POLYAXIAL LOCKING FIXATION
Distal humerus and olecranon plating system
Polyaxial locking technology
Precontoured implants

NEWCLIP-TECHNICS
INNOVATION MEANS MOTION

ALIANS ELBOW
DISTAL HUMERUS & OLECRANON
POLYAXIAL LOCKING FIXATION
DUALTEC SYSTEM II

- Distal humerus and olecranon plating system
- Polyaxial locking technology
- Precontoured implants
Indications: ALIANS ELBOW implants are dedicated to the fixation of fractures and osteotomies of the distal humerus and proximal ulna in adults.

Contra-indications:
- Severe vascular damage, bone devitalisation.
- Pregnancy.
- Acute or chronic, local or systemic infections.
- Lack of musculo-cutaneous cover, severe vascular deficiency touching the focus.
- Insufficient bone quality preventing a good fixation of the screws into the bone.
- Muscular deficit, neurological deficiency or behavioural disorders which could submits the osteosynthesis to abnormal mechanical strains.
- Foreign body sensitivity or allergy to one of the materials used.
- Patients with mental or neurological conditions who are unwilling or incapable of following post-operative care instructions.
- Patients with poor physical condition and/or mental instability.
**FIXATIONS: TECHNICAL FEATURES**

**ANGULAR RANGE: +/- 10° POLYAXIAL LOCKING RANGE**

The DTS2® technology allows the screw to lock into the plate while permitting an angulation of the screw. Newclip Technics plates combine both polyaxial and locking technologies to create a fixed-angle construct particularly useful for poor bone quality and/or multifragmentary fractures.

The DTS2® polyaxial locking holes are located in the epiphyseal area, thus facilitating the insertion of the epiphyseal screws in diverging or converging direction and allowing for optimal strength of the assembly.

**MONOAXIAL LOCKING SYSTEM**

**FEATURES**

1. The threaded sections under the screw head and inside the hole have strictly the same characteristics (1):
   - Cylindrical internal thread profile,
   - Cylindrical external thread profile,
2. Screw head cap (2),
3. Plate and screw made from the same material: titanium alloy.

**RESULTS**

1. Low profile construct:
   - The buried screw head thanks to the cap in the slot insuring the locking, (3),
   - The screw head is buried in the plate.
2. Construct limiting cold welding risks for improved removal properties:
   - A perfect coaptation of both profiles when locking (4).

**FIXATION SYSTEM**

DTS2® polyaxial holes for Ø2.8 mm locking screws (TDT2.8Lxx) and Ø2.8 mm non locking screws (RDT2.8Lxx).

Oneclip® monoaxial hole for Ø2.8 mm locking screws (TDT2.8Lxx) and Ø2.8 mm non locking screws (RDT2.8Lxx).

Slotted holes for Ø2.8 mm cortical compression screws (CT2.8Lxx).

Slotted holes for Ø3.5 mm cortical compression screws (CT3.5Lxx).

Oneclip® monoaxial holes for Ø3.5 mm locking screws (SOT3.5Lxx) and Ø3.5 mm non locking screws (QOT3.5Lxx).
DISTAL HUMERUS PLATES

PRECONTOURED IMPLANTS

The design of ALIANS ELBOW Distal humerus implants is the result of a proprietary state-of-the-art mapping technology to establish the maximum congruence between the plate and the bone.

PLATE BENDING

Some plates from ALIANS ELBOW range (distal humerus and olecranon plates) offer bending areas. In certain cases, it is possible to bend the plate thanks to the bending irons (ANC452) following the instructions below:

- Bending is only possible in the areas intended for this purpose,
- A bendable area should be bent only once and in one direction,
- Bending should not be performed excessively,
- The holes must be protected so as to avoid damaging the fixation. The oval-shaped distortion of the holes when bending the plate into shape is a particular risk.

3 TYPES OF CONSTRUCT

PARALLEL CONSTRUCT

~ MEDIAL PLATE
- Medial column,
- Medial position,
- Medial direction of the distal screws.

~ LATERAL PLATE
- Lateral column,
- Lateral position,
- Lateral-medial direction of the distal screws.

PERPENDICULAR CONSTRUCTS

~ MEDIAL PLATE
- Lateral column,
- Dorsal position,
- Postero-anterior and latero-medial direction of the distal screws.

~ POSTERO-LATERAL PLATE
- Lateral column,
- Dorsal position,
- Postero-anterior and latero-medial direction of the distal screws.

~ LATERAL PLATE
- Lateral column,
- Lateral position,
- Latero-medial direction of the distal screws.

~ MEDIAL PLATE
- Medial column,
- Medial position,
- Medial direction of the distal screws.

~ POSTERO-LATERAL PLATE
- Lateral column,
- Lateral position,
- Lateral direction of the distal screws.

~ LATERAL PLATE
- Lateral column,
- Lateral position,
- Lateral-medial direction of the distal screws.

360° rotation
20° of polyaxiality

POLYAXIAL LOCKING FIXATION

Polyaxial locking fixation:

1. Gives the surgeon the ability to reach all fragments of the articular block thanks to long screws.
2. Avoids conflicts between screws in the articular block.

Fixation with lateral support

In the case of a perpendicular construct, the lateral support enables the insertion of 2 additional polyaxial long screws, from the lateral to the medial column of the distal humerus for extra stability and strength of the fixation.

Fixation without lateral support

Distal humerus postero-lateral plates can be fitted to several types of fracture. In the case of partial articular fractures of the capitellum or very small humeri if the lateral support exceeds over the lateral epicondyl, it is possible to remove the lateral support. In this case, a Ø3.5 mm locking screw can be inserted in the cleared hole.
OLECRANON PLATES

PRECONTOURED IMPLANTS

ALIANS ELBOW Olecranon implants design is based on olecranon osteology studies. The design of the plate adapts to the olecranon epiphysio-diaphyseal curve. The anatomical design of the plate and the buried screw heads prevent soft tissue irritation.

OLECRANON PLATES TECHNICAL FEATURES

1. Bendable sections
2. ‘Home run’ screw to target the coronoid process through the fracture site, to increase stability or to create compression.
3. Reduced-width section in the area of the tip of the olecranon minimizing risks of skin necrosis.
4. Narrow and thin profile: to minimize soft tissue irritation.
5. Reinforced shaft: to counter diaphyseal bending forces.
6. 2 hooks: inserted in the olecranon process to ease fracture reduction and enhance stability by limiting the constraints related to the triceps tendon.

POLYAXIAL LOCKING FIXATION

Polyaxial hole

Two olecranon screws: to be directed toward the tip of the olecranon limiting the constraints related to the triceps tendon.

Polyaxial hole

The coronoid screw: the screw targets and stabilizes the coronoid fragment.
**IMPLANTS REFERENCES**

**DISTAL HUMERUS PLATES**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTSM1</td>
<td>Distal humerus medial plate - Symmetrical - Size 1 - 7 holes - L74 mm</td>
</tr>
<tr>
<td>NTSM2</td>
<td>Distal humerus medial plate - Symmetrical - Size 2 - 10 holes - L111 mm</td>
</tr>
<tr>
<td>NTSM3</td>
<td>Distal humerus medial plate - Symmetrical - Size 3 - 13 holes - L148 mm</td>
</tr>
<tr>
<td>NTSM4</td>
<td>Distal humerus medial plate - Symmetrical - Size 4 - 16 holes - L186 mm</td>
</tr>
</tbody>
</table>

**MEDIAL PLATES**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTGL1</td>
<td>Distal humerus lateral plate - Left - Size 1 - 7 holes - L67 mm</td>
</tr>
<tr>
<td>NTDL1</td>
<td>Distal humerus lateral plate - Right - Size 1 - 7 holes - L67 mm</td>
</tr>
<tr>
<td>NTGL2</td>
<td>Distal humerus lateral plate - Left - Size 2 - 9 holes - L93 mm</td>
</tr>
<tr>
<td>NTDL2</td>
<td>Distal humerus lateral plate - Right - Size 2 - 9 holes - L93 mm</td>
</tr>
<tr>
<td>NTGL3</td>
<td>Distal humerus lateral plate - Left - Size 3 - 12 holes - L131 mm</td>
</tr>
<tr>
<td>NTDL3</td>
<td>Distal humerus lateral plate - Right - Size 3 - 12 holes - L131 mm</td>
</tr>
<tr>
<td>NTGL4</td>
<td>Distal humerus lateral plate - Left - Size 4 - 15 holes - L169 mm</td>
</tr>
<tr>
<td>NTDL4</td>
<td>Distal humerus lateral plate - Right - Size 4 - 15 holes - L169 mm</td>
</tr>
<tr>
<td>NTGL5</td>
<td>Distal humerus lateral plate - Left - Size 5 - 18 holes - L207 mm</td>
</tr>
<tr>
<td>NTDL5</td>
<td>Distal humerus lateral plate - Right - Size 5 - 18 holes - L207 mm</td>
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</table>

**LATERAL PLATES**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTGQ1</td>
<td>Distal humerus postero-lateral plate - Left - Size 1 - 9 holes - L71 mm</td>
</tr>
<tr>
<td>NTDQ1</td>
<td>Distal humerus postero-lateral plate - Right - Size 1 - 9 holes - L71 mm</td>
</tr>
<tr>
<td>NTGQ2</td>
<td>Distal humerus postero-lateral plate - Left - Size 2 - 11 holes - L99 mm</td>
</tr>
<tr>
<td>NTDQ2</td>
<td>Distal humerus postero-lateral plate - Right - Size 2 - 11 holes - L99 mm</td>
</tr>
<tr>
<td>NTGQ3</td>
<td>Distal humerus postero-lateral plate - Left - Size 3 - 14 holes - L137 mm</td>
</tr>
<tr>
<td>NTDQ3</td>
<td>Distal humerus postero-lateral plate - Right - Size 3 - 14 holes - L137 mm</td>
</tr>
<tr>
<td>NTGQ4</td>
<td>Distal humerus postero-lateral plate - Left - Size 4 - 17 holes - L175 mm</td>
</tr>
<tr>
<td>NTDQ4</td>
<td>Distal humerus postero-lateral plate - Right - Size 4 - 17 holes - L175 mm</td>
</tr>
<tr>
<td>NTGQ5</td>
<td>Distal humerus postero-lateral plate - Left - Size 5 - 20 holes - L213 mm</td>
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<tr>
<td>NTDQ5</td>
<td>Distal humerus postero-lateral plate - Right - Size 5 - 20 holes - L213 mm</td>
</tr>
</tbody>
</table>
**IMPLANTS REFERENCES**

### OLECRANON PLATES

- **HTSPN1**
  - Olecranon plate - Symmetrical - Narrow head - 7 holes - L64 mm

### NARROW PLATE

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTSPN1</td>
<td>Olecranon plate - Symmetrical - Narrow head - 7 holes - L64 mm</td>
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</table>

### STANDARD PLATES

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTGPS1</td>
<td>Olecranon plate - Left - Size 1 - 9 holes - L102 mm</td>
</tr>
<tr>
<td>HTDPS1</td>
<td>Olecranon plate - Right - Size 1 - 9 holes - L102 mm</td>
</tr>
<tr>
<td>HTGPS2</td>
<td>Olecranon plate - Left - Size 2 - 12 holes - L141 mm</td>
</tr>
<tr>
<td>HTDPS2</td>
<td>Olecranon plate - Right - Size 2 - 12 holes - L141 mm</td>
</tr>
<tr>
<td>HTGPS3</td>
<td>Olecranon plate - Left - Size 3 - 15 holes - L182 mm</td>
</tr>
<tr>
<td>HTDPS3</td>
<td>Olecranon plate - Right - Size 3 - 15 holes - L182 mm</td>
</tr>
</tbody>
</table>

### Ø2.8 MM SCREWS

- **TDT2.8Lxx**
  - Ø2.8 mm reinforced core polyaxial locking screws
  - Length: from 10 mm to 60 mm
  - (2 mm increments from 10 to 40)
  - (5 mm increments from 40 to 60)
  - Green anodized

- **RDT2.8Lxx**
  - Ø2.8 mm reinforced core polyaxial non-locking screws
  - Length: from 10 mm to 60 mm
  - (2 mm increments from 10 to 40)
  - (5 mm increments from 40 to 60)
  - Sand anodized

- **CT2.8Lxx**
  - Ø2.8 mm standard cortical screws
  - Length: from 12 mm to 30 mm
  - (2 mm increments)
  - Non anodized or pink anodized for sterile screws

### Ø3.5 MM SCREWS

- **SOT3.5Lxx**
  - Ø3.5 mm locking screws
  - Length: from 10 mm to 60 mm
  - (2 mm increments from 10 to 40)
  - (5 mm increments from 40 to 60)
  - Blue anodized

- **QOT3.5Lxx**
  - Ø3.5 mm non-locking screws
  - Length: from 10 mm to 60 mm
  - (2 mm increments from 10 to 40)
  - (5 mm increments from 40 to 60)
  - Fuchsia anodized

- **CT3.5Lxx**
  - Ø3.5 mm standard cortical screws
  - Length: from 10 mm to 40 mm
  - (2 mm increments)
  - Non anodized or light blue anodized for sterile screws

**Remark:**
Please note that all implants are also available in sterile packaging. The tube packaging is handy and easy to use. An "ST" code is added at the end of the reference, e.g. "SOT3.5L16-ST".
# INSTRUMENTS REFERENCES

## ALIANS ELBOW INSTRUMENTS

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Description</th>
<th>Qty</th>
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<tbody>
<tr>
<td>ANC082E</td>
<td>2.0 mm quick coupling hexagonal prehensor screwdriver</td>
<td>2</td>
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<tr>
<td>ANC083C</td>
<td>2.5 mm quick coupling hexagonal prehensor screwdriver</td>
<td>3</td>
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<tr>
<td>ANC089C</td>
<td>Ø2.7 mm quick coupling drill bit - L 125 mm</td>
<td>1</td>
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<tr>
<td>ANC102L</td>
<td>Length gauge for Ø2.8 mm screws - Measures 10 - 60 mm</td>
<td>1</td>
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<tr>
<td>ANC103</td>
<td>2.0 mm hexagonal non prehensor screwdriver</td>
<td>1</td>
</tr>
<tr>
<td>ANC107</td>
<td>2.5 mm quick coupling/hexagonal non prehensor screwdriver</td>
<td>1</td>
</tr>
<tr>
<td>ANC124L</td>
<td>Length gauge for Ø3.5 mm screws - Measures 10 - 60 mm</td>
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<tr>
<td>ANC160</td>
<td>Handle for fast drilling guide</td>
<td>1</td>
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<tr>
<td>ANC186</td>
<td>Ø2.7 mm guide gauge for Ø3.5 mm locking screws</td>
<td>1</td>
</tr>
<tr>
<td>ANC191</td>
<td>Ø2.7 mm QC guide gauge for Ø3.5 mm non locking screws</td>
<td>1</td>
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<tr>
<td>ANC256E</td>
<td>Ø2.7 mm quick coupling drill bit - L 180 mm</td>
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</tr>
<tr>
<td>ANC259E</td>
<td>Ø2.7 mm guide gauge for Ø3.5 mm locking screws</td>
<td>2</td>
</tr>
<tr>
<td>ANC261E</td>
<td>Ø2.7 mm guide gauge for Ø3.5 mm non locking screws - Measures 10 - 60 mm</td>
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<tr>
<td>ANC287</td>
<td>Ø2.3 mm quick coupling drill bit - L 180 mm</td>
<td>2</td>
</tr>
<tr>
<td>ANC305</td>
<td>Ø2.3 mm DTS2 drill guide</td>
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</tr>
<tr>
<td>ANC306</td>
<td>Ø2.3 mm guide gauge</td>
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</tr>
<tr>
<td>ANC309</td>
<td>Ø1.7 mm guide for Ø1.6 mm K-wire</td>
<td>1</td>
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<tr>
<td>ANC313</td>
<td>Fast drilling guide for distal humerus medial plates (NTSMx)</td>
<td>1</td>
</tr>
</tbody>
</table>

## REMOVAL KIT

If you have to remove ALIANS ELBOW implants (distal humerus or olecranon implants), make sure to order the Newclip Technics removal set which includes the following instruments:
- ANC082E or ANC103: Screwdriver for Ø2.8 mm screws,
- ANC107 or ANC016: Screwdriver for Ø3.5 mm screws,
- ANC301: Ø4.5 mm AO quick coupling handle - Size 2.

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The information presented in this brochure is intended to demonstrate a NEWCLIP TECHNICS product. Always refer to the package insert, product label and/or user instructions before using any NEWCLIP TECHNICS product. Surgeons must always rely on their own clinical judgment when deciding which products and techniques to use with their patients. Products may not be available in all markets. Product availability is subject to the regulatory or medical practices that govern individual markets. Please contact your NEWCLIP TECHNICS representative if you have questions about the availability of NEWCLIP TECHNICS products in your area.

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