

INTRODUCTION

The **ebner 502** expanded bone grafter is intended for bone removal and autogenous bone grafting. The instrument is comprised of a reusable stainless steel handle and blade. The blade shaves bone from cortical surfaces producing short convoluted ribbons. While being cut, shavings combine with blood and flow into the handle's head. This graft material, an osseous coagulum, is then delivered with the handle directly to the recipient site, or to a bowl.

Handles are available with three head angles to enable the clinician to select one that is suitable for the given anatomy. The three head angles are: Straight; 30 degrees Up; and 30 degrees Down. Handle selection is based on keeping the angle formed by the bottom of the blade and the bone surface between 10 and 45 degrees.

Blades are standardized so that **ebner 500 BLADEs** can be used with any **ebner 500 HANDLE** (501, 502... 5nn). Before the clinician's first case, he should become familiar with the instrument including the mounting and removal of the blade.

WARNINGS

1. Handles and blades are provided non-sterile. Clean and sterilize handles prior to first and every use. Although provided clean, blades must be sterilized prior to use. If the zip-lock bag containing the blade is found open, cut, torn or otherwise damaged, blade must also be cleaned prior to use; 2. While handling, blade could fly off hemostat inadvertently. Always wear safety glasses while handling blade and using instrument; 3. Blade is a sharp medical device and must be used and disposed of accordingly. Wear sterile gloves when using the instrument and take precautions not to cut them; 4. While harvesting, pushing the blade against bone could detach it from the handle; 5. Before re-use of handle or blade, all material from prior case must be removed by thorough cleaning; 6. The instrument is to be used only by a qualified licensed clinician; 7. Clinician is responsible for appropriate patient, instrument, and procedure selection; 8. Clinician should take precautions to minimize the known risks of infection and complications associated with bone grafting procedures.

PREPARATION

Follow illustrations A through D. Read **WARNINGS** before proceeding!

A. Remove Blade from Bag. Orient blade with cutting edge (1) up and the indicator notch (2) right. Firmly lock a curved 12.5 cm Halstead Mosquito hemostat onto the proximal end (3) of the blade and remove it from the bag.

B. Place Blade on Pin. Position blade between ears (4) and move it back (F1) until it is stopped by the ears. Press (F2) blade-insertion opening (5) onto pin (6). Place thumb on top of blade, as shown, to ensure blade remains flush with handle as the hemostat is removed.

C. Snap Blade forward. First place one beak of hemostat into blade's load hole (7). Then place other beak against handle's distal end (8). Squeeze (F1) hemostat to snap the blade forward.

D. Sterilize Handle and Blade. Both the handle and the blade must be sterilized. They can be sterilized as a unit, blade on handle, or separately.

SURGERY

Follow illustrations E through H. Read **WARNINGS** before proceeding!

E. Harvest. Dip the entire head (9) into sterile saline solution before starting to cut and collect.¹ Hold the instrument, as shown, with either a pencil or an overhand grip. If extended reach is required, place index finger on one of the three finger rests (10). To cut bone shavings, apply force (F1) perpendicular to the bone surface and pull (F2) the instrument. The perpendicular engagement force should be sufficient to cause a distinctive resistance to pulling without being excessive.² The instrument will cut with straight-back or with some side motion. Use repetitive strokes to cause bone shavings and blood to flow through the aperture (11) into the head. During each return stroke, lift the blade slightly away from the bone surface. Monitor progress by looking through the view slots (12). Avoid over-filling; the aperture could clog.

F. Snap Blade backward. First place one beak of a curved 12.5 cm Halstead Mosquito hemostat into blade's load hole (7). Then place the other beak against pin (6). Squeeze (F1) hemostat to snap blade backward.

G. Remove Blade from Pin. Firmly lock hemostat onto blade. Push (F1) up with handle finger to remove blade. Wipe (F2) blade against edge of head to save any attached graft material. Temporarily store the blade by placing the locked hemostat and blade on table as shown. This allows the blade to be easily picked up for reattachment.

H. Deliver Graft. Position the head close to the recipient site, or bowl, and spoon the graft material out with a placement instrument.

Harvest Additional Graft Material.

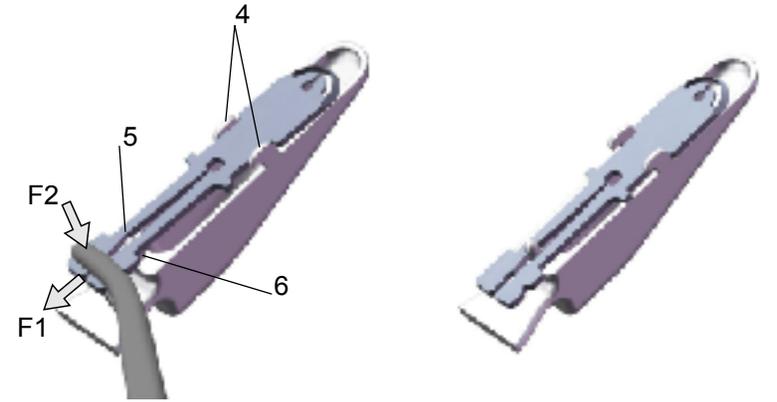
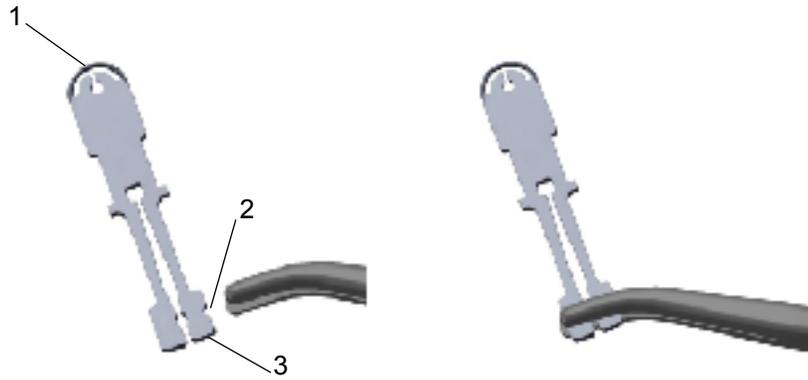
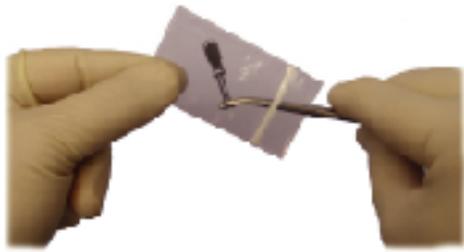
Reattach the blade and repeat procedures as required.

Dispose of Blade.

Follow regulations governing sharp medical devices.

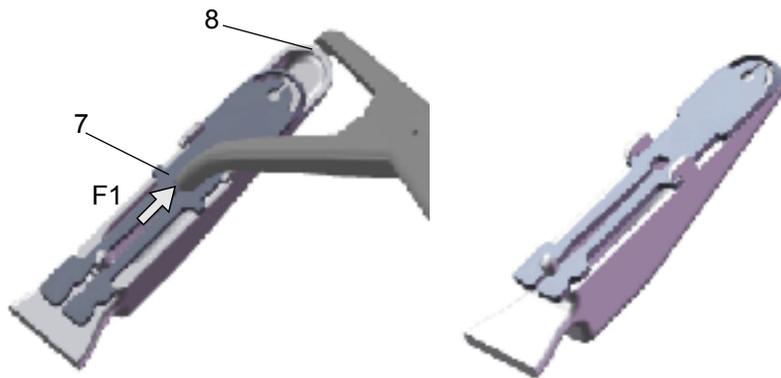
¹ Saline helps shavings flow into the head and prevents them from falling out.

² In some cases of hard bone, it may be helpful to use a round bur to cut a starting-line.



A

B



C

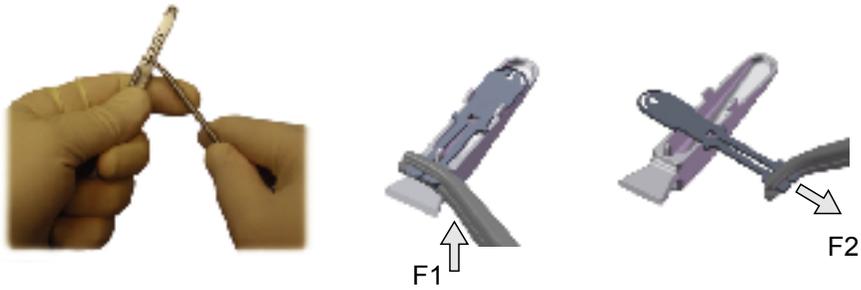
D



E



F



G



H