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Minimally Invasive Surgery



Minimally invasive surgery refers to a group of surgical techniques that make it possible to perform operations, including complex ones, without large incisions in the abdomen.

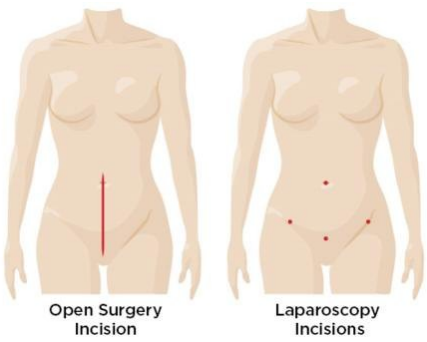
These operations are carried out through small incisions, through which cameras and specialised surgical instruments are inserted to reach the area being treated.

Minimally invasive surgery mainly includes laparoscopic (keyhole) surgery, as well as robotic surgery, a more recent development in the field. Laparoscopic surgery dates back to the 1980s, while modern robotic surgery began to develop in the late 1990s.

Continuous advances in minimally invasive techniques and instruments, together with the research and experience built up by pioneers in the field, have made it possible to perform increasingly complex operations with minimally invasive techniques, including many liver, pancreatic and gastrointestinal operations.

Basic principles

- **General anaesthesia:** most minimally invasive operations are performed under general anaesthesia.
- **Inflating the abdomen:** the abdomen is filled with a controlled amount of carbon dioxide gas at low pressure (usually 10–15 mmHg) to create enough space inside the abdominal cavity to operate safely.
- **Surgical ports (trocars):** several small incisions (0.5 to 1.5 cm) are made in the abdominal wall, and these ports are used to insert the camera and surgical instruments.
- **Number of ports:** most operations need 3 to 6 ports, depending on the type and complexity of the operation.



Benefits of minimally invasive surgery

- **Smaller scars:** smaller incisions, with smaller and less visible scars.
- **Less pain:** less pain after the operation, as less tissue is damaged.
- **Less bleeding:** lower blood loss in many operations.
- **Faster recovery:** getting up and about earlier, and recovering more quickly.
- **Shorter stay:** a shorter hospital stay in suitable cases.
- **Quicker return to activity:** a faster return to daily activities and work.
- **Fewer complications:** lower rates of some complications after surgery, including chest (respiratory) complications.