Mesh implants for hernia surgery

- 100% monofilament polypropylene
- Best patient safety thanks to optimised stability and elasticity
- Lowest foreign body reaction due to minimised reactive surface
- Minimal formation of scar tissue thanks to maximised effective porosity
- Excellent memory effect, optimal handling

Optimal Dynamometry
To guarantee highest patient safety and at the same time best patient comfort after mesh implantation, the implant must ensure adequate stabilisation of the abdominal wall and must furthermore not affect its natural elasticity.

To reach these objectives, the hernia mesh with the ideal dynamometric properties needs a slightly higher stability (32 N/cm) and a slightly lower elasticity (38%) than the natural healthy abdominal wall.

DynaMesh®-PP light (stability 38 N/cm; elasticity 34%) ensures a safe strengthening and an optimal conservation of the dynamometric properties of the abdominal wall.

**Minimal Reactive Surface**

Today all modern mesh implants are made of monofilament threads. After implantation foreign body reaction takes place at the thread’s surface, independent of its weight. To minimise this foreign body reaction, the total surface of the fibre the implant is manufactured from must be reduced. Thus an excessive scar tissue formation is avoided and a higher patient comfort is reached.

<table>
<thead>
<tr>
<th>comparison</th>
<th>conventional small-pored mesh implant</th>
<th>closed membrane</th>
<th>DynaMesh®-PP light</th>
</tr>
</thead>
<tbody>
<tr>
<td>implant</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>dimension</td>
<td>15 x 15 cm</td>
<td>15 x 15 cm</td>
<td>15 x 15 cm</td>
</tr>
<tr>
<td>area of implant</td>
<td>225 cm²</td>
<td>225 cm²</td>
<td>225 cm²</td>
</tr>
<tr>
<td>reactive surface of implant</td>
<td>637 cm²</td>
<td>450 cm²</td>
<td>250 cm²</td>
</tr>
<tr>
<td>reaction surface/area of implant (factor)</td>
<td>2.83 cm²/cm²</td>
<td>2.00 cm²/cm²</td>
<td>1.11 cm²/cm²</td>
</tr>
<tr>
<td>changing of the reactive surface compared to a closed membrane</td>
<td>+ 42%</td>
<td>0%</td>
<td>- 44%</td>
</tr>
</tbody>
</table>

DynaMesh®-PP light has a minimal reactive surface and therefore causes least possible foreign body reaction and scar tissue formation.
Maximised Effective Porosity

**Requirements for optimal tissue ingrowth:**

Using polypropylene monofilaments a **thread distance of at least 1 mm** is needed to avoid the adherence of scar tissue wrapping the monofilaments (bridging). A scar plate would considerably restrict patient comfort.

During incorporation the filaments are wrapped by an inner and outer granuloma, i.e. scar tissue. Thread distances of less than 1mm are bridged by scar tissue.

In order to avoid this bridging, pores need to have a thread distance of **at least 1 mm in all directions.** Only then local physiological tissue can form through a pore.

High **effective porosity** of a mesh implant means good permeability for local physiological tissue and thus prevents scar plate formation.

Optimal tissue ingrowth with DynaMesh®-PP light:

With an effective porosity of **42%**, DynaMesh®-PP light reaches the highest value of the (non-absorbable) mesh implants and thus ensures **highest patient comfort**.
Application

DynaMesh®-PP mesh implants, the light as well as the standard version, are qualified for the following conventional open and laparoscopic surgery techniques of groin and scar hernia repair:

- Lichtenstein technique or TIPP
- transabdominal preperitoneal hernioplasty (TAPP) or
- total extraperitoneal hernioplasty (TEP)
- further extraperitoneal onlay- and sublay-techniques

Technical Data

**DynaMesh®-PP light**

- Material: 100% polypropylene monofilament
- Weight: 36 g/m²
- Thickness: 0.6 mm
- Pore size: 1.6 mm x 2.6 mm
- Effective porosity: 42% m²/m³
- Max. stability: 38 N/cm
- Physiol. elasticity at 32 N/cm: 34%
- Max. suture pull out strength: 30 N

**DynaMesh®-PP standard**

- Material: 100% polypropylene monofilament
- Weight: 72 g/m²
- Thickness: 0.7 mm
- Pore size: 1.4 mm x 1.8 mm
- Effective porosity: 21% m²/m³
- Max. stability: 59 N/cm
- Physiol. elasticity at 32 N/cm: 25%
- Max. suture pull out strength: 43 N

Delivery Program

**DynaMesh®-PP light**

- 06 cm x 05 cm, unit = 5 pcs., REF PP 010605F5
- 06 cm x 11 cm, unit = 5 pcs., REF PP 010611F5
- 06 cm x 30 cm, unit = 2 pcs., REF PP 010630F2
- 7.5 cm x 15 cm, unit = 5 pcs., REF PP 010715F5
- 10 cm x 15 cm, unit = 5 pcs., REF PP 011015F5
- 15 cm x 15 cm, unit = 5 pcs., REF PP 011515F5
- 20 cm x 30 cm, unit = 2 pcs., REF PP 012030F2
- 30 cm x 30 cm, unit = 2 pcs., REF PP 013030F2
- 30 cm x 45 cm, unit = 2 pcs., REF PP 013045F2

Delivery of special sizes upon request

**DynaMesh®-PP standard**

- 06 cm x 05 cm, unit = 5 pcs., REF PP 020605F5
- 06 cm x 11 cm, unit = 5 pcs., REF PP 020611F5
- 06 cm x 30 cm, unit = 2 pcs., REF PP 020630F2
- 7.5 cm x 15 cm, unit = 5 pcs., REF PP 020715F5
- 10 cm x 15 cm, unit = 5 pcs., REF PP 021015F5
- 15 cm x 15 cm, unit = 5 pcs., REF PP 021515F5
- 20 cm x 30 cm, unit = 2 pcs., REF PP 022030F2
- 30 cm x 30 cm, unit = 2 pcs., REF PP 023030F2
- 30 cm x 45 cm, unit = 2 pcs., REF PP 023045F2

Delivery of special sizes upon request

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