York Teaching Hospital
NHS Foundation Trust

Using Pre operative ‘Botox’ injection to abdominal wall

In Complex Abdominal Wall Hernia

Information for patients, relatives and carers

Department of Surgery

ⓘ For more information, please contact:

Mr Chintapatla, Consultant Surgeon

The York Hospital, Wigginton Road, York, YO31 8HE

Tel: 01904 721154

Contents **Page**

The following is a guide as to what to expect before, during and after your abdominal wall hernia repair operation. This leaflet covers the most common questions patients have about their recovery. Your doctor can answer any questions you might have which are not covered in this leaflet.
This leaflet is **not** about groin hernias or other simple hernias even though they form 70% of hernias of the abdominal wall. There are separate leaflets for them.

What is the abdominal wall?

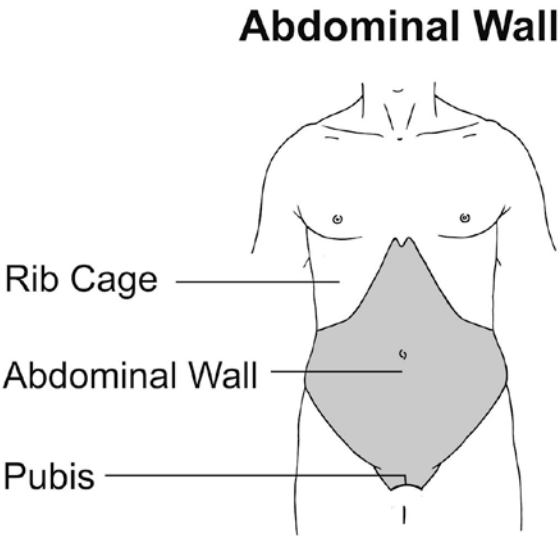

Figure 1: Abdominal wall

The abdominal wall forms the front cover of the abdomen as shown in the figure 1.

The abdominal wall is made up of

1. Skin
2. Layers of fat
3. Layers of muscles

Layers of the abdominal wall

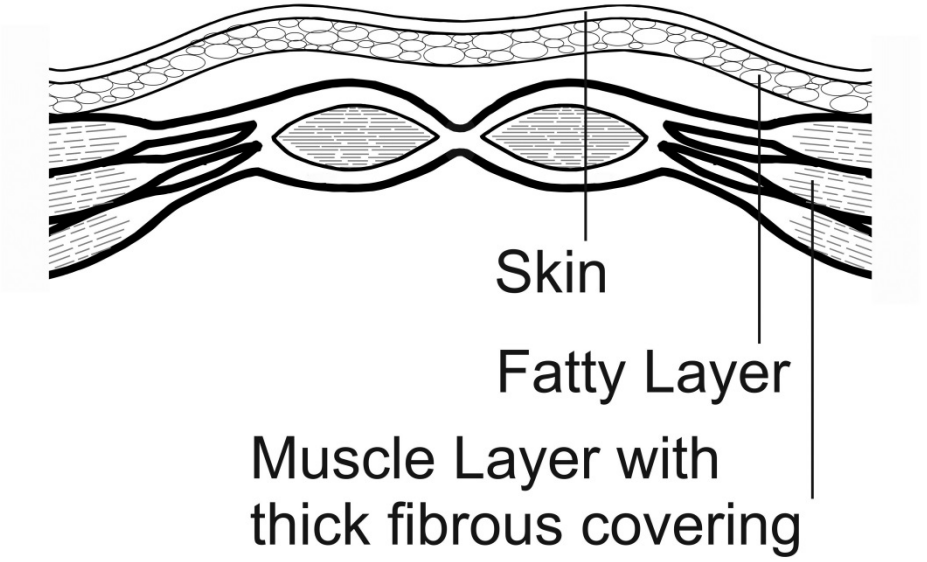

Figure 2: Layers of the abdominal wall

The muscles of the abdominal wall and their coverings have complex relationships to each other as shown in Figure 2 and 3.

Muscles of the abdominal wall

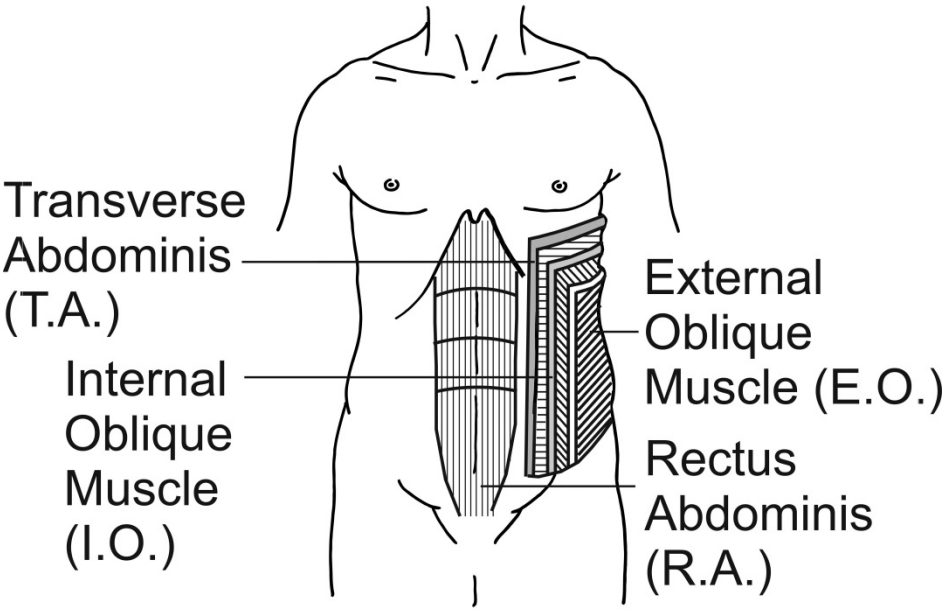

Figure 3: Muscles of the abdominal wall

In the middle of the tummy there is a bulky muscle called the rectus abdominis (RA) sometimes called the six pack. This muscle is about 10 centimetres wide. On each side of the abdomen there are three muscles. The three muscles on the sides and their relationships to each other are shown in figure 3. These three muscles cross over each other and give the sides of the abdominal wall strength.

What is the function of the abdominal wall?

This group of muscles have their own blood supply and nerves. Together they create a strong structure which supports the internal organs. They also help in providing abdominal pressure when needed e.g. in breathing out, emptying bowels and bladder.

What is an abdominal wall hernia?

A hernia of the abdominal wall is a bulging of the abdominal contents through an area of weakness in the wall. An abdominal wall hernia can be small and simple or large and complex. Many hernias do not cause symptoms, but some may cause pain. If you have symptoms like pain and you would like your hernia repaired, we can consider this. However you must be fit enough for surgery.

What are simple abdominal wall hernias?

Simple abdominal wall hernias include groin hernia (inguinal and femoral hernia), umbilical hernia, epigastric hernia, Spigelian hernia, and incisional (ventral) hernias.

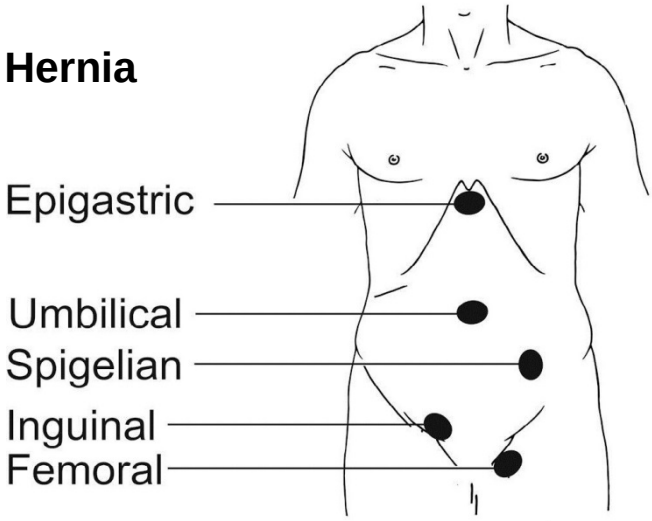

Figure 4: Types of simple abdominal wall hernia

- Umbilical hernias: bulging through the umbilicus (belly button)
- Epigastric hernias: bulging through the midline
- Spigelian hernias: bulging through weakness in the lateral muscle of the abdominal wall, usually below the level of the umbilicus.
- Groin hernias include inguinal hernias and femoral hernias. Inguinal hernias occur above the groin crease. Femoral hernias generally occur below the groin crease.

What is a complex abdominal wall hernia?

These are usually large (greater than 10 centimetres in size). Depending on the size and nature of the hernia and the strength of your abdominal wall you may need complex surgery which is described below.

These hernias often occur through the incision of a previous abdominal operation. This is then known as an **incisional hernia.**

What causes incisional hernia?

Most incisional hernias are caused by an impairment in the healing process after an operation. The wound may break down due to wound infection, a blood clot called a haematoma or a collection of fluid called a seroma. In addition healing may also be impaired if there is a prolonged and sustained increases in the pressure inside the abdomen as occurs if the patient is having incessant coughing, urinary obstruction as in prostate enlargement or constipation.

Poor wound healing has been linked to smoking, diabetes, obesity, long term steroids and malnutrition.

We will talk to you about changing some of these factors if they apply to you.

Repair of complex incisional hernia

There are different ways in which we can repair your hernia. Your surgeon will consider many factors when planning the repair

- Whether to use a sheet of strong material (mesh) and what material to use.
- Which layer of the abdominal wall to place the mesh in e.g. in open surgery this is called ‘Stoppa’ repair.
- Whether the layers or components of the abdominal wall should be released in order to reduce the tension of the closure (e.g. component separation techniques).

The goals of the operation are to

- enhance the function of your abdominal wall
- prevent future complication like strangulation of the bowel
- improve the shape of your abdomen

The operations involved are described in detail in a separate patient information leaflet: PIL 1047 Complex abdominal wall hernia.

Role of component separation techniques in complex abdominal wall hernia surgery

In abdominal wall hernia surgery one may have to release one of the components of the abdominal wall in order to facilitate their coming together in the midline. This is called Component separation techniques (CST).

Component separation is thus a surgical technique that releases one or more of the muscles on the side of the abdominal wall. This separates them from the rectus abdominis (RA) muscle and allows this muscle to slide towards the middle of the abdomen. The abdomen can then be closed without any tension, which reduces the risk of the hernia occurring again. However this technique causes an extensive raw area internally that leads to seepage of fluid. This means that you have to have drains inserted into the lateral abdominal wall. Your doctor will decide when the drains can be removed. Sometimes your doctor will send you home with drains in your body and make arrangements to see you in clinic to remove them.

Component separation techniques

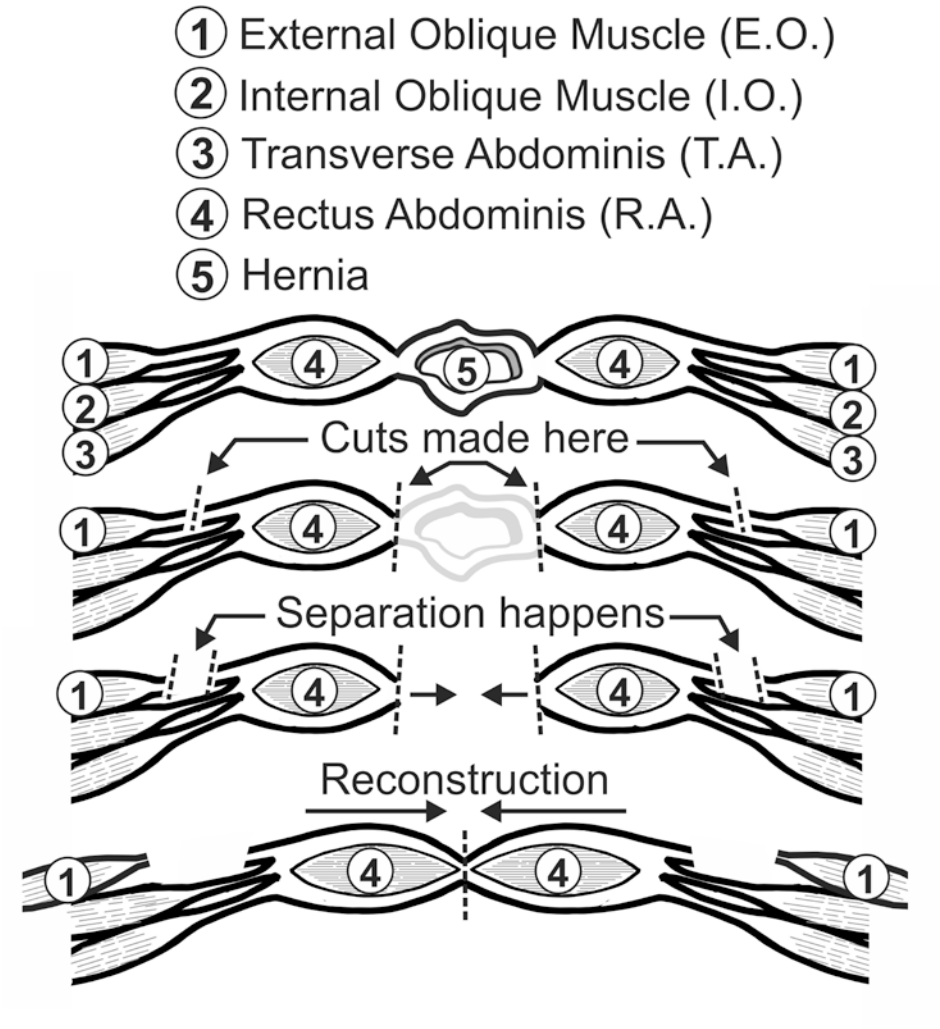

Figure 6: Component separation

Role of pre operative ‘Botox’ botulinum toxin

We may need to inject ‘Botox’ into the lateral abdominal wall muscles a few weeks before the operation. What this achieves is to temporarily weaken the muscles of the lateral abdominal wall. The muscles become flaccid and thus can stretch further. The stretch may allow the central muscles to come together without the need for component separation techniques in repair of the abdominal wall.

In some patients the ‘Botox’ may not avoid the component separation. However it may still help in facilitating the closure of a wide hernia sac.

What is ‘Botox’?

‘Botox’ is a lay term for Botulinum toxin. This toxin is produced by a specific bacteria and is naturally occurring in soil. It is used commercially to treat many disorders where there is spasm of muscles. Its effects start in a few weeks and last for about three months.

How is ‘Botox’ done?

The procedure is done using an ultrasound. An ultrasound is a non invasive test done as a day case.

Using ultrasound we can see the lateral muscles of the abdominal wall without causing pain or discomfort. We can then pass a needle into the muscles of the abdomen. The ‘Botox’ is then injected into the muscles. You feel the pin prick of a needle and the discomfort it causes. This is repeated at four sites in the abdomen. The whole procedure is done with you awake and takes about half an hour to do.

What are the benefits of pre operative ‘Botox’?

The main benefits of having such treatment before the complex abdominal wall surgery are:

- Reducing the need for component separation surgery.
- Make closure of wide hernia defect possible.
- Produce less tension in the midline wound of the abdomen during the first few weeks of healing.

Alternatives

No alternative pre operative treatment exists.

Are there any side effects?

The procedure is not painful though there may be some discomfort that lasts a few minutes. Some bleeding around the injection site, staff will apply pressure to stop the bleeding. You may notice a weakening of the side muscles of the abdomen which may make it more difficult to cough. You may also notice an increased bulging of the abdomen temporarily.

Are the effects permanent?

The effects of the ‘Botox’ start in a few days to a week and last for about three months. After that the effects wear off and then the muscles return to usual strength.

When will I be able to return to normal activity?

The procedure is done as an out patient procedure and you will be able to return to normal activity straightaway. You may notice some weakening of abdominal wall muscles causing difficulty in coughing in due course.

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:
Mr Chintapatla, Consultant Surgeon,
The York Hospital, Wigginton Road, York, YO31 8HE or telephone 01904 721154.

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email pals@york.nhs.uk.

An answer phone is available out of hours.

Leaflets in alternative languages or formats

Please telephone or email if you require this information in a different language or format, for example Braille, large print or audio.

如果你要求本資 不同的 或 式提供，電 或發電

Jeżeli niniejsze informacje potrzebne są w innym języku lub formacie, należy zadzwonić lub wysłać wiadomość e-mail

Bu bilgileri değişik bir lisanda ya da formatta istiyorsanız lütfen telefon ediniz ya da e-posta gönderiniz

Telephone: 01904 725566
Email: access@york.nhs.uk

Owner	Mr Karim El Sayeh and Srinivas Chintapatla, Consultant Surgeon
Date first issued	November 2023
Review Date	November 2023
Version	1 (issued November 2020)
Approved by	Surgical MDT
Linked to consent form	FYCON182-3 Using pre operative 'Botox' in In complex abdominal wall reconstruction v1
Document Reference	PIL 1488 v1