

# Protocol

## Cytoreductive Surgery and Perioperative Intraperitoneal Chemotherapy for the Treatment of Pseudomyxoma Peritonei, Peritoneal Carcinomatosis of Gastrointestinal Origin, and Peritoneal Mesothelioma

(20307)

<b>Medical Benefit</b>		<b>Effective Date:</b> 04/01/12	<b>Next Review Date:</b> 01/15
<b>Preauthorization</b>	Yes	<b>Review Dates:</b> 01/11, 01/12, 01/13, 01/14	

*The following Protocol contains medical necessity criteria that apply for this service. It is applicable to Medicare Advantage products unless separate Medicare Advantage criteria are indicated. If the criteria are not met, reimbursement will be denied and the patient cannot be billed. **Preauthorization is required.** Please note that payment for covered services is subject to eligibility and the limitations noted in the patient's contract at the time the services are rendered.*

### Description

Pseudomyxoma peritonei describes extensive mucus accumulation within the peritoneum resulting from mucin-secreting tumor cells. Peritoneal carcinomatosis from non-ovarian malignancies has long been regarded as a terminal disease with limited survival. Mesotheliomas arise from the mesothelium lining potential spaces of the body, such as the peritoneum. In an attempt to prolong survival in these diseases, aggressive locoregional therapy, such as combining cytoreductive surgery with perioperative intraperitoneal chemotherapy, has been used.

### Background

#### Pseudomyxoma peritonei

Pseudomyxoma peritonei is a clinicopathologic entity characterized by the production of mucinous ascites and mostly originates from epithelial neoplasms of the appendix. As the tumor grows, the narrow lumen of the appendix becomes obstructed and subsequently leads to appendiceal perforation. The neoplastic cells progressively colonize the peritoneal cavity and copious mucin production builds up in the peritoneal cavity. Appendix tumors causing pseudomyxoma peritonei range from a benign pathologic appearance (disseminated peritoneal adenomucinosis) to malignant pathologic findings (peritoneal mucinous carcinomatosis), with some intermediate pathologic grades. Clinically, this syndrome ranges from early pseudomyxoma peritonei, fortuitously discovered on imaging or during a laparotomy performed for another reason, to advanced cases with a distended abdomen, bowel obstruction, and starvation. The conventional treatment of pseudomyxoma peritonei is surgical debulking repeated as necessary to alleviate pressure effects. However, repeated debulking surgeries become ever more difficult due to progressively thickened intra-abdominal adhesions, and this treatment is palliative, leaving visible or occult disease in the peritoneal cavity. (1)

#### Colorectal cancer and peritoneal carcinomatosis

Peritoneal dissemination develops in approximately 10–15% of patients with colon cancer, and despite the use of increasingly effective regimens of chemotherapy and biologic agents in the treatment of advanced disease, peritoneal metastases are associated with a median survival of six to seven months.

#### Mesothelioma

Malignant mesothelioma is a relatively uncommon malignancy that may arise from the mesothelial cells lining the pleura, peritoneum, pericardium, and tunica vaginalis testis. In the U.S., 200-400 new cases of diffuse malignant peritoneal mesothelioma (DMPM) are registered every year, accounting for 10-30% of all-type

mesothelioma. (2) DMPM has traditionally been considered as a rapidly lethal malignancy with limited and ineffective therapeutic options. (2) The disease is usually diagnosed at an advanced stage and is characterized by multiple variably sized nodules throughout the abdominal cavity. As the disease progresses, the nodules become confluent to form plaques, masses, or uniformly cover peritoneal surfaces. In most patients, death eventually occurs as a result of locoregional progression within the abdominal cavity. In historical case series, treatment by palliative surgery, systemic/intraperitoneal chemotherapy, and abdominal irradiation resulted in a median survival of approximately 12 months. (2)

Surgical cytoreduction in conjunction with hyperthermic intraperitoneal chemotherapy is designed to remove visible tumor deposits and residual microscopic disease. By delivering chemotherapy intraperitoneally, drug exposure to the peritoneal surface is increased some 20-fold compared to systemic exposure. In addition, previous animal and in vitro studies have suggested that the cytotoxicity of mitomycin C is enhanced at temperatures greater than 39 degrees Celsius (102.2 degrees Fahrenheit).

Cytoreductive surgery (CRS) consists of peritonectomy procedures and multivisceral resections, depending on the extent of intra-abdominal tumor dissemination. (3) The surgical procedure may be followed intraoperatively by the infusion of hyperthermic chemotherapy, most commonly mitomycin C. Inflow and outflow catheters are placed in the abdominal cavity, along with temperature probes to monitor temperature. The skin is then temporarily closed during the chemotherapy perfusion, which typically runs for one to two hours. This procedure is referred to as hyperthermic intraperitoneal chemotherapy (HIPEC). Other methods of intraperitoneal chemotherapy include early postoperative intraperitoneal chemotherapy (EPIC).

#### **Policy (Formerly Corporate Medical Guideline)**

Cytoreductive surgery and perioperative intraperitoneal chemotherapy for the treatment of pseudomyxoma peritonei may be considered **medically necessary**.

Cytoreductive surgery and perioperative intraperitoneal chemotherapy for the treatment of diffuse malignant peritoneal mesothelioma may be considered **medically necessary**.

Cytoreductive surgery and perioperative intraperitoneal chemotherapy is considered **investigational** for peritoneal carcinomatosis from colorectal cancer.

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Services that are the subject of a clinical trial do not meet our Technology Assessment Protocol criteria and are considered investigational. *For explanation of experimental and investigational, please refer to the Technology Assessment Protocol.*

It is expected that only appropriate and medically necessary services will be rendered. We reserve the right to conduct prepayment and postpayment reviews to assess the medical appropriateness of the above-referenced procedures. **Some of this Protocol may not pertain to the patients you provide care to, as it may relate to products that are not available in your geographic area.**

## References

We are not responsible for the continuing viability of web site addresses that may be listed in any references below.

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