The Rosenberg Adjustable Skin Graft Mesher

Instructions for use
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Adjustment for carrier thickness.
The adjustable Skin Graft Mesher may accommodate thickness level of graft carrier from 0.1 mm to more than 5 mm. The cutting blades that are held in the upper cutting roller (3) do the meshing and press into the skin graft that is spread on the flat carrier plate that passes on the lower feeding roller (anvil) (4).

The elevation dial (1) regulates the distance between the upper cutting roller and the lower anvil roller. Turning the elevation dial (1) each “click” corresponds to movement of 0.1 mm. In order to move the elevation dial, you must push down on the lock knob (2). To decrease the distance between the two rollers, turn the elevation dial (1) clockwise. To increase the distance, turn the dial counterclockwise.

In order to adjust the Mesher to the carrier thickness, please proceed the following steps.
1. Press on lock knob (2) all the way down.
2. Rotate the elevation dial (1) clockwise all the way.
3. If you are using 4Med carrier turn counterclockwise the elevation dial 5 “clicks”
4. Insert the carrier between the anvil roller and the blades roller, and check the cutting with paper.
5. Adjust the final distance according to the cutting results.

Adjust the ratios
Each cutting blade is made of two paired halves, each contributing to the length of the incision. By changing the angular position of the two paired blades, the meshing ratio can be adjusted. When the two paired blades are completely parallel, the result is a minimal incision with a meshing ratio of 1:1. This expansion will just perforate and offer good drainage and adherence of the graft to its bed. Increasing the angle between the paired blades increases the length of the actual incision and the meshing ratio up to 5:1.
To adjust the ratio:
Place the adjustable skin graft Mesher on a flat surface. Position the Mesher so that the elevation dial is facing you. With your right hand, turn the locking wheel (6) anticlockwise and push the right gear (7) to the right. The blades are then released and the roller’s locking mechanism will be engaged automatically.

Roller locking (8) open position
Roller locking (8) locked position

With your left hand, adjust the ratio by turning the adjustment wheel (5) clockwise or anticlockwise. The paired blade are moved. The meshing ratio is shown by a pointer (11) which is situated on a wheel on the inner left side of the Mesher (10). The marks in the pointer are 4:1, 3:1, 2:1, 1.5:1, 1:1. Once the desired ratio has been achieved, the locking wheel (6) should be turned clockwise until it is tight. This will unlock the system, and will lock the blades in their position.
**Meshing the Skin Graft**

Important: Do not attempt to use the Mesher unless the blades are tightened and the roller lock is released.

First apply the skin graft to the carrier. Then place the carrier on the flat surface in front of the roller. The rotation of the two rollers is effected by a set of transmission gears that may be activated by a cranking ratchet or by a special power unit. The cranking ratchet may be attached to the lower roller shaft (9) that is situated on the right side, under the locking wheel. Make sure that the ratchet is set for forward movement, then crank the carrier through the rollers.

**WARNING:** Do not use metal instruments near the blades for pushing the skin through or pulling it out.

If the power unit is available, the Mesher has to be mounted on the sterilization container that is fitted with the optional transmission. The power unit must be inside the container. It is not necessary to line up the Mesher to the power unit transmission exactly. Once the power unit is turned on, the Mesher will go into place automatically. The system may be activated with the on/off switches on the container’s lid, and that are situated on the right side in front and back of the Mesher. The cranking ratchet cannot be used when the Mesher is hooked up to the power unit transmission. Using the power option, a single operator can activate the entire system. The right hand feeds the carrier plate into the Mesher and the left hand activates the switch. The right hand follows the extruded carrier from behind the Mesher. The unit may be stopped by pushing on one of the switches.
Instructions for Cleaning.

The adjustable skin graft Mesher is made of two hinged parts, upper and lower, that may be opened for cleaning and maintenance. A micrometric elevation dial holds the two parts together. A push-pull lock locks (12) the two parts to the elevation dial. Pushing it toward the Mesher locks the two parts and pulling it out or pushing it from the inside of the Mesher to the outside, unlocks it. If the Mesher is difficult to open, make sure the elevation dial is not turned all the way down. If it is turned all the way down, move it counterclockwise one click.

Clean after each procedure by rinsing in distilled water.

* Do not use saline on the Mesher at any time.

Washing and Decontamination

The decontamination process is dependent on effective cleaning and washing of instruments. Severe soiling should be removed under running water in a sink draining continually, using brushes with nylon bristles. Rotate the turning wheel while rinsing. Remove remaining debris with soft bristle brush. It may be necessary to remove the upper cutting roller guard nets (11).

Simply snap the off from the back, when Mesher is open. To put the guards back on, place the guards over the blades, leaving a space between each pair of guards. Carefully wipe the entire unit dry after cleaning.

For automated washing machines a typical cycle should include the following: cool/warm wash detergent (neutral pH) below coagulation temperature (<60 degrees C), rinse to remove detergent, hot wash (eg 90 degree C) and assisted drying cycle.

Sterilization

The adjustable skin graft Mesher should be sterilized prior to each meshing procedure. Lubrication should not be used on this instrument. Each institute should establish the efficacy of its sterilizing procedure by appropriate method, such as the use of commercially available chemical or biological monitors. This instrument may be autoclaved or flash autoclaved.

The Mesher is opened for cleaning