



## Complete Summary

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### GUIDELINE TITLE

Surgery for hepatic colorectal metastases.

### BIBLIOGRAPHIC SOURCE(S)

Society for Surgery of the Alimentary Tract (SSAT). Surgery for hepatic colorectal metastases. Manchester (MA): Society for Surgery of the Alimentary Tract (SSAT); 2004 May 15. 3 p. [8 references]

### GUIDELINE STATUS

This is the current release of the guideline.

## COMPLETE SUMMARY CONTENT

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## SCOPE

### DISEASE/CONDITION(S)

Hepatic colorectal metastases

### GUIDELINE CATEGORY

Diagnosis  
Treatment

### CLINICAL SPECIALTY

Family Practice  
Gastroenterology  
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**

Patients with hepatic colorectal metastases

### **INTERVENTIONS AND PRACTICES CONSIDERED**

#### **Diagnosis**

1. Serum carcinoembryonic antigen (CEA) concentration
2. Chest x-ray
3. Helical computed tomography (CT)
4. Magnetic resonance imaging (MRI)
5. Positron emission tomography (PET)

#### **Treatment**

1. Surgical liver resection using laparoscopy or laparotomy
2. Thermal ablation techniques (cryoablation or radiofrequency ablation)
3. Chemotherapy (such as irinotecan or oxaliplatin combined with fluoropyrimidines)
4. Preoperative portal vein embolization

### **MAJOR OUTCOMES CONSIDERED**

- Perioperative mortality rate
- Postoperative complication rate
- Five-year survival rate

## **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 stated

**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

#### Symptoms and Diagnosis

Patients who present with hepatic colorectal metastases are usually asymptomatic. Symptoms such as abdominal pain and weight loss are associated with advanced (high-volume) metastases and a poor prognosis.

Serum carcinoembryonic antigen (CEA) concentration is pivotal in the detection of colorectal cancer recurrence. After resection of primary colorectal cancer, an increasing CEA concentration usually indicates recurrence. (See "Guideline for Surgical Treatment of Cancer of the Colon or Rectum" at [The Society for Surgery of the Alimentary Tract \(SSAT\) Web site](#).) Overall, 78% of patients with hepatic colorectal metastases have an elevated CEA concentration. Appropriate radiologic imaging is the cornerstone for evaluation of patients with suspected hepatic colorectal metastases. These examinations include a chest x-ray and helical computed tomography of the chest and abdomen. If there is doubt about the diagnosis of metastases in the liver, magnetic resonance imaging may better characterize hepatic lesions, especially if a benign condition is suspected (e.g., a hemangioma or cyst). Positron emission tomography (PET) can be used in selected patients to detect occult disease. PET is most useful in patients at high risk for recurrence after hepatic resection (for more on high-risk patients, see Expected Outcomes below).

#### Treatment

Although liver resection is not the primary treatment for most patients with hepatic colorectal metastases, appropriate liver resection is the standard of care for treatment of patients with isolated hepatic colorectal metastases. Possible contraindications to the resection of hepatic colorectal metastases are the presence of extrahepatic disease and the inability to achieve complete resection. Patients with lung metastasis and direct invasion of adjacent organs, such as the diaphragm, gallbladder, and colon, may be candidates for resection if resection can be complete. The preoperative evaluation should include an assessment of associated comorbid medical conditions, which may preclude safe hepatic resection.

The resection of hepatic colorectal metastases begins with laparoscopy or a laparotomy through a midline or a subcostal incision. The abdomen is examined for evidence of extrahepatic disease. An ultrasound is performed to further evaluate the hepatic metastases. Any suspicious nodule outside the liver is biopsied, and frozen sections are obtained. The goal of the operation is to eliminate all metastases with clear resection margins. In the past, hepatic colorectal metastases were not resected in patients with more than 3 lesions or with lesions within 1 cm of major vessels (vena cava or main hepatic veins). Surgeons with experience in hepatobiliary surgery should evaluate patients with multiple metastases (more than 3) or lesions close to major vessels to ascertain their candidacy for resection.

Treatment must be individualized and may require a combination of techniques. Thermal ablation techniques (cryoablation or radiofrequency ablation) have been used as an adjunct to resection or in patients who are not candidates for resection. Because ablation procedures involve relatively new techniques, the proof of efficacy is awaiting mature data. Recent data suggests that radiofrequency ablation is associated with greater persistence than originally thought.

The majority of patients experience recurrence (recur) following hepatic resection of colorectal metastases. New systemic (intravenous) chemotherapy agents (such as irinotecan or oxaliplatin combined with fluoropyrimidines) have been associated with improved survival in advanced colorectal cancer. Adjuvant systemic chemotherapy should therefore be considered after hepatic resection. Because of the lack of proven efficacy, hepatic artery infusion pump chemotherapy should only be used as part of investigational protocols. Trials including combination chemotherapy (systemic and regional) are currently under way.

### **Risks**

The perioperative mortality rate for resection of hepatic colorectal metastases at major centers is less than 5%, with complications occurring in 30% or less of patients. In patients without significant cirrhosis, up to 80% of the liver can be resected safely because of its capacity for regeneration. However, in selected patients, there may be concerns about postoperative liver failure or complications due to the small size of the remaining liver. In such patients, other measures such as preoperative portal vein embolization to induce hypertrophy of the liver remnant or the use of systemic chemotherapy to reduce the size of the metastases may be considered.

### **Expected Outcomes**

In the absence of treatment, the prognosis for patients with hepatic colorectal metastases is dismal, with 5-year survival rates of 3% or less. Among patients treated with complete resection of hepatic colorectal metastases, 30 to 40% will remain alive for at least 5 years. Recent studies indicate an increase in the survival rates, most likely as a result of improved imaging techniques and patient selection. Patients at high risk for recurrence after hepatic resection are those who present with multiple hepatic metastases (vs single metastases), large metastatic tumors (>5 cm), a high CEA serum concentration (>200 ng/mL), a node-positive

primary colorectal cancer, or synchronous tumors (primary colorectal cancer and hepatic colorectal metastases).

### **Qualifications**

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 operations for hepatic colorectal metastases. These surgeons have successfully completed at least 5 years of surgical training after medical school graduation and are qualified to perform operations for hepatic colorectal metastases. The level of training in advanced laparoscopic techniques necessary to conduct minimally invasive surgery of the liver is important to assess. The qualifications of a surgeon performing any operative procedure should be based on training (education), experience, and outcomes.

### **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**

- Appropriate use of liver resection in patients with hepatic colorectal metastases
- There is now evidence that resection of metastatic deposits of colorectal cancer in the liver only can improve patient prognosis.
- New systemic (intravenous) chemotherapy agents (such as irinotecan or oxaliplatin combined with fluoropyrimidines) have been associated with improved survival in advanced colorectal cancer.

### **POTENTIAL HARMS**

The perioperative mortality rate for resection of hepatic colorectal metastases at major centers is less than 5%, with complications occurring in 30% or less of patients. In patients without significant cirrhosis, up to 80% of the liver can be resected safely because of its capacity for regeneration. However, in selected patients, there may be concerns about postoperative liver failure or complications due to the small size of the remaining liver.

## CONTRAINDICATIONS

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Possible contraindications to the resection of hepatic colorectal metastases are the presence of extrahepatic disease and the inability to achieve complete resection.

## QUALIFYING STATEMENTS

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These patient care guidelines were written for the primary care physicians on a variety of digestive diseases to assist on when to refer the patient for surgical consultation. 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

Living with Illness

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Society for Surgery of the Alimentary Tract (SSAT). Surgery for hepatic colorectal metastases. Manchester (MA): Society for Surgery of the Alimentary Tract (SSAT); 2004 May 15. 3 p. [8 references]

**ADAPTATION**

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

**DATE RELEASED**

2004 May 15

**GUIDELINE DEVELOPER(S)**

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

**SOURCE(S) OF FUNDING**

Society for 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**

This is the current release of the guideline.

**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.

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 NGC summary was completed by ECRI on October 19, 2004.

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