



Complete Summary

GUIDELINE TITLE

Indications for splenectomy.

BIBLIOGRAPHIC SOURCE(S)

Society for Surgery of the Alimentary Tract (SSAT). Indications for splenectomy. Manchester (MA): Society for Surgery of the Alimentary Tract (SSAT); 2003. 3 p.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates the previously issued version: Society for Surgery of the Alimentary Tract. Indications for splenectomy. Manchester (MA): Society for Surgery of the Alimentary Tract; 2000. 4 p.

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SCOPE

DISEASE/CONDITION(S)

Diseases or conditions for which splenectomy is indicated:

- Traumatic injury to spleen
- Hematologic diseases including hereditary spherocytosis; thalassemia major; certain forms of immune thrombocytopenic purpura (ITP) unresponsive to medical management; myeloproliferative disorders; thrombotic thrombocytopenic purpura (TTP) and hairy-cell leukemia unresponsive to other treatment strategies
- Hodgkin's disease (clinical stage I-A or II-A)
- Intraoperative splenic injury

- Splenic abscesses, cysts, sinistral portal hypertension secondary to isolated splenic vein thrombosis or obstruction, splenic mass presumed to be a primary or undiagnosed neoplasm, malignancy in an adjacent organ

GUIDELINE CATEGORY

Evaluation
Treatment

CLINICAL SPECIALTY

Family Practice
Gastroenterology
Hematology
Internal Medicine
Oncology
Surgery

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To guide primary care physicians to the appropriate utilization of surgical procedures on the alimentary tract or related organs

TARGET POPULATION

Children and adults in whom splenectomy is indicated

INTERVENTIONS AND PRACTICES CONSIDERED

1. Splenectomy
2. Prophylaxis against post-splenectomy sepsis, including:
 - Daily penicillin (certain pediatric patients)
 - Pneumococcal vaccine using Pneumovax (nonelective splenectomy)
 - Vaccination against pneumococcus, *H. influenza*, meningococcus, and hepatitis B (after elective splenectomy) in selected patients

MAJOR OUTCOMES CONSIDERED

- Operative mortality for elective splenectomy
- Postoperative complications of splenectomy
- Late sequelae of splenectomy (postsplenectomy sepsis)

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The Society for Surgery of the Alimentary Tract (SSAT) guidelines are based on statements and recommendations that were overwhelmingly supported by clinical evidence. Each represents a consensus of opinion and is considered a reasonable plan for a specific clinical condition.

(See companion document Gadacz TR, Traverso LW, Fried GM, Stabile B, Levine BA. Practice guidelines for patients with gastrointestinal surgical diseases. J Gastrointest Surg 1998;2:483-484.)

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guidelines were reviewed by several committee members and then by the entire committee on several occasions. Each guideline was then sent back to the original author for final comment and reviewed again by the committee. Each guideline was approved by the Board of Trustees of the Society for Surgery of the Alimentary Tract and final comments were reviewed by the committee.

(See companion document Gadacz TR, Traverso LW, Fried GM, Stabile B, Levine BA. Practice guidelines for patients with gastrointestinal surgical diseases. J Gastrointest Surg 1998;2:483-484.)

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Indications for Splenectomy

Trauma

Traumatic injury to the spleen is no longer an immediate or mandatory indication for operation or splenectomy, either in the adult or child. Computed tomography (CT) scanning or emergent ultrasound can diagnose splenic injury in patients with blunt trauma to the abdomen or lower chest. Nonoperative support with in-hospital observation for up to 5 days is indicated in children and adults with splenic injury and hemodynamic stability provided there is no evidence of other intra-abdominal injuries that might require laparotomy. Accepted indications for operation in adults include the significant accumulation of intraperitoneal blood (over 1,000 ml), the requirement for more than 2 units of blood transfusion, a progressively decreasing hemoglobin concentration, or hemodynamic instability. More aggressive nonoperative support is justified in children under 14 years old. When operative intervention is necessary, preservation of the spleen should be considered if bleeding can be controlled quickly and other life-threatening intra-abdominal injuries are absent. Again, in children under 14 years of age, more aggressive attempts at intraoperative splenic salvage are justified. Splenic autotransplantation with a free-graft for maintenance of specific splenic immunity is still experimental and of unproven efficacy.

Hematologic Diseases

Indications for splenectomy should be determined with the close cooperation of a hematologist/oncologist. Common indications include hereditary spherocytosis, thalassemia major, and certain forms of immune thrombocytopenic purpura (ITP) unresponsive to medical management. Myeloproliferative disorders may lead to

massive splenomegaly and can cause symptoms that are best relieved by splenectomy, primarily for symptomatic relief. Splenectomy does not usually alter overall survival, and this information should be clearly discussed with the patient prior to operation, again with a hematologist/oncologist, including the probable requirement for blood or blood products. In the presence of splenomegaly, the procedure is best performed using an open or "hand-assisted" laparoscopic technique. The operative morbidity and mortality rates are higher in these patients due to the hematologic comorbidity. Thrombotic thrombocytopenic purpura (TTP) and hairy-cell leukemia unresponsive to other treatment strategies are occasional indications for splenectomy.

Hodgkin's Disease

Selected patients with clinical Stage I-A or II-A Hodgkin's disease may be candidates for a staging laparotomy or laparoscopy. In the absence of obvious liver or intra-abdominal nodal disease, splenectomy is an integral part of the staging procedure to exclude splenic involvement, which would alter the method of treatment.

Iatrogenic (Intraoperative) Splenic Injury

The spleen may be injured inadvertently during the performance of intraperitoneal procedures, especially those involving the distal esophagus, stomach, distal pancreas, or splenic flexure of the colon. These injuries may occur directly from operative retractors or, more often, secondary to inadvertently avulsed capsular adhesions that can lead to persistent bleeding. Hemostasis should be attempted using suture plication, topical hemostatic agents (including absorbable mesh), electrocautery, or argon beam coagulation so that splenectomy is not required. However, if rapid hemostasis is not possible, hemorrhage severe enough to require blood transfusion is better managed by formal splenectomy than by repeated attempts at splenic salvage, especially in the adult patient.

Other Indications for Splenectomy

Less common indications for splenectomy include splenic abscesses, cysts, sinistral portal hypertension secondary to isolated splenic vein thrombosis or obstruction, or splenic mass presumed to be a primary or undiagnosed neoplasm. Splenectomy is occasionally included in en bloc resection for malignancy in an adjacent organ, such as the stomach, colon, adrenal gland, or pancreas. Distal pancreatectomy usually includes splenectomy if preservation of the splenic artery and vein is either contraindicated (malignancy) or technically impossible.

Prophylaxis Against Post-Splenectomy Sepsis

Most pediatricians believe that children who have undergone splenectomy before the age of 5 years should be treated with a daily dose of penicillin until the age of 10 years. The use of prophylactic penicillin is less defined in children over 5 years old and in adults. All patients who have undergone nonelective splenectomy should be immunized with Pneumovax (a nonviable pneumococcal vaccine containing the more common virulent strains of the pneumococcus family). If elective splenectomy is planned, patients should also be immunized with Pneumovax, preferably two or more weeks before operation. Children less than 10

years old and all patients with immunosuppression or an associated immunodeficiency should be vaccinated against pneumococcus, *H. influenza*, meningococcus, and Hepatitis B.

Qualifications for Performing Operations on the Spleen

The qualifications of a surgeon performing any operative procedure should be based on training (education), experience, and outcomes. At a minimum, surgeons who are certified or eligible for certification by the American Board of Surgery, the Royal College of Physicians and Surgeons of Canada, or their equivalent should perform emergency and elective operations on the spleen. For laparoscopic splenic procedures, surgeons should have advanced laparoscopic training and expertise.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Identification of appropriate indications for splenectomy
- Adequate prophylaxis against post-splenectomy sepsis

POTENTIAL HARMS

- Operative mortality for elective splenectomy is less than 1% except in patients with myeloproliferative disorders, who are at increased risk for postoperative hemorrhage. In trauma patients, the mortality rate for splenectomy depends upon the extent of other injuries.
- Postoperative complications of open splenectomy include wound infection, incisional hernia formation, hemorrhage, subphrenic abscess, pancreatic pseudocyst (secondary to inadvertent injury to the tail of the pancreas), and gastric fistula/perforation (secondary to injury/necrosis of the gastric wall during ligation of the short gastric vessels). These potential complications also exist when using the laparoscopic approach, although wound complications consist primarily of herniation at trocar sites.
- Late sequela related to splenectomy is much more common in children, especially those under 6 years old. Overwhelming postsplenectomy sepsis secondary to encapsulated organisms such as pneumococcus and meningococcus is a rare (less than 1 %) possibility in children prior to spleen-specific immune function becoming established outside the spleen. Adults are

susceptible to similar infections following splenectomy, but the incidence is likely much lower than in children. Prophylactic aspirin is recommended to prevent axillary or other venous thrombosis if the blood platelet count per milliliter exceeds one million.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These guidelines have been written by the Patient Care Committee of the Society for Surgery of the Alimentary Tract (SSAT). Their goal is to guide primary care physicians to the appropriate utilization of surgical procedures on the alimentary tract or related organs and they are based on critical review of the literature and expert opinion. Both of the latter sources of information result in a consensus that is recorded in the form of these Guidelines. The consensus addresses the **range** of acceptable clinical practice and should not be construed as a standard of care. These Guidelines require periodic revision to ensure that clinicians utilize procedures appropriately, but the reader must realize that clinical judgment may justify a course of action outside of the recommendations contained herein.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 2003 May)

GUIDELINE DEVELOPER(S)

Society for Surgery of the Alimentary Tract, Inc - Medical Specialty Society

SOURCE(S) OF FUNDING

Society of Surgery of the Alimentary Tract, Inc.

GUIDELINE COMMITTEE

Patient Care Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

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This guideline updates the previously issued version: Society for Surgery of the Alimentary Tract. Indications for splenectomy. Manchester (MA): Society for Surgery of the Alimentary Tract; 2000. 4 p.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [Society for Surgery of the Alimentary Tract, Inc. Web site](#).

Print copies: Available from the Society for Surgery of the Alimentary Tract, Inc., 900 Cummings Center, Suite 221-U, Beverly, MA 01915; Telephone: (978) 927-8330; Fax: (978) 524-0461.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Gadacz TR, Traverso LW, Fried GM, Stabile B, Levine BA. Practice guidelines for patients with gastrointestinal surgical diseases. J Gastrointest Surg 1998;2:483-484.

Electronic copies: Not available at this time.

Print copies: Available from the Society for Surgery of the Alimentary Tract, Inc., 900 Cummings Center, Suite 221-0, Beverly, MA 01915; Telephone: (978) 927-8330; Fax: (978) 524-8890.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 28, 2000. The information was verified by the guideline developer as of May 30, 2000. This summary was updated by ECRI on September 13, 2004.

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