

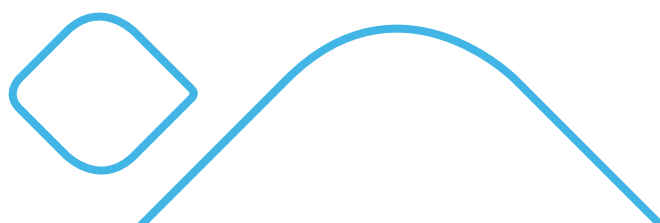
# Pancreatic Cysts: MCN and IPMN

**There are four common types of pancreatic cysts:**

1. Mucinous Cystic Neoplasm (MCN)
2. Intraductal Papillary Mucinous Neoplasm (IPMN)
3. Inflammatory cysts which usually occur after an episode of pancreatitis (Inflammation of the pancreas)
4. Serous cystadenoma

This leaflet is about Mucinous Cystic Neoplasm (MCN) and Intraductal Papillary Mucinous Neoplasm (IPMN). These cysts are not a form of cancer, they are benign. However, occasionally, an IPMN or MCN can develop into a malignant tumour (cancer). Should a cancer occur in the pancreas, it can be difficult to treat, so these cysts are carefully managed.

In most cases pancreatic cysts don't cause any symptoms and most people don't know they have them. Studies show that pancreatic cysts are more common as we age. Usually, they are found on images from scans which are done for another reason. Symptoms that might occur include abdominal pain, nausea or vomiting, and, rarely, jaundice (yellowing of the skin or whites of the eye) or unintentional weight loss.

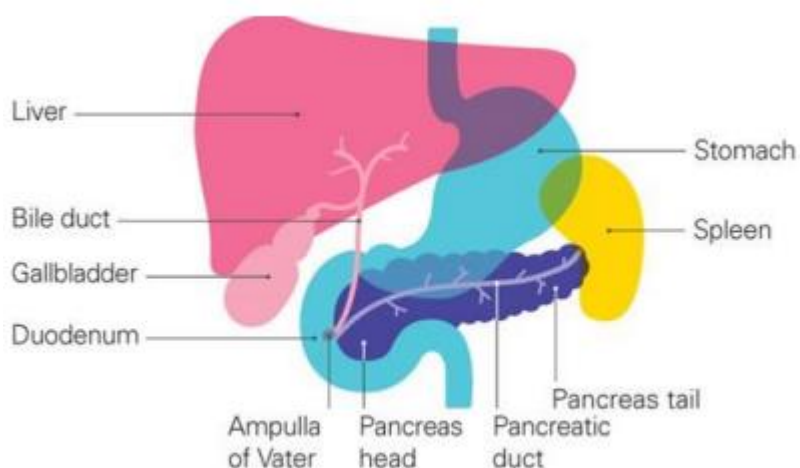


## Background

The pancreas is an organ in the abdomen which is important for the production of digestive enzymes and hormones, including insulin. The pancreatic ducts (tiny tubes) allow the digestive enzymes to travel in to first part of the small intestine (the duodenum).

In IPMN there is a change in the cells that line the pancreatic duct, which have the potential to become cancerous. This can occur along the entire duct or in just a small part of it.

An MCN can form anywhere in the pancreas but more commonly it forms in the body or tail of the pancreas. As with an IPMN, MCNs have the potential to become cancerous.



## Diagnosis

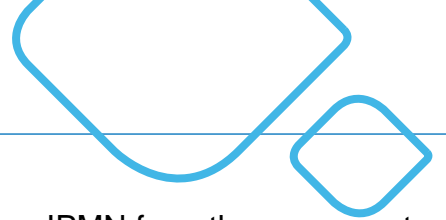
There are different types of scan that can detect or monitor an MCN or IPMN. These include:

- An MRI scan: A scan that uses a strong magnetic field to detect changes in the pancreas. Sometimes this is done using an injected dye to produce more contrast in the detailed images.
- A CT scan: A scan which uses X-ray to take pictures from many different angles to examine the pancreas.
- An endoscopic ultrasound: This involves passing an endoscope (thin, flexible telescope) through the mouth and into the intestine usually after a sedative (relaxing medication). The endoscope has an ultrasound which can assess any changes and a small amount of tissue can be taken for a biopsy (tissue examination under a microscope).

## Management

For most people the best course of action is active monitoring, with regular scans to assess if there are any changes. How often this monitoring happens depends on factors including: the size of the cyst, how far it extends within the pancreas's tubes and whether there is a family history of pancreatic cancer.

Some people will be recommended six-monthly scans for the rest of their life. Some will have six-monthly scans for two years and then one scan every year. Smoking, alcohol excess and severe obesity (BMI body mass index > 35) can increase the risk of cancer developing and are best avoided.



In high risk cases surgery may be considered to remove the MCN or IPMN from the pancreas to reduce the risk of developing a cancer. If an invasive cancer is found more extensive surgery may be considered, depending on the person's preferences and any other medical conditions.

The Specialist Liver and Pancreas Surgery Team will determine the risk of a cyst and advise whether surgery is recommended after detailed discussion with you.

It is important to have follow-up scans even if the cyst has been removed because they can reoccur in the future.

## Surgical Procedures

If surgery is thought to be the best option, it might involve:

- Laparoscopic surgery (keyhole surgery)
- An open operation to remove part of the pancreas

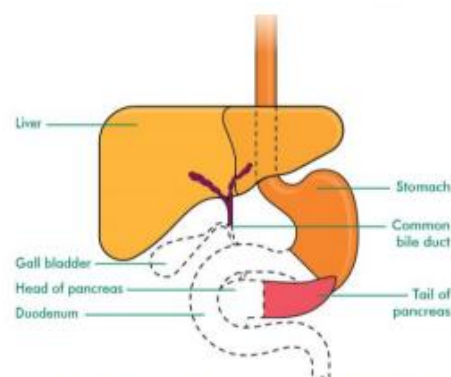
The operations that may be suggested, depending on where the cyst or cysts are, include:

### Distal Pancreatectomy

This is a procedure to remove a section of the pancreas that includes the body and the tail of the organ. This is the part of the pancreas that is closest to the spleen in the centre and left side of the body. Sometimes the spleen may also be removed if the cyst is very close to it or because of bleeding from it during the operation. This operation can sometimes be carried out laparoscopically (through small incisions in the abdomen often known as keyhole surgery)

### Pancreaticoduodenectomy (or Whipple's procedure)

If the MCN or IPMN is in the head of the pancreas a Whipple's procedure may be recommended. This involves the removal of the head of the pancreas, the gallbladder, the duodenum (first part of the intestines) and a portion of the stomach. The remaining pancreas, bile duct and stomach are then rejoined to the small intestine (the jejunum) so that digestion can carry on as normal.



A diagram of a Whipple's procedure; the dashed lines indicating what is removed during surgery  
Sourced from Macmillan Cancer Support

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## Total Pancreatectomy (removal of the whole pancreas)

This surgery is extremely rarely used to treat MCN or IPMN, and may only be needed if the disease extends through the entire main duct. It is a combination of the above procedures and results in the stomach being connected to the second section of the small intestine. After surgery it may be necessary to replace some of the normal function of the pancreas. This can involve supplements with hormones or enzymes. Before any operation the procedure considered would be discussed in detail with you by the specialist surgical team before a joint decision was made. There is an excellent outcome if a localised MCN or IPMN is surgically removed.

**If you have any queries the HPB nurse specialists can be contacted on**

### References: Pancreatic Cancer UK, Macmillan Cancer Support

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