</td>
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<td>Ingestion of solids up to six hours prior to anesthetic induction</td>
<td>Maintain normothermia with warming device</td>
<td>Maintain normal blood glucose levels, treat hyperglycemia, avoid hypoglycemia</td>
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<td>Carbohydrate loading preoperatively</td>
<td>Maintain euvoledia: Avoid very restrictive or liberal fluid regimens</td>
<td>Multimodal postoperative analgesia, including NSAIDs, acetaminophen, gabapentin, and dexamethasone, unless contraindicated</td>
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<td>Avoidance of routine preoperative sedative use</td>
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<td>Cessation of oral contraception prior to surgery</td>
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<td>For open general gynecologic surgery, consider a transversus abdominis plane block (TAP block) or surgical site infiltration, in combination with nonopioid analgesic agents</td>
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<td>Antibiotic prophylaxis</td>
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<td>For laparoscopic general gynecologic or gynecologic oncologic surgery, a multimodal approach should be employed</td>
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<td>Hair clipping</td>
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<td>Avoid routine intraperitoneal drain placement</td>
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<td>Discontinue urinary catheters for postoperative bladder drainage by 24 hours postoperatively</td>
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Preoperative

Patient education

*Preoperative education sets patient expectations for the surgery and recovery process, which may in turn reduce fear, fatigue, and pain while increasing early discharge.
Many postoperative problems can be anticipated preoperatively, and eliminated or minimized;

systematically addressing these issues at the preoperative evaluation may result in a shorter hospitalization with fewer complications and a more satisfied patient.

The surgeon may also rethink the aggressiveness and necessity of a planned operative procedure after thoughtful discussion with patients who have severe medical problems.

As an example, a woman with symptomatic congestive heart failure and uterine procidentia may be better served with a pessary than by vaginal hysterectomy and sacrospinous suspension.
Pre-admission Information, Education, Counseling

• The goal of pre-operative counseling is to set expectations about surgical and anesthetic procedures, as well as provide information regarding a care plan in the post-operative period.

• Pre-operative education and psychological preparation can reduce anxiety and increase patient satisfaction, which may improve fatigue and facilitate early discharge.

• Pre-operative education is also effective in reducing pain and nausea, and improving well-being when added to an existing ERAS protocol.

• Written information was determined to be superior to verbal in one randomized clinical trial in gynecologic oncology surgery.
Pre-admission Information, Education, Counseling

• Ideally, patients should receive information in both written and oral form.

• The patient and a relative or care provider should meet with all members of the team including the surgeon, anesthetist, dietician, and nurse.

• Studies have shown that patients with gynecologic cancer prefer to be well informed, and support from a nurse at the time of diagnosis can reduce stress levels for up to 6 months.
Interventions and endpoints in this field vary widely. However, most studies show that counseling provides beneficial effects with no evidence of harm.

It is recommended that patients should routinely receive dedicated pre-operative counseling.

- Evidence level: moderate
- Recommendation grade: strong
Prehabilitation

Cancer prehabilitation has been defined as “a process on the continuum of care that occurs between the time of cancer diagnosis and the beginning of acute treatment, includes physical and psychological assessments that establish a baseline functional level, identifies impairments, and
Prehabilitation ....

There is currently no consensus-based definition, but a multimodal approach that encompasses the following principles is gaining popularity:

1- Aerobic and resistance exercises to improve physical function, body composition, and cardiorespiratory fitness
2- Targeted functional exercises to minimize/prevent impairments
3- Dietary interventions to support exercise-induced anabolism as well as mitigate disease and/or treatment-related malnutrition
4- Psychological interventions to reduce stress, support behavior change, and encourage overall well-being
Prehabilitation.....

• Few gynecologic prehabilitation studies have been conducted, and available studies have focused exclusively on pre- and post-operative functional exercises with conflicting results:

• Studies for multimodal prehabilitation before surgery in other abdominal cancers have shown a positive impact on patient outcomes.

• A meta-analysis in colorectal surgery found that nutrition prehabilitation with and without exercise shortened length of hospital stay by 2 days in a largely traditional (ie, non-ERAS) surgical care setting.
Prehabilitation......

• A meta-analysis of prehabilitation interventions consisting of inspiratory muscle training, aerobic exercise, and/or resistance training found that prehabilitation decreased post-operative complications after intra-abdominal operations in a traditional surgical care setting (OR 0.59, 95% CI 0.38 to 0.91; p=0.03).

• Small prospective trials suggest that trimodal prehabilitation (exercise, nutrition, and anxiety-reduction elements) facilitates an earlier return to functional walking capacity after surgery for colorectal surgery in excess of what is achieved when ERAS is implemented alone.
Prehabilitation....

• It is likely that patients with impaired pre-operative function will attain the greatest clinical benefit.

• A patient-led qualitative study suggested that patients perceived an enhanced recovery program should not be limited to the perioperative period, but should rather encompass the cancer care journey beginning at diagnosis.

• The addition of prehabilitation to the ERAS pathway, might, therefore, confer complementary patient-oriented and functional benefits.
Prehabilitation....

• There are no high quality studies for prehabilitation in gynecologic oncology patients.
• Extrapolated work in colorectal surgery shows certain patients benefit clinically from prehabilitation but further work in gynecologic oncology is needed.
• Evidence level: low
• Recommendation grade: weak