

Argon plasma coagulation (APC)

Endoscopy Department Patient information

What is argon plasma coagulation (APC)?

Argon plasma coagulation (APC) involves the use of argon gas and electric current to apply heat energy to an area. During endoscopy, it is possible to target a problem area and deliberately affect cells or blood vessels. The heat energy causes carefully targeted damage to the affected area, for example to stop or prevent bleeding, or to destroy unwanted cells.

What is APC used for?

APC is used to treat a range of conditions where the aim is to stop bleeding or to remove unwanted tissue/cells. Such conditions may include:

- **colonic polyps**

Polyps in the bowel are removed and sent for analysis in order to check whether they are, or have the potential to, become cancerous. Polyps do not usually cause any symptoms, though some people notice bleeding or mucous when they open their bowels. APC may be used to destroy any remaining tissue once polyps have been removed by polypectomy.

- **gastric antral vascular ectasis (GAVE)**

Otherwise known as 'watermelon stomach' because of its stripy appearance, GAVE is a condition affecting the lining of the stomach. In GAVE, blood vessels lining the stomach can become more prominent or prone to leaking. This can lead to bleeding from the stomach, which may present as vomiting of blood (haematemesis), passing of black, tarry stool (melaena) or, less obviously, as anaemia. APC treatment can help to stop this by destroying the abnormal blood vessels.

- **angiodyplasia**

Angiodyplasia is very similar to GAVE but can affect the stomach or bowel. APC can be used to treat bleeding points during endoscopy.

- **Barrett's oesophagus**

Barrett's oesophagus is a condition in which changes to the cells lining the oesophagus (gullet) are observed. If these cells become precancerous (or dysplastic), APC may be used as part of treatment to destroy the unwanted cells and prevent cancer developing.

- **gastric and duodenal ulcers**

These are sore, broken areas in the lining of the stomach (gastric) or small bowel (duodenal). If they are deep or involve a blood vessel they can be a cause of blood loss in the digestive (gastrointestinal) tract. APC can be used to stop bleeding and allow healing.

What does argon plasma coagulation APC involve?

APC is used during upper and lower endoscopic procedures depending on the affected area. A flexible camera (endoscope) is passed into the digestive (gastrointestinal) tract, via the mouth or the bottom.

Once the site for APC treatment is identified, a probe is passed through the endoscope. A sticky pad is placed on your skin - usually on your hip or the top of your thigh. This helps to direct the electricity used during APC and prevent damage to you. Electrical current is then applied to the area for treatment through a jet of argon gas. This is so that the heat energy is applied indirectly, reducing the risk of damage to the surrounding and underlying tissue in that area. This may be done more than once during your procedure and you may need to return for further treatments in the future, depending on the condition being treated.

Does it hurt?

Depending on whether or not you are sedated for your procedure, you may be aware of what is going on. It is unlikely you will feel any pain while the APC treatment itself is applied. The lining of the bowel is not sensitive to touch, (although colonoscopy and flexible sigmoidoscopy can be uncomfortable due to stretching from air introduced through the endoscope). During gastroscopy, APC treatment to the stomach or oesophagus (gullet) may be felt, but it is given in short periods. You may feel bloated due to air and gas that are introduced, but this will be as minimal as is possible. Your comfort and safety are very important; the endoscopist will take these into account when you have your procedure.

Are there any risks with APC treatment?

APC treatment is considered to be a safe and effective procedure. It is possible, though extremely rare, that APC may result in a hole in the lining of the bowel (colonic perforation), which may require surgery to repair. In very rare cases, it is possible that the treatment may cause unwanted damage to surrounding areas of tissue. This is unusual and likely to be very superficial. In most cases you can eat and drink normally after APC treatment and go home after a day case procedure - the endoscopy staff will advise you.

If you have a permanent pacemaker (PPM) or implanted cardiac defibrillator (ICD) the endoscopy staff may need to take steps to protect you during APC treatment. This is because the electricity used during the procedure can affect these devices. The endoscopy staff will ask you for information about your device, monitor you to keep you safe and arrange for any checks of your device by the Cardiac Department before and after your procedure. There are alternatives to APC and your referring doctor should have discussed these with you.

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