

## Self-expanding metallic stents for obstruction of the colon and rectum caused by cancer

This information is about the use of self-expanding metallic stents (SEMS) for obstruction of the colon and rectum caused by cancer. The Australian Safety and Efficacy Register of New Interventional Procedures - Surgical (ASERNIP-S) looked at the safety and effectiveness of SEMS compared with surgery for this condition.

THE FOLLOWING INFORMATION IS NOT INTENDED TO REPLACE THE ADVICE OF YOUR DOCTOR, BUT RATHER TO HELP YOU AND YOUR DOCTOR MAKE DECISIONS ABOUT YOUR CARE THAT ARE BEST FOR YOU.

### Main messages

(Please see the end glossary for a description of medical terms used.)

The available studies (evidence) were so limited in both quality and quantity that ASERNIP-S could not determine the safety and effectiveness of SEMS placement for treating obstruction of the descending colon and rectum caused by cancer. However, the limited evidence suggested that SEMS placement was safe and effective in overcoming obstruction of the descending colon and rectum caused by cancer, and compared well with surgical treatments. Current trials will provide more information on outcomes (for example, pain, recovery times etc.) reported by patients after SEMS placement compared to surgery. However, more randomised trials are needed, particularly where SEMS are used as a preparation for elective surgery.

(For information on ASERNIP-S safety and effectiveness classifications, please visit the review process page on the website at <http://www.surgeons.org/asernip-s>)

### What happens when cancer obstructs the colon and rectum?

The colon and rectum are the parts of the large bowel at the end of the digestive system (see figure 1). These can become blocked by cancer, most often primary cancer of the colon or rectum. Acute obstruction can lead to symptoms such as abdominal pain, nausea, vomiting and constipation. Left untreated the patient's condition may worsen, with increased pain, vomiting, rupture of the bowel and possible death.

### What are the conventional treatments?

- The section of the bowel containing the cancer may be cut away with open surgery (see figure 2). This is performed through large cuts in the abdomen and usually only for patients with less advanced cancer who are in good general condition. The bowel ends may be joined or alternatively a colostomy fashioned to allow the fitting of an external collection bag (see figure 3). A colostomy may be surgically reversible but in some cases, particularly in very advanced cancers, it may need to be permanent. A colostomy has implications physically and psychologically and may well affect quality of life and restrict independence of the patients.
- Medical drugs may also be used to stabilise the patient for surgery or provide palliative relief.

Figure 1: Anatomy of the large bowel

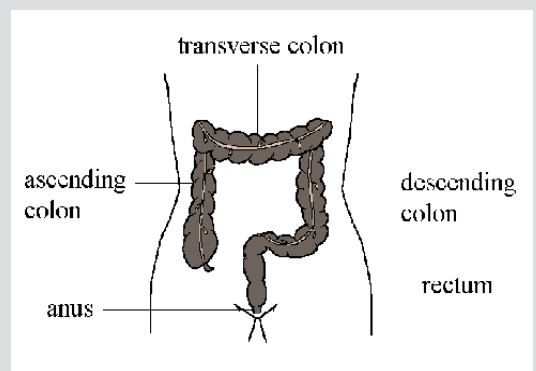


Figure 2: Diseased colon removed

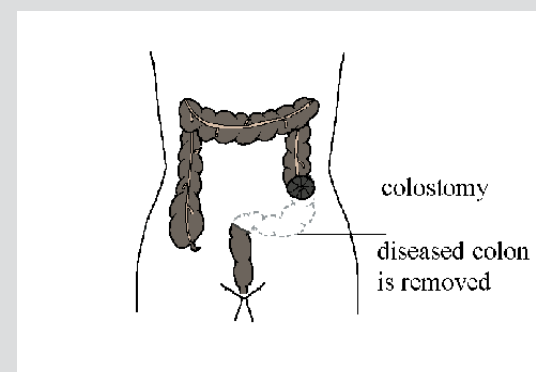
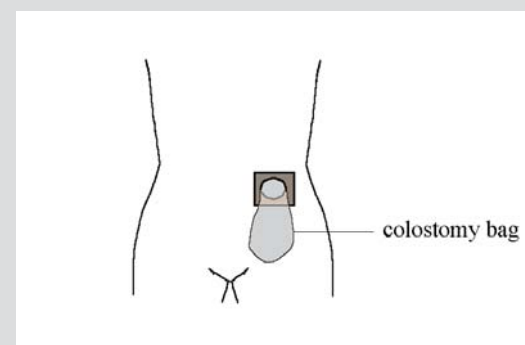


Figure 3: Colostomy



## Self-expanding metallic stents for obstruction of the colon and rectum caused by cancer

### What are self-expanding metallic stents?

Recently minimally invasive treatments, such as placement of self-expanding metallic stents (SEMS), have been developed. This new technology is particularly important for some patients for whom major surgery and/or a colostomy is best avoided (e.g. palliative care), and may also be used to stabilise patients for surgery. The metallic tubes are collapsed and passed, usually through the anus, into the rectum or colon. An endoscope or x-rays are used to help guide the stent to the site of the obstruction. The stent then slowly expands under its own force so that the tube can hold the intestine open (see figure 3). This procedure is an alternative to open surgery, and is carried out either under conscious sedation or without any anaesthesia, avoiding the risks of a general anaesthetic. However, complications may occur, such as breaking or movement of the stent, re-blockage of the rectum or colon, puncturing of the bowel, painful straining when going to the toilet, bleeding, and pain in the anus or abdomen.

### What is the evidence?

There was not enough evidence to clearly determine the safety and effectiveness of SEMS for obstruction of the colon and rectum caused by cancer. However, the limited evidence suggested that:

- SEMS placement was safe and effective in overcoming obstruction of the descending colon and rectum caused by cancer.
- SEMS compared well with surgical treatments for obstruction of the colon and rectum caused by cancer, with fewer major complications for patients and shorter hospital stays. Mortality rates after the procedures were similar.
- SEMS placement before elective open surgery was safer and more effective than waiting until the patient needed emergency surgery. Following the SEMS procedure, the subsequent operation was more likely to be performed in one stage and less likely to result in colostomy and serious complications, and patients had shorter hospital stays. However, the limited quality and quantity of the evidence means that these findings are not conclusive.

August 2006 (Review publication date)

### What is ASERNIP-S?

The Australian Safety and Efficacy Register of New Interventional Procedures - Surgical (ASERNIP-S) is a program of the Royal Australasian College of Surgeons (RACS). ASERNIP-S conducts literature reviews on the safety and effectiveness of new surgical techniques before they are widely accepted into the health care system. One of the procedures reviewed is the use of self-expanding metallic stents (SEMS) for relieving obstruction of the colon and rectum caused by cancer. Each review collects all relevant information, or evidence, on new and standard techniques used to treat a medical condition. The quality of evidence is assessed. ASERNIP-S then makes recommendations on the safety and effectiveness of the procedures, that are endorsed by RACS. Reviews are regularly updated. ASERNIP-S recommendations are sent to hospitals and surgeons in Australia and overseas, and published on the website with summaries for consumers.

Figure 4: SEMS



For further information on SEMS please see the full literature review on the ASERNIP-S website:  
<http://www.surgeons.org/asernip-s>

For more information on ASERNIP-S, please contact:  
 Professor Guy Maddern,  
 ASERNIP-S Surgical Director,  
 PO Box 553 Stepney,  
 South Australia 5069  
 Phone: 61 8 8363 7513  
 Fax: 61 8 8362 2077  
 Email: [consumer.asernip@surgeons.org](mailto:consumer.asernip@surgeons.org)



## Self-expanding metallic stents for obstruction of the colon and rectum caused by cancer

### Glossary

**colon:** The large intestine or bowel. It conserves water by absorption from the bowel contents. It also helps in the synthesis of vitamins.

**colostomy:** an artificial anus on the front wall of the abdomen, formed when the cut upper end of the colon is brought to the exterior. Bowel contents are caught in a waterproof bag.

**endoscope:** a tube with a viewing mechanism at the end, used to see inside hollow organs in the body and to perform various surgical procedures

**evidence:** the studies included in the review

**minimally invasive treatment:** operation accessing the site using a telescope through an opening in the body or small cuts

**open surgery:** operation in which the surgeon approaches the site through a surgical cut

**primary cancer of an organ:** cancer consisting of that organ's cells

**randomised controlled trial:** A study in which researchers randomly place participants in groups in which one group receives the new surgical procedure and another undergoes the conventional operation. Researchers compare the outcomes of the patients from the different groups.

**rectum:** part of bowel between intestine and anus

### Acknowledgments

Figures 1, 2 and 3 were prepared by Kathrin Hohloch

Figure 4 (Cook Colonic Z-Stent®) is provided courtesy of Cook Australia

### Consumer information group

ASERNIP-S Director  
Professor Guy Maddern  
Surgical Director  
ASERNIP-S  
PO Box 553 STEPNEY SA 5069

Advisory surgeon  
A/Professor Nicholas Rieger  
142 Ward Street  
NORTH ADELAIDE SA 5006

Consumer representative  
Jane Doyle  
Channel Seven Adelaide Pty Ltd  
45 Park Terrace GILBERTON SA 5081

Director, Research and Audit, RACS  
Dr Wendy Babidge

ASERNIP-S Manager  
Kerin Williams

ASERNIP-S Research Officers  
Amber Watt  
Dr Tabatha Griffin  
Elen Shute

ASERNIP-S Consumer Project Officer  
Eleanor Ahern