**TREATMENT OF INGUINAL HERNIAS WITH SYNTHETIC GLUE ACCORDING TO LICHTENSTEIN TECHNIQUE (IFABOND™)**

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The LICHTENSTEIN technique is used in the treatment of inguinal hernia and consists of positioning a prosthetic reinforcement on the posterior wall of the inguinal canal. It is a reproducible and reliable technique and does not present visceral or vascular risk, unlike transperitoneal techniques. It can be performed under local anesthesia and is perfectly suitable as an outpatient procedure. The technique is particularly well suited to women. It is noted that the perforation of the entire myopectineal floor may lead to the secondary development of a femoral hernia. However, the technique is often associated with chronic inguinal pain (90% within 1 year, of which 6% led to disabling discomfort) 

Preparation of the IFABOND™ glu. 

The objective of this paper is to underline the advantage of using woven 3D prosthetic reinforcement together with a synthetic cyanoacrylate adhesive (IFABOND™, Fimea SAS) which ensures a quick, reliable and straightforward fixation, without biological or infectious risk to the patient, which also maintains the expandable properties of the reinforcement in keeping with the tenacitex concept of the technique.

**SURGICAL PROCEDURE AND FIXATION**

The oval-shaped prosthetic reinforcement has an upper longitudinal strip covered with an external flap. Three absorbable sutures fix the prosthesis to the pubic tubercle without encroaching on the peritoneum and inguinal ligament. No other suture or staple is used. The ready-to-use glue is available in the prosthesis as part of a kit or separately. A 1 ml syringe fitted with an 18G metal needle is filled with the glue. During application, polymerisation occurs in less than one minute, which ensures a reliable fixation. A continuous line of glue is applied along the inguinal ligament and up to the pubic tubercle. 

The reinforcement extends inside the pubic insertion of the external oblique muscle to which it is applied with drops of glue. The extremal edge of the internal flap of tissue is glued in a continuous line to the muscular fascia plane and is pushed outside the peritoneal cavity. The external flap of tissue is stuck to the internal oblique planes with drops of glue. The flap descends beyond the spermatic cord which is, in turn, glued to the free edge of the inguinal ligament, occluding the stopped path of the spermatic elements in the inguinal canal, between the deep and superficial inguinal ring. The apposition of the external oblique muscle is stuck in front of the spermatic elements.

**BU uygulama aracı tek başına da kullanılabilir veya cerrahi gerekle görürse dikiş noktaları ile birlikte de kullanılabilir. Aynı cerrahi ve laparoskopi de kullanılabilir. Böylece yüzeydeki yaraların ve daha derin yaraların gerilim olmasının kapatılmasını sağlamakla kalmaz aynı zamanda kas, tendon ve diğer organlara in vivo protez takılmasını sağlar.**

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**Cerrahi Doku Yapıtırıcısi**

**IFABOND™**

**IFABOND™** yapıtırcısı ve hemostatik etkisi ile cerrahi müdahalelerde kullanılan agraflı, dikiş ve diğer tüm araçlara bir alternatif sunma amacıyla tasarlanmış bir tibbi uygulama aracıdır.
SURGICAL APPLICATION PROTOCOL FOR IFABOND™ ADHESIVE IN HAEMOSTATIC PROCEDURES DURING HEPATECTOMY

DEFINITION

A hepatectomy is performed to remove a malignant tumour, more rarely a benign tumour or a parasitic cyst. The liver is divided into 8 segments, numbered from I to VIII. A right hepatectomy consists of the removal of segments V to VIII; the procedure is referred to as right extended if it also covers other segments of the liver. A left hepatectomy removes segments II, III and IV, and may also be extended to remove other segments. A hepatectomy can remove up to 80% of the liver mass. If the hepatic tissue is healthy, the liver has the ability to regenerate itself and to return to its full normal mass following surgery.

A total hepatectomy is performed prior to a liver transplant.

Several parenchymal section methods are used. The hepatectomy section is performed in gradual steps on each occasion, by crushing or pulsing the hepatocytes to reveal the vascular and biliary pedicle which are bound and sectioned electrolytically. Thus, access to the pedicles may be performed by ultrasonic dissection, by crushing using a simple metallic clamp or by water-jet dissection etc.

OBJECTIVES

Perioperative bleeding is limited using clamping. The clamping points are limited and the clamps are used sparingly, especially as the structure of the hepatic parenchyma has changed.

At the end of surgery and also following elective ligation of the vascular and biliary pedicles, the IFABOND™ adhesive is applied to improve haemostasis.

METHOD

- Required quantity of IFABOND™ adhesive: between 1.5 ml and 3 ml depending on the size of the sectioned hepatic surface (1.5 ml treats 150 cm²).
- Applicator: lasso spray
- After coagulation of the resected edges of the hepatic surface, the IFABOND™ is applied to the entire length of the lower edge of the liver in order to achieve haemostasis (by way of polymerisation, the adhesive forms a watertight film which prevents unwanted effusion). If necessary, apply pressure to the abdomen to promote tissue adhesion.
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Comment: IFABOND™ remains stable in the applicator throughout the procedure. It is not necessary to use the entire product immediately after preparation. Clean the applicator tip with physiological saline solution as required.

SURGICAL APPLICATION PROTOCOL FOR IFABOND™ ADHESIVE IN HAEMOSTATIC AND ADHESIVE PROCEDURES DURING ABDOMINOPLASTY

METHOD

- Required quantity of IFABOND™ adhesive: between 1.5 ml and 3 ml depending on the size of the treated surface (1.5 ml treats 150 cm²).
- Applicator: lasso spray
- After resection of the retracted edges of the abdominal wall (via a central point below the navel).
- Using the spray prepared earlier, spray IFABOND™ from each side of the abdominal cavity (down the spray to the left then to the right of the navel); if necessary, apply pressure to the abdomen to promote tissue adhesive
- Clean the applicator tip with physiological saline solution as required.

Comment: IFABOND™ remains stable in the applicator throughout the procedure. It is not necessary to use the entire product immediately after preparation. Clean the applicator tip with physiological saline solution as required.

SURGICAL APPLICATION PROTOCOL FOR IFABOND™ ADHESIVE IN HAEMOSTATIC PROCEDURES DURING HEPATECTOMY

- In open surgery, on the liver section (or the hepatic bed in the case of a total hepatectomy):
  - Dry the section using a compress in order to limit excess blood or bile (the glue will then have stronger adhesion to the tissue).

- Using the spray prepared earlier, spray IFABOND™ across the entire section surface.

- During polymerisation, the adhesive forms a watertight film which prevents effusion.

- Carefully reposition the liver, preserving the adhesive film which has formed.

SURGICAL APPLICATION PROTOCOL FOR IFABOND™ ADHESIVE IN HAEMOSTATIC AND ADHESION PROCEDURES DURING ABDOMINOPLASTY

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THE IMPORTANCE OF A PURIFIED SYNTHETIC SURGICAL GLUE IN CURRENT NEUROSURGERY

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IFABOND is a highly-purified sterile synthetic glue with which high-held delicate sutures can be made without biological risks for patients.

It was tested and approved by our team for dural closure and bone flap and bone fragment repositioning, notably for the posterior cranial fossa, or for closing burr holes. The glue, therefore, is able to favourably replace mechanical fixation of the posterior cranial fossa flap.

The following points were noted: preparation by the nursing personnel is very simple and rapid; an extremely small amount of glue is required for adhesion because of the adhesive strength; the adhesive process (speed of adhesion of biological or synthetic tissue, bone or implantable material) can be modulated according to the presence of blood which catalyses the speed of adhesion; adhesion can thereby be obtained almost instantly (blood) or in approximately 1 minute (serum).

There is no doubt that IFABOND™, the highly-purified synthetic glue, has its place among the neuro-surgical technical equipment for making closures and anchoring certain biomaterials, and moreover, without any technical constraints for medical and paramedical teams.

SURGICAL APPLICATION PROTOCOL FOR IFABOND™ ADHESIVE FOR DURAL CLOSURE (DURA MATER) FOLLOWING A CRANIOTOMY

OBJECTIVES

After completing the intra-dural surgery, the surgeon performs an overlock to guarantee a resistant and perfectly leak-tight closure of the dura mater. At this point in the surgery, there is a risk of leaks and effusion of the cerebrospinal fluid (CSF) which may lead to serious post-operative complications.

The dura mater can be closed:
- dura mater (if it has not been damaged)
- dura mater/pericranium (membrane covering the external area of the cranium, a piece of which has already been removed and which will be used as a graft)

METHOD

- Required quantity of IFABOND™ adhesive: between 0.5 ml and 1.5 ml, depending on the length of the suture line.
- Applicator: aerosol or caisson syringe
- Irrespective of how the dura mater is closed (dura mater, pericranium, neuro-patch). apply IFABOND™ droplet by droplet along the line of suture, starting at the upper section of the area to be treated by allowing the droplet of adhesive to spread along the suture line.

Comment: IFABOND™ remains stable in the syringe throughout the procedure. It is not necessary to use the entire product immediately after preparation. Clean the applicator tip with physiological saline solution as required.

The amount of adhesive required for adhesion is greatly reduced by the strength of the bond.
- The adhesion process (speed of adhesion of the biological or synthetic tissue) can vary depending on the presence of blood, which catalyses the polymerisation speed (medistinstaneous adhesion in contact with blood, or in around 1 minute in contact with serum).