

Bone Manipulation Drill Driver Kit

Technique Guide

Usage Overview

The Drill Driver has several uses, including where bone deficiencies are apparent, especially true for very thin bone where an electric motor would make it difficult to start the osteotomy. The driver can be used for any latch type instrument; for example, implant drills, bone taps, bone expanders, tissue punches and may be used for delivery of the implant to the surgical site as well. Its main usage is for Type II and Type III bone.

How To Position A Drill Into The Drill Driver:

- Take the Drill Driver and loosen the sleeve by twisting counter clockwise as needed (*refer to Note¹*).
- Insert the drill into the Drill Driver and as it is going in, start turning the drill until you hear a snap. That sound will determine that the drill is seated in its final position. (*refer to Note²*).
- Tighten the sleeve to secure the drill in place by turning the sleeve clockwise.

***Do not tighten the sleeve without a drill in place as it may cause impairment of function.**

The Drill Driver During Implant Surgery

A. Extractions and Immediate Implant Placement	B. Edentulous Areas
1. On immediate extractions and implant placement, use your standard protocol and guidelines established for this particular procedure.	1. Use the surgical guide and begin the Osteotomy using the pilot drill.
2. Once confirmed that placing an implant immediately after an extraction is possible, start by using the pilot drill (<i>refer to Note³</i>) palatal to the apical area of the extracted tooth (<i>follow protocol*</i>).	2. Make sure you observe established protocol* and guidelines for this procedure, including surgical stent, CT scans, etc.

FROM THIS POINT FORWARD, USE THE SAME INSTRUCTIONS FOR BOTH METHODS.

3. Advance the drill apically with controlled light pressure (*refer to Note³*) until there is a sensation that bone is giving away under the drill.
4. Simultaneously, turn the drill clockwise and continue to advance apically.
5. Repeat until the pre-determined length is reached. At this time, make sure that the marketing in the Drill Driver is facing towards you. This will help reposition the drill into the Drill Driver (*refer to Note²*).
6. Once length has been achieved, loosen drill from the Drill Driver and leave the drill in the bone to be used as a guide pin for x-ray verification. Take an x-ray using the drill to confirm proper angulation of the osteotomy (*refer to Note⁵*).
7. After confirming proper angulation, place the drill into the Drill Driver and begin retrieving the drill from the site clockwise coronally until the drill has been retrieved from the osteotomy site.
8. At this point, save the harvested bone from the flutes of the implant drill in a sterile container for grafting material.
9. Continue the same steps with the second drill, third and fourth drill which have increased diameters, etc. as necessary depending on the width of the implant. If bone tapping is required, attach the bone tap to the Drill Driver and use it accordingly.
10. After completion of the osteotomy, attach the insertion tool into the Drill Driver and place the implant into the surgical site (*refer to Note⁴*).

NOTES:

Note¹: The Drill Driver contains an arrow indicating how to open.

Note²: The flat surface of the shank of the drill should align with the marking provided on the Drill Driver.

Note³: When applying apical pressure with the Drill Driver, you should observe same precautions as you would with elevators, periostomes, root tip elevators, and luxators.

Note⁴: When delivering an implant into the surgical site with the Drill Driver, the final torquing of the implant should be done with the instrument provided in your implant surgical kit.

Note⁵: Make sure the drill is tight in the osteotomy before you take the x-ray, if not use Guide pins provided in your surgical kit.

*** USE DENTAL FLOSS ON THE PIN FOR PREVENTION OF ACCIDENTAL SWALLOWING.**

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Cleaning and Care Instructions

The Drill Driver was created to assist in difficult and precise implant surgeries. Note, this instrument is not made to replace your electric handpiece.

The Drill Driver has several uses, including where bone deficiencies are apparent, especially true for very thin bone where an electric motor would make it difficult to start the osteotomy. The instrument can be used for any latch type instrument; for example, implant drills, bone taps, bone expanders, tissue punch and may be used for delivery of the implant to the surgical site as well. Its main usage is for Type II and Type III bone.

Cleaning:

Consider that the disinfectant used in the pre-treatment step serves only for personal safety and cannot replace the sterilization step, which should be performed later.

1. Completely disassemble the instrument.
2. Remove any visible debris from the instruments and surgical kit using a soft bristle brush and a broad spectrum cleaning or disinfecting agent. Rinse thoroughly.
3. Place the instruments in a beaker of the same solution and sonicate for 10 minutes and make sure that the instruments are sufficiently immersed.
4. Rinse instruments with isopropyl alcohol to remove any soap residue and minerals (**important to help prevent corrosion*).
5. Blot instruments with a lint-free towel and allow them to air dry completely.
6. ***Optional:** Immerse instruments in surgical milk for 30 seconds. Then with a lint-free towel blot instruments and air dry completely.
7. Wash the empty tray using the same solution. Rinse the tray with water and dry thoroughly.
8. Return instruments to the appropriate location in the surgical tray. **Keep driver disassemble inside surgical tray for sterilization.*
9. Wrapping the kit in a standard approved sterilization wrap, use one of three qualified steam sterilization cycles:
 - a. Prevacuum Steam: 132°C (270°F) for five minutes minimum.
 - b. Gravity Steam: 132°C (270°F) for thirty minutes minimum.
 - c. Gravity Steam: 121°C (250°F) for sixty minutes minimum.

Dry for 20 – 50 minutes.

Maintenance:

- Assemble disassembled instruments if necessary.
- Light corrosion on the surface can be removed with penetration oil. If the corrosion cannot be completely eliminated, the instruments should be removed from use. Otherwise such corrosion could damage other instruments. After treating an instrument with penetration oil, the instrument must be cleaned and sterilized once more.
- Hinged instruments have to be lubricated with a lubricant suitable for steam sterilization, like instrument lubricant spray or in case of dry heat sterilization, high heat instrument lubricant.

Note About Stainless Steel Instruments

Stainless steel should not be exposed to the following chemicals: Sodium Hypochlorite (household bleach), Tartaric Acid (stain and tartar remover), Aluminum Chloride, Barium Chloride, Bichloride of Mercury, Calcium Chloride, Carboic Acid, Chlorinated Lime, Citric Acid, Dakin's Solution, Ferrous Chloride, Lysol, Mercuric Chloride, Mercury Salts, Phenol, Potassium Permanganate, Potassium Thiocyanate or Stannous Chloride, Aqua Regia, Ferric Chloride, Sulfuric Acid, Hydrochloric Acid or Iodine

NOTES:

Failure to completely dry surgical instruments during autoclaving can leave moisture and cause discoloration and oxidation. The use of hydrogen peroxide or other oxidizing agents will damage the surface of instruments. Periodic testing, cleaning, and calibration of autoclave equipment is recommended to ensure the unit remains in proper working order. Surgical tips should be replaced when wear is noticed, such as a decrease in cutting efficiency or when signs of discoloration appear.