

Medical Needles

Depending on function medical needles are subdivided into:

- **Injection needles**

Such needles are intended for infusion of medical solutions, blood sampling from vein or artery, blood transfusions. They are applied together with syringes and also with liquids or blood transfusion sets.

- **Biopsy puncture needle**

These needles are intended for a puncture parenchymatous organ or a cavity with the subsequent extraction of particles of fabrics or liquids. These type of needles is similar to injection type, however, as a rule, biopsy puncture needles are longer and have bigger diameter. At the same time a mandrin, which fits tightly into a tube of a needle works as a stylet.

- **Surgical needles**

Surgical needles are intended for ligation of the human tissues. They have needle eye (reusable) for fixing strings at the end opposite to the edge that punctures. There are straight needles (practically not used at present) or curved at various degrees. Surgical needles differ in length and the form of section of a needle point, and also in the form of needle eye, which can be with split or non-split.

CLASSIFICATION OF SURGICAL NEEDLES

Each needle, irrespective of its kind, has three basic parts - the pressed out end, a body and a point. Parameters of each of these parts influence general characteristic of a needle. The type of the “needle-string” connection is important for ideal smoothness and strength of attachment. Contemporary medicine tends to use needles with so-called atraumatic connection type rather than using strings with reusable needles.

REFERENTIAL TABLE OF SURGICAL NEEDLES

Needle name	Needle appearance	Description	Application sphere
Round bodied/ taper point		The body of a needle is round, flattened in the middle for a better hold in needle-holder. Taper, very smooth point of a needle facilitates the penetration.	Used mainly for manipulations with internal organs. These needles are usually applied for anastomosis stitching, for approximation of soft homogeneous tissues (muscles, fascia, mucous membranes, etc.)
cutting		Triangular section at all extent with cutting edge of an inside direction. Due to the third cutting edge the needle gets the better durability in the area of an edge and easier punctures firm tissues.	For tough tissues and skin ligation.
Reverse cutting		Triangular section at all	For tough tissues and skin

		<p>extent with an outer cutting edge. Due to the third cutting edge the needle gets the better durability in the area of an edge and easier punctures firm tissues. Are mostly used for making interrupted suture, which are exposed to constant tension. Smooth needle base faces the wound, which decreases the probability of cutting through the tissue while tightening the stitch.</p>	<p>ligation.</p>
<p>Cutting point needle (“tapercut”)</p>		<p>Needle has round section with a cutting point, which is formed by grinding a taper point of a needle. Such needle makes smaller channel when penetrating the tissues and traumatizes tissues much less than cutting needle.</p>	<p>For firm tissues (aponeurosis, vessel with calcification, etc.)</p>
<p>Spatulated</p>		<p>The body of a needle is flattened, with two cutting edges. Such needle goes easily between thin layers of tissues without damaging them.</p>	<p>Ophthalmology, microsurgery</p>
<p>Blunt point</p>		<p>Needle is round in section with blunted point. The blunt point provides preservation of vessels and sinews at suturing.</p>	<p>Parenchymatous organs, cervix of the uterus, liver, etc.</p>