Two implants with the same surgical solution and one prosthetic platform

IMPLANTIUM® & SuperLine™

Developed by Clinicians for Clinicians

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Surgical Drill Sequence (IMPLANTIUM® & SuperLine™)

Drilling Sequence Guide

During fixture insertion, 30–45N·cm torque at 20rpm is recommended.
- Countersink drill is used in cases with dense cortical bone.
- If the bone density is D1–D3, it is recommended to countersink after final drill.
- During insertion, if the 4.8 fixture is not tight enough, replace it with a 4.8W fixture which has wider neck.
- The countersink drill’s actual diameter is 0.1mm larger than the fixture platform.

Determination of Fixture Top Level
- It is recommended that the top level of the fixture be located 0.5mm below the crestal bone.

Depth Indication
- Use the Depth Gauge after first drill / Lindemann first drill to check depth of drilling
- Place the Depth gauge against the wall of the osteotomy
Drilling Depth Guide (IMPLANTIUM® & SuperLine™)

Countersink Depth Guide

- Drilling Depth of the countersink depends on the patient’s bone quality.
- If the bone density is D1-D3, it is recommended to drill up to the top line (I) of laser mark on the countersink.
- If the bone density is D4, it is recommended to drill up to the bottom line (II) of laser mark on the countersink.

Note: 1) Instead of Guide drill, Lindemann guide drill may be used.
2) Instead of First & Pilot drill, Lindemann first drill may be used. In this case, check the depth after Lindemann first drill.
Fixture Connection

Caution. When opening the fixture pack, hold the fixture container upright and engage the Implant driver into the fixture.

By handpiece
20rpm/35N·cm

By ratchet

Directions Using the Hand-piece / Ratchet Drivers

Hand-piece
Implant driver

Ratchet
Implant driver

The implant drivers and the internal connection to the fixture must be connected firmly together.

Installation Procedure

Cover Screw

By hex driver

Healing Abutment

By hex driver

※ Note: Place inside product label in the patients chart for REF No. and LOT No. traceability.

Cover screw (CS38)

Connection

Cover screw (CS3820)

Connection

Healing abutment connection

Healing Abutment connection
Surgical Kit Maintenance

Sterilization and Instrument Care Procedures

- Please follow legal regulations, as well as hygienic guidelines to prevent contamination and infection through prevention.
- Please remember that you are responsible for the maintenance and sterility of your medical/dental products/device. It is important to use and follow proper cleaning, disinfection and sterilization procedures.
- It is also important to follow the manufacturers recommendation on the usage of drills. Please keep a log as to how many times the drills are used.
- Drills are used per implant placed not per patient. Bone density determines the life of the drills.
- Replace white and green o-rings on adaptes and hex drivers, if worn and dried out.
- Drills should be considered for replacement around 20 uses based on bone density.

01 All instruments immediately after use must be pre-soaked for a few minutes in a germicidal bath to loosen and prevent debris from attaching to instruments. Do not soak over-night.
02 Scrub with a soft brush to remove any debris.
03 For internal irrigation drills use a reamer or small gauge needle to cleanout drill internally.
04 Rinse thoroughly under warm water.
05 Clean all instrument trays with a germicidal cleaner prior to replacing instruments in kit.
06 Dry completely and place back into kit.
07 Always check for damage or corrosion after rinsing and drying.
08 Sterilize using a steam autoclave in 121°C/250F for 30 minutes or refer to manufactures recommendations.

Maintenance Period for Surgical Drills

All surgical drills shall be replaced after approximately 20 uses based on bone density.

- Guide Drill
  (1000rpm, 30-45N • cm with Irrigation)

- Final Drill
  (1000rpm, 30-45N • cm with Irrigation)

- First Drill
  (1000rpm, 30-45N • cm with Irrigation)

- Countersink Drill
  (Depending on bone density, the rpm could be adjusted)

- Pilot Drill
  (1000rpm, 30-45N • cm with Irrigation)

- Lindemann Drill (Guide First)
  (1000rpm, 30-45N • cm with Irrigation) *Optional

- Lindemann Drill
  (1000rpm, 30-45N • cm with Irrigation)

- Angled Abutment (Fixture Level Impression-Pick Up Type, Single Units)

- Direct Casting Abutment
  (Fixture Level Impression-Single Units)

- Screw Abutment
  (Fixture Level Impression-Pick Up Type, Single Units)

- Cementation Repair Method (SCR)
Understanding the Implant and Prosthesis

Biological Connection
- The conical hex connection between implant and abutment interface ensures hermetic sealing.
- The biological connection distributes the load to the fixture evenly. Therefore, it helps minimize micro-movement and marginal bone loss.
- All implant diameters share the same internal hex.

Selection Guideline
Ideal emergence profile for each tooth

Abutment Selection

Types of Abutment (Abutments are available in various diameters & gingival heights)
- Dual Abutment
- Combi Abutment
- Dual Milling Abutment
- Angled Abutment (15°)
- Direct-Casting Abutment
- Temporary Abutment (Plastic & Titanium)
- Screw Abutment
- Ball Abutment

- Straight abutments are Dual and Combi.
- Depending on the insertion angle and position of the fixture, the Angled or Direct-Casting abutment may be used.
- The Screw abutment can be used when prosthesis retrieval is anticipated.

Note: The 3.6 platform/3.4 body fixture is not recommended for the screw and ball abutment.
Combi Abutment

- The Combi abutment is used when the implant position is optimal.
- If the abutment selection is made in the mouth, gauge the thickness of mucosa with the depth gauge to measure the gingival height thus allowing the appropriate abutment height.
- The impression is taken with the plastic impression coping.
- When using the Combi abutment, it remains in the mouth after impression. DO NOT REMOVE OR CHANGE ITS POSITION.
- Tighten abutment screw to 25 - 35 Ncm (re-tighten again before seating final prosthesis).
- * If the Combi abutment is too long it can be adjusted 1.5mm to the bottom of the laser mark on the vertical stack of the abutment. The Combi abutment has a short analog for the 1.5mm adjustment.
- * A resin jig can be made to record the reduction if reduced more than 1.5mm.

**Combi Abutment Line Up**

<table>
<thead>
<tr>
<th>Diameter</th>
<th>G/H</th>
<th>Vertical angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø 4.5</td>
<td>1.0mm, 1.5mm, 2.5mm, 3.5mm, 4.5mm, 5.5mm</td>
<td>5°</td>
</tr>
<tr>
<td>Ø 5.5</td>
<td>1.5mm, 2.5mm, 3.5mm, 4.5mm, 5.5mm</td>
<td>6°</td>
</tr>
<tr>
<td>Ø 6.5</td>
<td>1.5mm, 2.5mm, 3.5mm, 4.5mm, 5.5mm</td>
<td>7°</td>
</tr>
</tbody>
</table>

Dual Abutment

- It is possible to take an impression at both fixture level and abutment level. (A dual abutment may be interchanged with a combi abutment.)
- For abutment level impressions, the same prosthetic procedures apply to both dual and combi abutments.
- For fixture level impressions, the abutment selection takes place on the master model.
- For fixture level impressions, a precise positioning jig for abutment may be required.
- Either hex or non-hex abutments may be used, according to operator’s preference.
- * If a cement retained restoration requires retrieval, cutting a hole in the occlusal surface would allow access to the screw to permit removal.

**Hex / Non-hex**

<table>
<thead>
<tr>
<th>Positioning Jig</th>
<th>Radiograph</th>
<th>Hex</th>
<th>Non-hex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positioning Jig</td>
<td>Unnecessary</td>
<td>Required</td>
<td>Unnecessary</td>
</tr>
<tr>
<td>Radiograph</td>
<td>Required</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dual Abutment (Hex / Non-hex)**

<table>
<thead>
<tr>
<th>Diameter</th>
<th>G/H</th>
<th>Vertical angle</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Ø 6.5</td>
<td>1.5mm, 2.5mm, 3.5mm, 4.5mm, 5.5mm</td>
<td>7°</td>
</tr>
</tbody>
</table>
Dual Milling / Angled / Temporary / Direct Casting Abutment

**Dual Milling Abutment**
- Impression is taken at fixture level.
- When using a non-hex abutment a precise seating jig should be used.
- Either hex or non-hex abutments may be used, according to operators preference.
  * if a cement retained restoration requires retrieval, cutting a hole in the occlusal surface would allow access to the screw for removal.

**Angled Abutment**
- The Angled Abutment is recommended when the restoration path of insertion is unfavorable in either anterior or posterior sites.
- Retention force can be increased through milling process.

**Temporary Abutment**
- Temporary abutments are available in titanium or plastic.
- The titanium abutment comes in hex and non-hex both with a gingival height of 1mm.
- The plastic abutment comes in diameters (4.5, 5.5, 6.5) with a gingival height of 3mm.

**Direct-Casting Abutment**
- Excellent for either single or for bridgework.
- Used as an aesthetic custom made abutment.
- Used when angulation is not ideal and a standard abutment cannot be used.
- A fixture level impression is taken, and the soft tissue contours can be supported.

**Screw Abutment**

If prosthesis repair is anticipated, use of a screw abutment retained prosthesis enables easy retrieval.
- Useful for connecting multiple units or if there is a preference for a screw retained prosthesis.
- Useful when respective long axes of implants differ. Each side tapers by 30° and this permits up to 60° divergence between two abutments.
- Useful if the prognosis of an adjacent restoration is not ideal thus permitting easy retrieval and modification of the restoration.

**Ti-Retaining Screw (1.8mm - body diameter)**
- Can minimize screw loosening due to increased approximal space.
- Can endure various kinds of masticatory force.

**Screw Abutment**

<table>
<thead>
<tr>
<th>Diameter</th>
<th>G/H</th>
</tr>
</thead>
<tbody>
<tr>
<td>#4.5</td>
<td>1.0mm, 1.5mm, 2.5mm, 3.0mm, 4.5mm, 5.5mm</td>
</tr>
<tr>
<td>#5.5</td>
<td>1.5mm, 2.5mm, 3.0mm, 4.5mm, 5.5mm</td>
</tr>
</tbody>
</table>

* Note: 10N.cm of torque is recommended for the Ti-Retaining Screw.
Points to Consider in Abutment Selection

Considerations in selecting an abutment
- Esthetic requirement
- Implant angulation
- Implant location
- Fixture installation depth (Gingival height)
- Interarch distance
- Prosthesis type
- Dentist & Dental technician’s preference

Impression of Implant
According to individual cases, impression can be taken at abutment level or fixture level.

<table>
<thead>
<tr>
<th>Fixture Level</th>
<th>Abutment Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dual abutment</td>
<td>1. Dual abutment</td>
</tr>
<tr>
<td>2. Dual milling abutment</td>
<td>2. Combi abutment</td>
</tr>
<tr>
<td>3. Angled abutment (15°)</td>
<td>3. Screw abutment</td>
</tr>
<tr>
<td>4. Direct casting abutment</td>
<td>4. Ball abutment</td>
</tr>
<tr>
<td>5. Temporary abutment (Plastic &amp; Titanium)</td>
<td></td>
</tr>
<tr>
<td>6. Ball abutment</td>
<td></td>
</tr>
</tbody>
</table>

Abutment impression recommendation

<table>
<thead>
<tr>
<th>Dual</th>
<th>Cementation type, or Screw-cementation type</th>
<th>Fixture level impression, or Abutment level impression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combi</td>
<td>Cementation type</td>
<td>Abutment level impression</td>
</tr>
<tr>
<td>Angled</td>
<td>Cementation type, or Screw-cementation type</td>
<td>Fixture level impression</td>
</tr>
<tr>
<td>Screw</td>
<td>Screw retained type</td>
<td>Abutment level impression</td>
</tr>
<tr>
<td>Direct casting</td>
<td>Cementation type, or Screw-cementation type</td>
<td>Fixture level impression</td>
</tr>
<tr>
<td>Dual milling</td>
<td>Cementation type, or Screw-cementation type</td>
<td>Fixture level impression</td>
</tr>
<tr>
<td>Ball</td>
<td>Male / Female attachment</td>
<td>Fixture level impression, or Abutment level impression</td>
</tr>
</tbody>
</table>

Minimum Height Requirement for Prosthetic Abutment

Maximum amount of reduction allotted for adjustment

Combi Abutment
- Eliminate 3.0mm from the top level Combi abutment (laser marking: 1.5mm)
  Caution: Damage may be caused to the screw if the abutment is reduced to less than 2.5mm above the gingival height.

Dual Abutment
- Preparation of the abutment top is possible as follows.

<table>
<thead>
<tr>
<th>Gingival Height</th>
<th>Preparable Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5mm</td>
<td>2.0</td>
</tr>
<tr>
<td>2.5mm</td>
<td>3.0</td>
</tr>
<tr>
<td>3.5mm</td>
<td>4.0</td>
</tr>
<tr>
<td>4.5mm</td>
<td>5.0</td>
</tr>
<tr>
<td>5.5mm</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Angled Abutment & Dual Milling Abutment
- Required minimum abutment height: at least 5.0mm above the Fixture top.

Direct-Casting Abutment
- Required minimum abutment height: at least 5.5mm above the Fixture top.

Screw Abutment
- The Screw abutment cannot be modified, however the casting abutment can be modified for interarch distance, taking reduction into consideration of the height of the retaining screw.

Ball Abutment
- The Ball abutment cannot be modified.

※ Note: The 3.6 platform/3.4 body fixture is not recommended for the screw and ball abutment.
**Combi Abutment**

[Abutment Level Impression-Multiple Units]

**Chairside**

1. **Remove Cover screw**
   (in case of second stage surgery)

2. **Let soft tissue form around Healing abutment**

3. **Select suitable Combi abutment, then tighten it to 25-30 N cm. Re-tighten after 15 minutes.**

**Lab Side**

1. **Select Impression coping on Combi abutment.**

2. **Insert Impression coping over Combi abutment firmly**
   (Snap-on Mechanism)

3. **Inject impression material**

4. **Impression coping comes off with impression material**

5. **Fabricate provisional restoration, or use Comport cap**

6. **Take impression**

7. **Impression coping comes off with impression material**

8. **Fabricate soft tissue model**

9. **Fabricate master cast**

10. **Seat burn-out cylinder securely into Lab analog**

11. **Consider distance of opposing teeth,**
    **Modify burn-out cylinder to its proper height if needed.**

**Combi Abutment**

[Abutment Level Impression-Multiple Units]

**Chairside**

1. **Fabricate burn-out cylinder and plastic bar in preparation for wax-up**

2. **Wax up**

3. **Fabricate metal framework**

**Lab Side**

1. **Trim extended margin with rubber wheel**

2. **Metal framework and reamer**

3. **Eliminate the Lip remnant caused by snap-on mechanism by reamer**

**Final prosthesis**

*If the Lab analog is trimmed due to limited inter-occlusal space in the lab, a reduction jig is necessary. Then slight modification of the abutment in the oral cavity may be necessary to reduce the height of the abutment.

**Seat final prosthesis and adjust occlusion**
Dual Abutment

[ Abutment Level Impression-Multiple Units ]

Clinical Procedure

1. Let soft tissue form around Healing abutment
2. Dual abutment (Hex/ Non-hex)
3. Select Dual abutment by diameter and gingival height
4. Tighten it to 25-30 N·cm. Re-tighten after 15 minutes
5. Insert Impression coping over abutment firmly [Snap-on Mechanism]
6. Inject impression material
7. Take impression
8. Impression coping comes off in the impression
9. Fabricate provisional restoration, or use Comport cap
10. Fabricate Soft tissue model

Lab Side

1. Insert Lab analog into impression coping
2. Make sure Lab analog seats securely into the impression coping [match flat side of both analog and coping]
3. Fabricate master cast
4. Seat burn-out cylinder securely into Lab analog
5. Wax up
6. Fabricate burn-out cylinder and plastic bar in preparation for wax-up
7. Fabricate metal framework
8. Consider distance of opposing teeth, Modify burn-out cylinder to its proper height if needed
9. Cementation Type

Gold Crown
Porcelain Crown

Crown Wax-up
Final Restoration
Cementation Type
Lab Analog Connection
Cylinder

Laboratory Procedure

1. Fabricate master cast
2. Seat burn-out cylinder securely into Lab analog
3. Wax up
4. Fabricate metal framework

Gold Crown
Porcelain Crown

Crown Wax-up
Final Restoration
Cementation Type
Lab Analog Connection
Cylinder

Clinical Procedure

1. Cover Screw
2. Healing Abutment
3. Dual Abutment
4. Comfort Cap
5. Temporary Restoration or Comfort Cap
6. Abutment Level Impression
Dual Abutment

[ Abutment Level Impression-Multiple Units ]

- Trim extended margin with rubber wheel
- Metal framework and reamer
- Eliminate the Lip remnant caused by 'snap-on' mechanism by reamer
- Metal Framework after removal of the Lip remnant
- Metal framework
- Final prosthesis

**SCRP**: Once an access hole has been created, it could be converted to a SCRP (Screw & Cemented Retained Prosthesis).

- Access hole is made when burn-out cylinder is used to do the wax up.
- Appear extended margin around metal framework due to snap-on mechanism.
- Trim extended margin by rubber wheel
- Metal framework and reamer
- Eliminate the Lip remnant caused by 'snap-on' mechanism by reamer
- Metal Framework after removal of the Lip remnant
- Metal framework
- Final prosthesis

**Clinical Procedure**

**Chairside**

- Remove Cover screw (in case of second stage surgery)
- Seat impression coping which has same diameter as healing abutment
- Take Impression

**Impression Coping Transfer Type**

- Let soft tissue formed around Healing abutment
- After connection of impression coping (X-Ray is unnecessary for confirmation)
- Inner surface of the impression material

**Fixture Level Impression Closed Tray**

- Transfer type impression coping

**Dual Abutment**

[ Fixture Level Impression-Transfer Type, Multiple Units ]

- Healing Abutment
- Impression Coping Transfer Type
- Fixture Level Impression Closed Tray
**Dual Abutment**

**Laboratory Procedure**

**Lab Side**

- Remove the impression coping from oral cavity and connect it with analog firmly.
- Attach the impression coping to the analog and insert into the impression.
- Measure gingival height with depth gauge.
- Select dual abutment with proper diameter and gingival height.
- Verify the selected abutment by surveying (preparation is possible if necessary).
- Fabricate positioning jig.

**SCRP-Lab Side**

- Make access hole in the resin cap by using a long impression coping.
- Use the positioning jig to transfer the abutment in model to oral cavity. Then tighten it to 20–30N-cm. Re-tighten after 15 minutes.
- Seat the final prosthesis and adjust occlusion. Place lab wax into opening site of abutment to protect screw head and then cement.

**SCRP-Chairside**

- Use the positioning jig to transfer abutment in model to oral cavity. Then tighten it to 20–30N-cm. Re-tighten after 15 minutes.
- Seat the final prosthesis and adjust occlusion. Place wax into opening site of abutment prior to sealing with composite.

*In the process of seating the prosthesis, the prosthesis can be rebounded by gingival tissue. In that case it is advised to apply occlusal load on the prosthesis for 10–15 minutes.*
Dual Abutment

Clinical Procedure

1. Healing Abutment
2. Impression Coping Pick Up Type
3. Fixture Level Impression Open Tray

Chairside

- Pick-up type impression coping
- Select & seat impression coping which has same diameter as healing abutment
- Apply adhesive on opened impression tray (individual tray)
- Inject impression material
- Inject impression material on the impression tray
- Take impression (individual tray with holes)
- Unscrew the impression coping screw before removing the impression tray
- Inner surface of impression (impression coping comes off with tray)

Laboratory Procedure

Lab Side

- Connect impression coping with analog firmly
- Fabricate soft tissue model
- Fabricate positioning jig
- Select abutment with proper diameter and gingival height
- Verify the selected abutment by surveying (preparation is possible if necessary)
- Fabricate cap with pattern resin
- Wax up
- Metal framework

Dual Abutment

Laboratory Procedure

Lab Analog Connection
- Height Modification of Dual Abutment
- Burn Out Cylinder
- Crown Wax-up
- Final Restoration Cementation Type
**Dual Abutment**

[Fixture Level Impression - Pick Up Type, Multiple Units]

**Chairside**

- Final prosthesis
- Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 25-30N·cm. Re-tighten after 15 minutes.
- Seat the final prosthesis and adjust occlusion

*In the process of seating the prosthesis, the prosthesis can be rebound by gingival tissue. In that case it is advised to apply occlusal load on the prosthesis for 10-15 minutes.*

**SCRP-Lab Side**

- Make access hole in the resin cap by using a long impression coping transfer screw
- Wax up
- Metal framework

**SCRP-Chairside**

- Final prosthesis
- Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 25-30N·cm. Re-tighten after 15 minutes.
- Seat the final prosthesis and adjust occlusion

*In the process of seating the prosthesis, the prosthesis can be rebound by gingival tissue. In that case it is advised to apply occlusal load on the prosthesis for 10-15 minutes.*

---

**Dual Milling Abutment**

[Fixture Level Impression - Transfer Type, Single Unit]

**Clinical Procedure**

- Healing Abutment
- Impression Coping Transfer Type
- Fixture Level Impression

**Chairside**

- Inject impression material
- Take impression
- Inner surface of the impression material

**Laboratory Procedure**

- Lab Analog Connection
- Dual Milling Abutment Connection
- Modification
- Crown Wax-Up
- Final Restoration Cementation
Dual Milling Abutment

**Lab Side**
- Remove the impression coping from oral cavity and connect it with Lab analog firmly.
- Fabricate soft tissue model.
- Fabricate master cast.
- Select Dual milling abutment which has proper diameter.
- Abutment after milling process.
- Fabricate positioning jig.
- Fabricate cap with pattern resin.
- Wax-up.
- Metal framework.
- Use positioning jig to transfer the abutment in model to oral cavity then tighten 20-30N-cm. Re-tighten after 15 minutes.

**Chairside**
- Use positioning jig to transfer the abutment in model to oral cavity then tighten 20-30N-cm. Re-tighten after 15 minutes.
- Seat final prosthesis and adjust occlusion.
- Final prosthesis.

Angled Abutment

**Clinical Procedure**
- Inject impression material.
- Seat the impression coping.
- Unscrew the impression coping screw before removing the impression tray.
- Take impression (individual tray with holes).
- Impression Coping Pick Up Type.
- Fixure Level Impression.

**Laboratory Procedure**
- Lab Analog Connection.
- Angled Abutment Connection.
- Modification.
- Final Restoration Cementation.
Angled Abutment

Lab Side

Connect impression coping with analog firmly

Fabricate soft tissue model

Unscrew the impression coping screw, separate impression coping from the model

Fabricate master cast

Select and seat proper Angled abutment in master cast

Modify Angled abutment properly and fabricate positioning jig

Fabricate cap with pattern resin

Wax up

Metal framework

Chairside

Final prosthesis

Seat the Angled abutment using positioning jig

Insert final prosthesis and adjust occlusion

Direct Casting Abutment

Lab Side

[ Fixture Level Impression-Pick Up Type, Single units ]

Laboratory Procedure

Lab Analog Connection | Direct Casting Abutment Connection | Modification | Abutment Wax-Up | Final Restoration Cementation

Lab Side

Select and seat proper direct casting abutment in master cast

Completed customized abutment

Fabricate positioning jig

Lab Analog Connection

Direct Casting Abutment Connection

Modification

Abutment Wax-Up

Final Restoration Cementation

Chairside

Final prosthesis

Seat customized abutment using positioning jig

Insert final prosthesis and adjust occlusion
**Temporary Abutment**

[Fixture Level Impression-Pick Up Type, Single units]

*Using Ti Cylinder>*

- Ti-Temporary Abutment
- Plastic Temporary Abutment

Consider the opposing teeth height before seating the temporary abutment. Modify the abutment if needed and complete the temporary abutment prosthesis with direct resin.

*Using Plastic Cylinder>*

**Screw Abutment**

[Abutment Level Impression-Transfer Type, Multiple units]

**Clinical Procedure**

- Cover Screw
- Healing Abutment
- Screw Abutment
- Impression Coping Transfer Type
- Abutment Level Impression

**Laboratory Procedure**

- Lab Analog Connection
- Cylinder Connection
- Modification
- Crown Wax-Up
- Final Restoration Screw Retained

**Lab Side**

- Remove the impression coping from oral cavity and connect it with analog firmly.
- Attach the impression coping to the Analog and insert into the impression firmly.
- Fabricate soft tissue model.

**Screw Abutment**

[Abutment Level Impression-Transfer Type, Multiple units]

Impression coping transfer type for Screw abutment.

Seat impression coping on Screw abutment.

Inject impression material.

Take impression.

Inner-surface of impression.

Seat comfort cap on the Screw abutment.
Screw Abutment

[ Abutment Level Impression-Transfer Type, Multiple units ]

1. Fabricate master cast
2. Remove impression coping
3. Connect the screw abutment cylinder then tighten it to 10N-cm with Ti-Retaining screw
4. Consider distance of opposing teeth, modify cylinder to its proper height if needed
5. Fabricate burn-out cylinder and plastic bar in preparation for wax-up
6. Wax up
7. Fabricate metal framework
8. Eliminate the Lip remnant by reamer caused by ‘snap-on’ mechanism
9. Metal Framework after removal of the Lip remnant
10. Complete porcelain build-up
11. Seat final prosthesis and adjust occlusion, tighten it to 10 N-cm with Ti-Retaining screw

Cementation Repair Method (SCRP)

In light of Implant Prosthesis:
- A screw type restoration helps simplify the prosthesis repair or insertion and removal of the prosthesis to any given situation.
- A dual abutment can be cement retained or screw retained.
- Combi abutment is only cement retained and occlusal hole is unnecessary.

In case of Screw Loosing or Prosthesis Repair is needed

1. In case of screw loosening and/or prosthesis repair is needed
2. In order to unscrew, make access hole on the occlusal surface with bur
3. Unscrew, then remove the prosthesis from the oral cavity
4. Both cement retained prosthesis and abutment are removed
5. Finish the repair then re-seat into the oral cavity with new abutment screw
6. Tighten the prosthesis to 25-30N-cm with screw driver
7. In case of screw abutment, Ti-Retain screw should be tightened to 10N-cm
8. Fill the access hole with cotton
9. Then, fill the access hole with resin
10. Final prosthesis
**Cementation Repair Method (SCRPM)**

**Prosthesis separation from Abutment due to Cement Loss**

1. Restore the separated prosthesis to the abutment in the oral cavity.
2. Unscrew the abutment screw to 25~30 N·cm and remove prosthesis from the oral cavity completely.
3. Apply cement to the prosthesis.
4. Adhere the prosthesis to abutment and clean out remnant cement. Fill the access hole with cotton and resin.

**In case of prosthesis loosening and adding to the interproximal surface is necessary**

1. Add resin to the contact if needed.
2. Insert the prosthesis in the oral cavity and screw it in. Perform light curing, then polish the contact area.
3. Replace the prosthesis into the oral cavity and tighten with a new abutment screw. Fill access hole with cotton and resin.

**Ball Abutment**

1. Connect Ball abutment with fixture.
2. Seal impression coping into Ball abutment.
3. Make individual tray for denture impression.
4. Inject impression material.
5. Take impression with individual tray.
6. Remove tray from the oral cavity.

**Inner surface of the impression material**

1. Insert analog into the impression material securely.
2. Fabricate master cast.
3. Fabricate denture with common method.
5. Reduce denture inner surface to place the female socket.
6. Examine the interference between inner surface of ball analog and female socket.
Ball Abutment

Apply the resin with brush into the hole.

Remove the denture from the model after initial setting of resin.

Add resin with brush around the female socket.

After the resin sets, trim the remnant resin from the denture.