



**Surgical Instructions for Use –  
Implanova® Self-Grafting Sub-crestal Implant System**

- The following information is presented as a guide for surgical placement of Implanova® self-grafting, sub-crestal dental implants.
- Individual practitioners must be knowledgeable and skilled in basic oral surgical procedures and implant placement.
- It is highly recommended for the practitioner to be additionally certified for Implanova® dental implants.

**1. Indications for Use**

The Implanova® self-grafting, sub-crestal implants are intended for endosseous implantation as an artificial root structure in the mandible and maxilla. These root form implants can be used to replace single/multiple missing teeth and/or to support a fixed/removable prosthesis in partially or completely edentulous upper and lower dental arches. Implanova® self-grafting, sub-crestal implants are intended for immediate loading when good primary stability is achieved and with appropriate occlusal loading. .

The Implanova® Bone Level implants are designed to be placed at the crestal level so that the widest circumference of the head of the implant is preferably surrounded by solid bone. In this ideal position, the upper border of the widest circumference of the implant head will be situated at the lowest level of the crestal bone. The part of the crestal bone, which is above the widest circumference, can grow over the head of the implant further securing and stabilizing the fixture.

Implanova® 3.0mm implants are to be used only with straight abutments and not angled abutments. These implants are for lower anterior and upper lateral placement.

The Implanova® has not been evaluated for safety and compatibility in the MR environment. The Implanova® has not been tested for heating or migration in the MR environment.

**2. Restriction**

Federal law restricts this device to be sold by or on the order of a dentist.

**3. Sterilization**

3.1 The Implanova® dental implant fixtures and cover screws are cleaned and sterilized with gamma irradiation. Sterile packages should be opened onto a sterile field and handled with sterilized tools only. Do **NOT** re-sterilize. Do **NOT** use if the package has been opened, damaged, or expired.

3.2 The Implanova® healing caps, abutments, and screws are provided non-sterile and must be sterilized prior to use. Follow the sterilization recommendation presented in the table below.

Cycle Type	Gravity Displacement
Configuration	Wrapped
Temperature	132°C [270°F]
Exposure Time	Minimum 15 Minutes
Dry Time	Minimum 30 Minutes

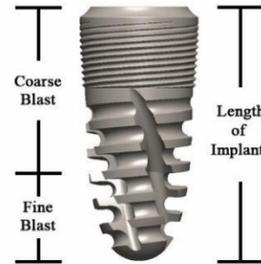
**4. Local Considerations**

- Use of periapical radiographs, panoramic surveys, and 3D Cone Beam Volumetric Tomography (CBVT) is indispensable in planning for dental implants.
- Presence of infection in the area that the implant is contemplated must be evaluated. Chronic infection in an implant site decreases the chance of timely osseointegration due to lowered pH. Local application of injectable Sodium Bicarbonate may help elevate the pH at infection site.
- Quality and quantity of the bone in the proposed site must be adequate to hold the implant motionless during the healing period in spite of the fact that day to day function of speech and mastication will resume on or near the new implant within hours following the surgical placement.

4.4 The clinician may consider surgical removal of infection and/or root tips and bone graft the area for a period of 6-12 weeks before attempting placement of the implant fixture.

**5. Dimensional and Surface Considerations**

- Short and extra short implants are surface finished with high pressure coarse abrasives for ideal integration.
- Medium, large, and extra-long implants are dual surface finished. The apical 5mm is finished with fine abrasives to maintain the sharpness of the cutting edges.
- Implanova® implants are specifically designed to take full advantage of the common shape of residual alveolar ridges in maxilla and mandible to provide larger surface area for osseointegration.
- In general, the wider and/or longer an implant is, the larger the surface area it provides for osseointegration. For length: Using periapical, Panoramic or CBVT imaging technology the longest implant that would not encroach on sensitive anatomic structures like the inferior alveolar nerve, mental nerve, nasal or sinus cavities can be chosen. For width: For bone stability, at least 1 mm of bone is needed in the buccal and lingual sides of each implant.
- As a rule, a medium length (10mm) standard diameter (4.5mm) implant would serve most of clinical situations. Narrower and longer OR wider and shorter implants can be selected when the width OR length of available bone is limited.
- Implanova® self-grafting, sub-crestal implants are designed to be seated at a sub-crestal level (1-2mm sub-crestal). In high esthetic demand areas, to control the emergence profile and prevent metallic hue through the gingival tissue, Implanova® implants can be placed up to 3mm sub-crestally (way sub-crestal).



**NOTE:** A Standard extra short (4.5x6mm) implant, once integrated, is sufficient to support a single tooth. Any length and/or width over and above the 4.5x6mm help only to improve the primary stability during the integration time, which is 6 weeks to 6 months after insertion. Long and X-Long size implants are useful for immediate loading and/or immediate placement of fixtures. The longer apical extension helps to engage the native bone apical to the extracted tooth's socket area. Similarly, the wide implants help achieve primary stability buccolingually and mesiodistally in freshly extracted sockets.

**6. Connection Compatibility**

All Implanova® self-grafting, sub-crestal implants are fully compatible with any Implanova® self-grafting, sub-crestal abutment, which allow for about 500 different fixture-to-abutment combinations. In addition, all Implanova® self-grafting, sub-crestal implant fixtures are connections compatible with the restorative components including abutments, abutment screws, and temporary abutments that are intended for Astra Tech's OsseoSpeed™ TX 3.5S - 4.0S implant fixtures.

Implanova® Bone Level to Astra Tech Compatibility List				
Component Type	Part #	Device Name	Manufacturer	Compatible Implanova® Bone Level Fixtures
Healing Abutment	22851	TempDesign™3.5/4.0	Astra Tech	All Bone Level Implants
Healing Abutment	22853	TempDesign™3.5/4.0 NI	Astra Tech	All Bone Level Implants
Healing Abutment	24281	Temporary Abutment 3.5/4.0	Astra Tech	All Bone Level Implants
Healing Abutment	24280	Temporary Abutment 3.5/4.0 NI	Astra Tech	All Bone Level Implants
Abutment Screw	24449	Abutment Screw Design 3.5/4.0	Astra Tech	All Bone Level Implants
Abutment	24910 - 24916	Direct Abutment™3.5/4.0	Astra Tech	All Bone Level Implants
Abutment	24917 - 24923	Direct Abutment API™3.5/4.0	Astra Tech	All Bone Level Implants
Abutment	24893 - 24898	20° UniAbutment 3.5/4.0	Astra Tech	All Bone Level Implants
Abutment	24899 - 24904	45° UniAbutment 3.5/4.0	Astra Tech	All Bone Level Implants
Abutment	24905 - 24909	Ball Abutment 3.5/4.0	Astra Tech	All Bone Level Implants

Abutment	24268 - 24272	Locator™ Abutment 3.5/4.0	Astra Tech	All Bone Level Implants
TiBase	6282532	TiBase AT OS 3.5/4.0 L	Sinora	All Bone level Implants

**7. Possible Complications of Implant Surgery**

- Pain and Swelling:** Pain and post-operative swelling are common consequences of surgery. Application of ice over the area of surgery and avoiding movement in the area of surgery will minimize the swelling and pain. Non-steroidal anti-inflammatory and analgesic medications alone or in combination with appropriate narcotic pain medication may be used to control post-operative pain and swelling.
- Infection:** Due to presence of bacteria in the mouth, there is a greater chance of infection in absence of antibiotic coverage following any oral surgery. It is recommended to routinely give proper antibiotic regimen covering the gram-positive bacteria following any oral surgery.
- Allergic Reaction:** Rarely, allergic reactions might occur due to local anesthetics. Thorough history must be taken to avoid such complication.
- Bleeding:** Some bleeding may occur as the local anesthesia wears off.
- Failure to Integrate:** Failure in osseointegration may be indicated by tenderness of the implant, infection, loosening of the implant fixture, or significant bone loss near the osteotomy site. All failed implant fixtures should be immediately removed from its osteotomy site. Remove any residual granulation of adjacent tissue from the osteotomy site upon fixture removal.
 

*Causes of Failure to Integrate:*

  - Excessive Heat:** Use of dull or improper drills/instruments at the time of osteotomy may cause excessive heat resulting in implant failure.
  - Lack of Stability upon insertion:** Unless the implant is fully buried and protected from functional forces, lack of primary stability will result in non-integration.
  - Post-operative movements:** Patients with para-functional habits may be at greater risk of implant failure due to post-operative movement of the implant.
  - Premature Loading:** The clinician must be careful not to load the implant(s) with a force that may cause movement of the implant during the integration time.

**Important:** Longer implants (10mm, 12mm, and 14mm) are better candidates for immediate or early loading. Shorter implants (6mm and 8mm) are preferably waited until complete integration before loading.
- Disruption of soft tissue and blood clot during the days that follow implant placement:** Patient must be advised to rest and avoid movement of the mouth to allow epithelial connection at the incision sites with minimum swelling. Use of peroxide containing products during the first week must be avoided to prevent removal of blood clot and other regenerative materials that may be exposed to the oral cavity.

7.6 **Loss of Integration:** A well-integrated implant can fail in the subsequent months or years due to:

- Lack of plaque control on the healing cap:** As soon as the soft tissue heals around the healing cap, patient must start daily hygiene.
- Lack of attached gingiva:** A minimum of 1-2 mm of keratinized gingiva is necessary to ensure stability of connective tissue around the implant- abutment junction. Lack of a stable seal around the emergence area causes bacteria and debris to accumulate in the gingival sulcus during function. This in turn causes irritation and loss of junctional epithelium and crestal bone.
- Inadequate access for daily hygiene:** Implant prosthesis must be so designed that allows patient access to the abutment emergence area for plaque control. Any concavity that creates sanctuary for bacteria should be avoided on the prosthesis parts that face the soft tissue.
- Inadequate support for normal function:** Off access and excessive forces on long spans may cause crestal bone loss and/or component failure.
- Excessive occlusal force on adequate support:** Severe parafunction, in form of bruxism and clenching, can result in crestal bone loss and/or component failure.
- Any combination of the above:** Often times, there are a combination of above factors that contribute to the implant failure. Improper occlusal design causing early and/or latent interferences.

**8. Preparation for Implantation**

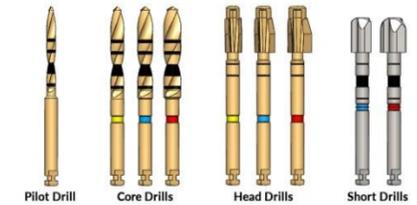
Pre-operative diagnostic records must be completed before the surgical appointment. Periapical radiographs or panoramic survey must be used in addition to 3-D cone beam survey of the recipient site. The space for intended implant must be evaluated in 3 planes using the above images. Esthetic and prosthetic expectations must be considered in the choice of implant for that site. Patients must be prepared to rest and follow the other post-operative instructions after the implant placement.

**9. Anesthesia and Pain Control**

Implanova® implants can be inserted using standard infiltration or block local anesthesia protocols commonly practiced in dentistry. Use of 1:100,000 epinephrine is recommended for enhanced anesthesia and hemostatic effect, if not contraindicated. When desired and indicated, a light sedation can be used for anxiety. Oral non-steroidal anti-inflammatory pain medications can be used post operatively alone or in

combination with a narcotic pain medication, as appropriate for the clinical situation and patient's level of discomfort.

**10. Soft Tissue Incision**



In case of previously extracted teeth, the bone surface must be exposed by a full thickness incision. When needed, the incision can be positioned to bring some keratinized gingiva from the lingual to the buccal area. Alternatively, the implant site can be conservatively exposed by using either a biopsy punch or a soft tissue laser to a diameter slightly larger than the width of the planned implant. Care must be taken so that all soft tissue and periosteum is removed and that they do not get interposed between the implant and bone, preventing osseointegration.

**11. Drills**

All Yellow marked drills are for Narrow (3.5mm) implants. All Blue marked drills are for Medium (4.5mm) implants. All Red marked drills are for Wide (5.5mm) implants.

11.1 **Drill Extension:** Implanova® surgical kit comes with a drill extension that can be used in addition to the standard drills when needed.

**WARNING:** The drill extension can withstand only up to 20 N-cm of torque and should be used only as a drill extender. It cannot be used for implant placement or as a hex driver extension. The drill extender is designed to grab the inserted drill at the ISO end. It may be necessary to insert a plastic instrument in the window of the body of the extender to push the drill out from the extender.



11.2 **Lance Drill:** This is a pyramid shaped drill bit with a very sharp point that is used to gain traction on the intended osteotomy site. This drill is able to cut laterally as well as apically.

11.3 **Pilot/Slim Drill:** Pilot drills are the thinnest, cylindrical twist drills with a diameter of 1.60mm. They cut best along their long axes. They can be used on uncut surfaces to any depth.



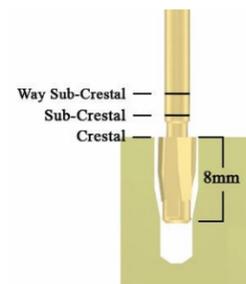
11.4 **Core Drills:** There are three pairs (long and short) of cylindrical Core drills with diameters of Yellow (2.30mm), Blue (2.60mm), and Red (2.99mm). They cut best along their long axes. They can be used on uncut surfaces to any depth.

11.5 **Head Drills:** There are three pairs (long and short) of funnel shaped Head drills. Yellow Head drills (3.1 mm) are for Narrow implants. Blue Head drills (3.9 mm) are for Standard implants. Red Head drills (4.8 mm) are for Wide implants.

**IMPORTANT:** The Head drills must be used on a pre-drilled site. The 2mm tips do not cut and act only as a guide for the remaining 6mm.

**NOTE:** The Head drills are marked for placement levels, with the length of the cutting portion used for crestal placement, the first marking for sub-crestal placement, and the second marking for way-subcrestal placement.

**IMPORTANT:** The Head drills must be held very steadily along the path of the Core drills so that they do not get deflected towards a missing bone wall. It will take longer to prepare the cortical/head osteotomy compared to the core osteotomy.



11.6 **Short Drills:** There are two pairs of the dome shaped, silver colored drills that are used for Short (8mm) and XShort (6mm) implants. They come in two diameters: Blue Short (4.1mm) for Standard diameter implants and Red Short (5.1mm) for the Wide diameter implants.

Short drill markings are similar to the Head drill markings. The length of the cutting portion is used for crestal placement, the first marking for sub-crestal placement, and the second marking for way-subcrestal placement.

**IMPORTANT:** Short drills must be used only on a pre-cut osteotomy for the purpose of widening the osteotomy. They cannot be used to increase the depth of the osteotomy.

**NOTE:** The Short drills are slightly wider than their corresponding Head drills. Therefore, they can be used to widen the Head drill osteotomy in cases of hard bone.

## 12. Implant Osteotomy

Use from 1200-1700 rpm with ample irrigation for all osteotomies. In general, **an oscillating/pumping motion must be used.** This serves to expel bone shavings, that may get packed on the flutes, and introduce fresh irrigating solution and the clean flutes back into the osteotomy.

### 12.1 Standard Protocol

As a standard protocol, after the Pilot drill is used to the length of the intended implant plus the desired sub-crestal depth, the Core drill of the intended diameter must be used to length plus the desired sub-crestal level. Then, the corresponding Head drill must be used to the desired sub-crestal level.

Example: 8mm implant at sub-crestal level requires a 10mm (8+2) osteotomy.

### 12.2 Progressive Protocol

The drills in brackets are added to facilitate the osteotomy.

#### Standard, Long, and XLong implants (10mm, 12mm, and 14mm)

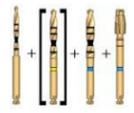
- For the Slim implants:  
Pilot drill



- For Narrow implants: Pilot + Yellow Core drill + Yellow Head drill



- For Medium implants: Pilot + Yellow Core drill + Blue Core drill + Blue Head drill

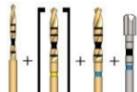


- For Wide implants: Pilot + Yellow Core drill + Blue Core drill + Red Core drill + Red Head drill

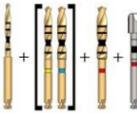


#### XShort and Short implants (6mm and 8mm)

- For Medium implants: Pilot drill + Yellow Core drill + Blue Core drill + Blue Short Drill



- For Wide implants: Pilot drill + Yellow Core drill + Blue Core drill + Red Core drill + Red Short drill



### 12.3 Protocol Variations

**IMPORTANT:** The surgeon must assess and determine the bone density of the intended implant site at the time of use of a Lance drill and a Pilot drill to the intended length. The above protocols must be modified accordingly by the surgeon at the time of osteotomy.

The following are some examples of various scenarios the surgeon may encounter:

- Soft bone:** In this case, skip the progressive preparation and go from the Pilot drill to the appropriate color Core drill then the Head drill. Example: In case of soft bone, start with Pilot drill. Then, use the Blue Core drill, then Blue Head drill, and then place a standard size implant.
- Very soft posterior maxillary bone:** In this case after the Core drill, the implant can be driven into the soft bone without the use of Head drill or Short drills.
- Hard bone:** In this case, the Core drill of the next size wider than the intended implant must be used to reduce the work of the implant for osteotomy. Similarly, the Head drill can either be twirled in place for a slightly wider osteotomy or the next size up of the Head drill must be used.
- Very hard sclerotic bone:** It may be necessary to enlarge the osteotomy by the Short drill to the depth of intended implants of longer lengths.

**NOTE:** The Short drill diameters are larger than their corresponding Head drills. Therefore, when the Head drill and the Core drills do not create large enough osteotomy in the highly sclerotic bone, the Short drills can be used to achieve a wider osteotomy.

### 12.4 Slim-Short (3.0x8mm), Slim-Medium (3.0x10mm), Slim-Long (3.0x12mm)

- Use a round bur in high speed to mark the position of the intended implant.
- Use the Lance drill to initiate the osteotomy.
- Place the Pilot drill tip in the initial osteotomy and hold the long axis of the drill buccolingually and mesiodistally in line with the axis of the intended osteotomy.
- Create the pilot osteotomy up to the desired length of the intended implant plus the desired sub-crestal level.
- Remove the drill bit and place it in the osteotomy and verify the depth and direction by an x-ray.
- Use the Pilot drill again to make any correction in the path if necessary.
- The osteotomy is now ready to receive a Slim diameter implant.

### 12.5 Narrow-Short (3.5x8mm), Narrow-Medium (3.5x10mm), Narrow-Long (3.5x12mm), Narrow-XLong (3.5x14mm)

- Use a round bur in high speed to mark the position of the intended implant.
- Use the Lance drill to initiate the osteotomy.
- Place the Pilot drill tip in the initial osteotomy and hold the long axis of the drill buccolingually and mesiodistally in line with the axis of the intended osteotomy.
- Create the pilot osteotomy up to the desired length of the intended implant plus the desired sub-crestal level.
- Remove the drill bit and place it in the osteotomy and verify the depth and direction by an x-ray.
- Use the Yellow (Narrow) Core drill to make any correction in the path if necessary.
- Using the Yellow (Narrow) Head drill, follow the path of the Core osteotomy to create the cortical osteotomy to the drill depth for crestal placement or the first line for sub-crestal placement or second line for way sub-crestal placement to the marking representing the desired depth level.
- You may want to take the Core drill to depth one more time to remove any bone debris from the Head drill osteotomy.
- The osteotomy is now ready to receive a Narrow diameter (3.5mm) implant.

### 12.6 Standard-Medium (4.5x10mm), Standard-Long (4.5x12mm), Standard-XLong (4.5x14mm)

- Use a round bur in high speed to mark the position of the intended implant.
- Use the Lance drill to initiate the osteotomy.
- Place the Pilot drill tip in the initial osteotomy and hold the long axis of the drill buccolingually and mesiodistally in line with the axis of the intended osteotomy.
- Create the pilot osteotomy up to the desired length of the intended implant plus the desired sub-crestal level.
- Remove the drill bit and place the Pilot drill in the osteotomy and verify the depth and direction by an x-ray.
- Use the Yellow (Narrow) Core drill to make any correction in the path if necessary.
- Using the Blue (Standard) Core Drill, follow the path of the Narrow osteotomy to create the osteotomy to the intended implant length plus the desired sub-crestal level.
- Using the Blue (Standard) Head drill, follow the path of the Core osteotomy and create the cortical osteotomy to the drill depth for crestal placement or the first line for sub-crestal placement or second line for way sub-crestal placement.
- The osteotomy is now ready to receive a Standard diameter (4.5mm) implant.

### 12.7 Wide-Medium (5.5x10mm), Wide-Long (5.5x12mm)

- Use a round bur in high speed to mark the position of the intended implant.
- Use the Lance drill to initiate the osteotomy.
- Place the Pilot drill tip in the initial osteotomy and hold the long axis of the drill buccolingually and mesiodistally in line with the axis of the intended osteotomy.
- Create the pilot osteotomy up to the desired length of the intended implant plus the desired sub-crestal level.
- Remove the drill bit and place it in the osteotomy and verify the depth and direction by an x-ray.
- Use the Yellow (Narrow) Core drill to make any correction in the path if necessary.
- Using the Blue (Standard) Core drill, follow the path of the Narrow osteotomy to create the osteotomy to the length of the intended implant plus the desired sub-crestal level.
- Using the Red (Wide) Core drill, follow the path of the Standard osteotomy to create the osteotomy to the length of the intended implant plus the desired sub-crestal level.
- Use the Red (Wide) Head drill to create the cortical osteotomy to the drill depth for crestal placement, first line for sub-crestal placement or second line for way sub-crestal placement.
- The osteotomy is now ready to receive a Wide diameter (5.5mm) implant.

### 12.8 Standard Short (4.5x8mm) and Standard XShort (4.5x6mm)

- Use a round bur in high speed to mark the position of the intended implant.
- Use the Lance drill to initiate the osteotomy.
- Place the Pilot drill tip in the initial osteotomy and hold the long axis of the drill buccolingually and mesiodistally in line with the axis of the intended osteotomy.
- Create the pilot osteotomy up to the desired length of the intended implant plus the desired sub-crestal level.
- Remove the drill bit and place the Pilot drill in the osteotomy and verify the depth and direction by an x-ray.
- Use the Yellow (Narrow) Core drill to make any correction in the path if necessary.
- Using the Blue (Standard) Core Drill, follow the path of the Narrow osteotomy to create the osteotomy to the intended implant length plus the desired sub-crestal level.

- Using the Blue (Standard) Short drill, follow the path of the Core osteotomy and create the cortical osteotomy to the drill depth for crestal placement or the first line for sub-crestal placement or second line for way sub-crestal placement.
- The osteotomy is now ready to receive a Standard diameter Short or Extra Short implant.

### 12.9 Wide Short (5.5x8mm) and Wide XShort (5.5x6mm)

- Use a round bur in high speed to mark the position of the intended implant.
- Use the Lance drill to initiate the osteotomy.
- Place the Pilot drill tip in the initial osteotomy and hold the long axis of the drill buccolingually and mesiodistally in line with the axis of the intended osteotomy.
- Create the pilot osteotomy up to the desired length of the intended implant plus the desired sub-crestal level.
- Remove the drill bit and place it in the osteotomy and verify the depth and direction by an x-ray.
- Use the Yellow (Narrow) Core drill to make any correction in the path if necessary.
- Using the Blue (Standard) Core Drill, follow the path of the Narrow osteotomy to create the osteotomy to the intended implant length plus the desired sub-crestal level.
- Using the Red (Wide) Core drill, follow the path of the Standard osteotomy to create the osteotomy to the length of the intended implant plus the desired sub-crestal depth.
- Use the Red (Wide) Short drill to create the cortical osteotomy to the drill depth for crestal placement, first line for sub-crestal placement or second line for way sub-crestal placement.
- The osteotomy is now ready to receive a Wide diameter (5.5mm) Short or Extra Short implant.

### 12.10 Extra Wide Rescue (6.5x6mm), (6.5x8mm), (6.5x10mm)

The 6.5mm implants are meant for spaces when the 5.5mm implants are too small. Therefore, it should be used only when the 5.5mm implants are too narrow for the available space. There is no added advantage to use the 6.5mm implant except that it can achieve primary stability in spaces that are too large for the 5.5mm implants.

## 13. Implant Fixture Installation

- Implanova® system implants can be driven using a manual torque wrench or a motor driven hand piece (preferred) using 10-15 rpm in absence of irrigation with up to 80 N-cm force.



**13.2** The labeled pouch must be opened on a sterile field so that the two clear pouches drop. The smaller clear pouches are sterile. The implants are oriented in the clear pouches so that their mouths are towards opening of the pouches. After tearing open the clear pouch, the implant must be held by fingers through the pouch. The driver must be inserted into the implant mouth until it "clicks" in. Then, the implant can be carried into the oral cavity and placed into the osteotomy.

**CAUTION:** Forces which are greater than 80 N-cm must not be used under any circumstances. Implanova® implants can be safely placed by up to 80 N-cm force without any risk of necrosis.

**CAUTION:** The Implanova® implant carrier is rated up to 90 N-cm. The implant driver features a standard hex on its body that is engaged when used with our ratchet adapter or with surgical hand pieces that are equipped with this feature. **Unless this body hex is engaged, the implant driver's ISO latch may not withstand forces beyond 30 N-Cm.**

#### Ratchet Adapter



#### SecureClick™ Implant Driver



ISO LATCH      HEX

**IMPORTANT:** If the implant is not driven home by 80 N-cm force, it has to be removed and the osteotomy must be enlarged. The implant can then be reinserted into place to be driven to the desired depth.

**IMPORTANT:** Please remember that Implanova® implants cut their own osteotomy as they are being seated. Therefore, **firm downward pressure is necessary to drive the implant home. Also, the implant must be rotated not faster than 15 rpm.**

- The osteotomy site should be allowed to heal once the implant is secured. Use the following guidelines for installing healing and restorative components:

Either a cover screw or a healing abutment should be placed manually with a torque of no more than 10 N-cm (finger pressure). The platform diameter of the selected healing abutment should match the platform diameter of the intended abutment. Different neck lengths are available for different placement levels (short neck for crestal placements, medium neck for sub-crestal placements, and long neck for way sub-crestal placements). If a cover screw is used, the gingival tissue is allowed to heal over the implant, and a subsequent removal of the overlying mucoperiosteum will be necessary to expose the implant for healing cap/abutment placement. If healing abutments are installed, the adjacent mucoperiosteal flaps should be positioned around the neck of the healing abutment and sutured together.

**NOTE:** All three healing abutments (Narrow, Standard and Wide) and three abutment platforms (Narrow, Standard and Wide) fit all five implant diameters (Slim, Narrow, Standard, Wide, and Extra Wide) and rescue implant interchangeably.

**CAUTION:** Due to the cone lock mechanism of this system, it may become difficult to remove a healing cap/abutment that is torqued beyond 5 N-cm at the time of implant placement without risking implant displacement.

**CAUTION:** Implanova® abutments and abutment screws must be torqued to **NO MORE THAN 20 N-cm.**

- Post-Operative Instructions:** Written post-operative instructions must be given to the patients with emergency contact information for the following few days.

- Anti-bacterial Coverage:** Given the fact that oral environment is populated with potentially pathogenic bacteria and disinfection of oral mucosa is **NOT** practical, systemic antibiotic coverage is highly recommended following dental implant placement.

- Sutures:** Any sutures placed must be removed one week after the surgery and the surgical site must be inspected to ensure absence of infection and proper closure.

- Immediate Loading:** Depending on the final torque that the implant was seated, the Implanova® implants can be immediately loaded or delayed loaded. Ideally, it takes 6 weeks to 6 months post-insertion for complete healing and osseointegration. If immediate loading is desired, it should be attempted with caution so that it does not cause any movement of the implant during the first 6 weeks. Ideally, during the first 6 weeks, the implant must be spared from occlusal forces during function and para-function.

- The Implanova® dental implant fixtures, cover screws, and healing caps should be used within 5 years from the date of manufacture.

### 19. Patent Pending Drill Stop Guided Surgical Kit

Drill stopper set that also acts as direction guides are designed for use with long Implanova® drills. Implanova® guided tools feature built in pumps that carry the irrigating solution, from the hand piece through the guide, to the drill tip. For more information, go to [www.denvolution.com](http://www.denvolution.com).

	Neck length		
	Short	Medium	Long
Narrow	Ø4.1 3.04 short neck	Ø4.1 4.54 medium neck	Ø4.1 6.04 long neck
	Ø4.8 3.04 short neck	Ø4.8 4.54 medium neck	Ø4.8 5.76 long neck
	Ø6.5 3.04 short neck	Ø6.5 4.54 medium neck	Ø6.5 6.04 long neck

Healing Caps - Specialty	Neck length	
	Short	Long
Cover	Ø2.8 0.3 cover screw	
	Ø5.5 4.92 short neck	Ø5.5 6.91 long neck

## MANUFACTURER:

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