Screws and surgical instruments
**Società di Scienza Tramonte**

*Società di Scienza Tramonte* (Tramonte Science Society) was born to disseminate the culture, the technique and the philosophy of the Italian School of immediate loading implantology: through scientific dialogue and comparison with other research institutes, associations, universities and implantologists; through study of solutions, material research, and refinement of treatment techniques; and by gathering the most extensive documentation in the world on clinical experience and immediate load Italian Implantology, from 1959 to the present day.

Most of all, by training dentists seeking to specialise in immediate loading. *Società di Scienza Tramonte* offers courses of different levels to learn or refine the techniques of the Italian School of immediate load implantology.

**Activities**

*Società di Scienza Tramonte* deals with activities aimed at propagating and evolving immediate loading implantology's culture, techniques and instruments according the Italian School.

*Società di Scienza Tramonte*’s main activities are:

1. **SCIENTIFIC RESEARCH**
   about techniques, procedures and materials.

2. **IMMEDIATE LOADING IMPLANTOLOGY COURSES**, basic and advanced, for individuals and groups.

3. **CONSULTATIONS**
   in person and online, about clinical cases.

4. **PUBLICATIONS**
   The Society has extensive archives of immediate loading implantology documentation, from the 60s onwards: conventions, talks, studies, articles, research and testing.

5. **IMPLANTS AND INSTRUMENTATION**
   Production and distribution of original Tramonte implants, surgical kits and intraoral welders.
DESCRIPTION OF THE SYSTEM

The Tramonte implant is a self-threading endosteal screw and it is the forerunner and principal exponent of the Italian School of Immediate Loading Implantology. The system enables immediate resolution of all totally or partially edentulous cases of both the mandible and the jaw, because of the capacity of these implants to be loaded at the same time as the surgical procedure with a temporary prosthesis prepared beforehand which remains in situ for the time needed to reach the osteointegration. These implants are indicated for all types of prosthesis, both fixed and mobile.

SURGICAL TECHNIQUE

After placement of local anesthetic, the pilot drill is advanced through the soft tissue in the desired location until contact with the crestal bone is achieved. Penetration of the cortical bone must be at 800 rpm changing the speed to 100 rpm the drill must be further advanced until the desired depth is reached. (fig. 1, 1a, 2, 2a). The pilot drill creates a purchase point for subsequent drills to follow and also avoids sliding on the ridge with the drill tip should it be too hard and smooth. It also produces a hole with the same diameter as the graduated length drill. When this first operation has been done, the proper graduated length drill is mounted on the surgical drill.

The graduated length drill is to be used to enlarge the surgical socket piercing the basal bone along the whole required depth at 100 rpm (fig. 3, 3a, 4, 4a). After withdrawing the graduated length drill from the surgical socket, the tap is mounted on the finger key and its point inserted into the fresh osteotomy site and turned clockwise until resistance is felt in the bone (fig.5, 5a). As the finger key is now no longer sufficient to develop the necessary driving force, it will be replaced by the knob key.
With this kind of key both tapping and implanting can be done in the maxilla, because the bone is less compact in this region. When the tap has a strong grip in the bone, the knob key is replaced with the standard one, which affords a still greater driving power. In case of problems with teeth or implant heads that are too near, the standard key must be augmented by the special extension.

The special Ti5 tap has a two-fold purpose. First tracing a way in the bone all around the surgical socket to make implant placement less difficult, since the Ti2 screw is somewhat weak in twisting. Secondly the tap, having a conical shape, finds easy access to the hole made into the bone and will work around the surgical socket a conical counter threading with the base toward the cortical layer. The diameter of this base will be 4 or 5mm, the same as that of the last tap spire. The implant will then find in the cortical layer a 2mm inlet hole but a 4 or 5mm surrounding counter threading, which will make engagement of its first spire extremely easy (fig. 6).

Fig. 1, 1a, Fig. 2, 2a, Fig. 3, 3a, Fig. 4, 4a, Fig. 5, 5a, Fig. 6

The image shows how the tapping endosseous is conical at the base and towards the ridge, presenting a 5mm female-threading for the first implant thread which is exactly 5 mm, thus favouring the easy insertion of the point of the implant and also allowing the progressive self-tapping and compressing penetration of the implant itself.
Once the surgical socket has been fully threaded, the tap is withdrawn by rotation in a counter-clockwise direction. Now the implant can be inserted, until fully seated. We have to keep in mind that the implant axis, and then the drilling direction, must correspond to the axis of the greater bone length. We must take care above all that the implants are placed in the best way, even if the implant heads will not show themselves to be in parallelism immediately (fig. 7, 8).

When all implants have been placed, their heads can be bent using the standard key (fig. 9) worked to complete parallelism by a carbide bur in a high speed handpiece, trimmed by a diamond bur and smoothed by a stone.

The success of implants, or their failure, may depend on several factors, but the principal risks of this implant are:

1 Bone overheating with the tape and even more with the implant.

2 Bone overheating with the implant.

3 Implant locking. Use the security practices.

4 Implant breaking. It is impossible to break an implant following the Tramonte surgical practice to the letter. Bone tearing. The surgical instruments are provided with a security system, but also in this case it’s very important to follow the insertion instructions.

After bending implants must be welded with a 1,2mm titanium bar. We have some security practices, and it is very important to know them, since they are specific to the Tramonte implant.

**WARNING**

The surgical techniques required for the insertion of a dental implant are very complex and require very specific specialisation. These notes are just a brief summary of the method, and should under no circumstances be considered as operating instructions. Undertaking specialist training is essential for anyone wishing to approach this discipline. Various actions can lead to the loss of implants inserted and, worse still, the patient’s bony matter. This product is intended for professional use by medical specialists. Its use by any other person is prohibited.
The “Tramonte Screw” is a trademark by Società di Scienza Tramonte under permission of doctor Silvano Tramonte.

On the other hand you can be sure to find an implant with over 40 years of experience, and approved by "Istituto Italiano Superiore di Sanità" (the Italian Health Institute) whit surgical register. The most advanced surgical technique in the world have made "Tramonte Screw" ideal for immediate load.

ENDOSTEAL SELF TAPPING SCREWS

Diameters and shapes guarantee the possibility of treating every bone configuration without making regenerative (bone graft) operations.

**MATERIAL**
Titanium grade 2

**AVAILABLE DIAMETERS**
2.5 - 3 - 3.5 - 4 - 5 - 5.5 - 6

**AVAILABLE SHAPES**
Cylindrical and conical

Reduced cylindrical screws

**DIMENSIONS AND CHARACTERISTICS**
- Square abutment 2x2 mm.
- Thread major diameter: 2.5 mm
- Core diameter: 1.85 mm

**AVAILABLE IN TWO LENGTHS**
- CRS255A06: 15 mm, 6 spires
- CRS255A10: 21 mm, 10 spires

**SURGICAL TECHNIQUE NOTES**
This screw is suitable in extreme situations and requires great experience. The insertion must be done by appropriate screw-driver for speed-reducing contra-angle. Finger and standard wrench are available. The abutment base has to just touch the mucosa.

**DIMENSIONS AND CHARACTERISTICS**
- Square abutment 2x2 mm.
- Thread major diameter: 3 mm
- Core diameter: 2 mm

**AVAILABLE IN TWO LENGTHS**
- CRS305A06: 15 mm, 6 spires
- CRS305A10: 21 mm, 10 spires

**SURGICAL TECHNIQUE NOTES**
Whilst similar to the previous example this screw is however easier to insert. These screws are suitable in the inferior incisor zone where a good aesthetic result is obtained because of the narrow dimensions. As regards to 2.5 mm, this screw is easier to insert because of the larger core dimension. The abutment base has to just touch the mucosa.
### Normal cylindrical screws

The standard implant is 4mm and 5mm in diameter and 3/4/5 spires in length. This is because the development of its surface is suitable for the average morphology of the trabecular part of the bone both in upper and in lower bone. The 2/6/7 thread screws are seen as special implants and should only be used by expert implantologist.

### Oversized cylindrical screws

These screws should be used with care when inserted as postextraction implants. Remembering that the surgical alveolar axis is almost never chosen for a normal insertion.

### Surgical Technique Notes

- **Suitable for narrow ridges, but with more trabecular bone.** It is easy to insert if the bone has been evaluated correctly. This implant must be inserted first by the finger wrench, and then by the knob or standard wrench. The abutment base has to just touch the mucosa.
- **It is the easiest implant to insert because of its favorable sizes.** It is always better to use the tap. Always begin with the finger wrench. The abutment base has to just touch the mucosa.
- **The same is applicable for diameter 4, but the larger thread surface can overheat the bone or block the implant.** In the first case shower the implant share still not inserted with abundant cold water, in the second case carry out the safety movement at the first sign of hardening. The special screws of 6/7 spires are particularly exposed to these risks. The screw of two spires requires a particularly prosthetic skill because of the minimum implant area. The abutment base has to just touch the mucosa.

### Dimensions and Characteristics

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Thread Major Diameter</th>
<th>Core Diameter</th>
<th>Available in</th>
<th>Surgical Technique Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.5</strong></td>
<td>Square abutment 3x3 mm</td>
<td>3.5 mm</td>
<td>One Length</td>
<td>Suitable for narrow ridges, but with more trabecular bone. It is easy to insert if the bone has been evaluated correctly. This implant must be inserted first by the finger wrench, and then by the knob or standard wrench. The abutment base has to just touch the mucosa.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5.5</strong></td>
<td>Square abutment 3x3 mm</td>
<td>5.5 mm</td>
<td>Four Lengths</td>
<td>Always use the diameter 5 tap. The abutment base has to just touch the mucosa.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.25 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Square abutment 3x3 mm</td>
<td>4 mm</td>
<td>Four Lengths</td>
<td>Always use the diameter 4 tap. The abutment base has to just touch the mucosa.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.25 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Square abutment 3x3 mm</td>
<td>5 mm</td>
<td>Six Lengths</td>
<td>Always use the diameter 5 tap. When replacing a shifted smaller diameter, ascertain that the cortical hole will accomodate the 3.5mm core. The abutment base has to just touch the mucosa.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.25 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Square abutment 3x3 mm</td>
<td>6 mm</td>
<td>Four Lengths</td>
<td>Always use the diameter 6 tap. When replacing a shifted smaller diameter, ascertain that the cortical hole will accomodate the 3.5mm core. The abutment base has to just touch the mucosa.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.25 mm e 3.5 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conical screws

**DIMENSIONS AND CHARACTERISTICS**
- Square abutment 3x3 mm
  - 5 mm in its cylindrical share
  - 2.25 mm

**AVAILABLE IN THREE LENGTHS**
- CCS05B03: 13.75 mm, 3 spires
- CCS05B04: 16 mm, 4 spires
- CCS05B05: 18.25 mm, 5 spires

**SURGICAL TECHNIQUE NOTES**
These screws must be used when the point of the tap just touches forbidden areas: sinus cortical, wall root etc. Otherwise when the hardness of the bone does not allow the insertion of a cylindrical screw. Always use the 5 diameter tap. The abutment base has to just touch the mucosa.

Short neck screw

**DIMENSIONS AND CHARACTERISTICS**
- Square abutment 3x3 mm
- Thread Major Diameter: 4-5 mm
- Core Diameter: 2.25 mm
- Neck Length: 3 mm

**AVAILABLE ONLY BY SPECIAL ORDER**

**SURGICAL TECHNIQUE NOTES**
The reduced length neck (2 mm - the standard neck is 5mm) allows a good abutment position even when the mucosa has a reduced height. Use drill and tap as for normal neck implant with one less thread. The other characteristics are the same.

Screws with overdenture anchorage

**DIMENSIONS AND CHARACTERISTICS**
- Square abutment 3x3 mm
- Thread Major Diameter: 4 e 5 mm
- Core Diameter: 2.25 mm
- Neck Length: 3 mm
- Abutment Length: 3 mm

**AVAILABLE ONLY BY SPECIAL ORDER**

**SURGICAL TECHNIQUE NOTES**
These screws are used for carrying out retention anchorage on removable dentures, both upper and lower. The spires inside the abutment allow to fix a spherical connection. Use bur and tap as for a normal neck implant with the same number of spires, but insert the abutment 2 mm under the gum. The other characteristics are the same.

TAPS

**MATERIAL**
- Titanium grade 5

**AVAILABLE DIAMETERS**
- 4 - 5

**AVAILABLE SHAPE**
- Conical

**DIMENSIONS AND CHARACTERISTICS**
- Square abutment 3x3 mm
- Thread Major Diameter: 4 mm in its cylindrical share
- Core Diameter: 2.25 mm

**AVAILABLE IN FOUR LENGTHS**
- MSC040B03: 13.75 mm, 3 spires
- MSC040B04: 16 mm, 4 spires
- MSC040B05: 18.25 mm, 5 spires
- MSC040B06: 20.5 mm, 6 spires

**SURGICAL TECHNIQUE NOTES**
Be careful not to overheat the bone during the tapping. In case of compact bone, always use the safety operation. These taps can be used for to insert the implant of diameter 3.5 mm, in this case use only the first two spires. The abutment base has to just touch the mucosa.

**DIMENSIONS AND CHARACTERISTICS**
- Square abutment 3x3 mm
- Thread Major Diameter: 5 mm in its cylindrical share
- Core Diameter: 2.25 mm

**AVAILABLE IN SIX LENGTHS**
- MSC050B02: 11.5 mm, 2 spires
- MSC050B03: 13.75 mm, 3 spires
- MSC050B04: 16 mm, 4 spires
- MSC050B05: 18.25 mm, 5 spires
- MSC050B06: 20.5 mm, 6 spires
- MSC050B07: 22.75 mm, 7 spires

**SURGICAL TECHNIQUE NOTES**
Be careful not to overheat the bone during the tapping. In case of compact bone, always use the safety movement. These taps can also be used for to insert an implant of diameter 5, 5.5 - 6 mm. The abutment base have to just touch the mucosa.
BURS

MATERIAL: WIDIA and AISI 440C
TYPOLOGY: The lance-like bur prepares the initial hole. It must always be used. The function of the calibrated burs is to prepare a hole for every implant available. Their dimension has been designed to guarantee the maximum safety. After drilling the hole, go in and out many times to remove any little pieces of bone.
The surgical hole is correct when the contra-angle head has to just touch the mucosa.

Lance-like burs
AVAILABLE IN TWO LENGTHS
FRL022Z01 24.5 mm
FRL022Z02 37.5 mm
To prepare the pilot hole in the cortical bone for the calibrated bur. The two lengths allow treatment in all cases.

SURGICAL TECHNIQUE NOTES
The bur must penetrate the cortical bone with the whole cutting edge. Keep the penetration axis coinciding with the axis of the hole to avoid the risk of fracture of the bur.

Calibrated burs 1.85
AVAILABLE IN TWO LENGTHS
FRC025A06 28.5 mm
FRC025A10 34.5 mm
FOR REDUCED CYLINDRICAL SCREW OF DIAMETER 2.5 mm

SURGICAL TECHNIQUE NOTES
The contra-angle head has to just touch the mucosa.

Calibrated burs 1.85
AVAILABLE IN THREE LENGTHS
FRC030A06 28.5 mm
FRC030A10 34.5 mm
FRC035B05 30.75 mm
FOR REDUCED CYLINDRICAL SCREW OF DIAMETER 3 AND 3.5 mm

SURGICAL TECHNIQUE NOTES
The contra-angle head has to just touch the mucosa.

Calibrated burs 2.00
AVAILABLE IN SIX LENGTHS
FRC040B02 25 mm
FRC040B03 27.25 mm
FRC040B04 29.5 mm
FRC040B05 31.75 mm
FRC040B06 34 mm
FRC040B07 36.25 mm
FOR THE SCREW 4, 5, 5.5 AND 6 mm

SURGICAL TECHNIQUE NOTES
The contra-angle head has to just touch the mucosa.

Surgical Instruments

Finger wrench
MATERIAL: Titanium grade 5
DIMENSIONS AND CHARACTERISTICS: Available in two dimensions
CHD000A01 for square 2x2 mm
CHD000B02 for square 3x3 mm
SURGICAL TECHNIQUE NOTES
Maintain the tap or implant axis on the calibrate hole axis.

Knob wrench
MATERIAL: Titanium grade 5
DIMENSIONS AND CHARACTERISTICS: Available in two dimensions
CHM000A01 for square 2x2 mm
CHM000B02 for square 3x3 mm
Allows the continuation of the engagement of the tap and of the implant in the calibrated hole permitting the use of greater force on the finger wrench but retaing considerable sensivity.
SURGICAL TECHNIQUE NOTES
Maintain the tap or implant axis on the calibrate hole axis.

Standard wrench
MATERIAL: Titanium grade 5
DIMENSIONS AND CHARACTERISTICS: Available in two dimensions
CHP000A01 for square 2x2 mm
CHP000B02 for square 3x3 mm
Provides the necessary force to insert the tap and the implant completely.
SURGICAL TECHNIQUE NOTES
Make sure the force exercised is maintained during the coaxial screwing in the calibrated hole. This wrench permits the evaluation of the force developed and, if necessary, use of the safety operation. It also enables parallelisation of the abutments.

Extension for standard wrench
MATERIAL: Titanium grade 5, AISI420F
DIMENSIONS AND CHARACTERISTICS: Available in two dimensions
PCP000A01 for square 2x2 mm
PCP000B02 for square 3x3 mm
Allows to positioning of the wrench in the abutment in the case of natural or artificial pillars being too close, as in the case of an isolated implant where the remaining interdental space would not permit the use of the standard wrench.
Adapter for calibrate burs

**MATERIAL**
Titanium grade 5

**DIMENSIONS AND CHARACTERISTICS**
Square abutment 3x3 mm with insert for calibrated bur.

**AMC002A01**

**SURGICAL TECHNIQUE NOTES**
Allows the use of the bur with standard wrench or with the ensemble: ratchet wrench- compass- guide to ratchet wrench, to bur manually zones with very compact bone.

---

Extension for calibrated burs

**MATERIAL**
Titanium grade 5

**DIMENSIONS AND CHARACTERISTICS**
12.5mm standard for all the contra-angles

**PFC000Z01**

**SURGICAL TECHNIQUE NOTES**
Allows drilling when the contra-angle head can not arrive at the mucosa

---

Screw-driver for speed-reducing contra angle

**MATERIAL**
Titanium grade 5

**DIMENSIONS AND CHARACTERISTICS**
Hollow for abutment of 2x2 mm with junction for contra-angle

**AMR000A01**

**SURGICAL TECHNIQUE NOTES**
Allows the screwing down of the reduced screw by contra-angle. Should be used only by expert operators. Always finish by inserting the implant by standard wrench.

---

Ratchet wrench

**MATERIAL**
Titanium grade 5

**DIMENSIONS AND CHARACTERISTICS**
Joined to appropriate compass it have used on the square abutment 3x3mm.

**CHC000B01**

**SURGICAL TECHNIQUE NOTES**
The ratchet wrench has been designed to insert only the tap. It can not be used to insert the implant: this could have serious consequences. It must be used only for the first insertion of the tap in the cortical bone. After that it is better to continue the insertion with the standard wrench. Furthermore the ratchet wrench does not allow the safety operation, and the speed it permits can overheat the bone. It can only unscrew the implant.

---

Compass for ratchet wrench

**MATERIAL**
Steel

**DIMENSIONS AND CHARACTERISTICS**
Round insert for ratchet wrench and hollow insert 3x3mm for appropriate abutment.

**BCC000B01**

**SURGICAL TECHNIQUE NOTES**
Allows the joining of the ratchet wrench and the tap abutment.

---

Guide for ratchet wrench

**MATERIAL**
Titanium degree 5

**DIMENSIONS AND CHARACTERISTICS**
There is a pilot hole to insert on the compass for the ratchet wrench. Joined to the ensemble ratchet wrench and compass, it enables the tap to be positioned centrally.

**GCC000B01**

**SURGICAL TECHNIQUE NOTES**
Its use allows the development of all the force of the ratchet wrench keeping centred on the axis of the calibrated hole. The correct use of this tool permits the insertion and taping, even in the most unfavourable conditions.

---

Exploded view

Guide with the pilot hole for the ratchet wrench, ratchet wrench, compass for ratchet wrench and tap in assembly position.