NEWCLIP TECHNICS

ALIANS ELBOV(5

ALIANS ELBOW S

Intended purpose: The implants of the Alians Elbow S range are dedicated to the fixation of fractures and osteotomies of the distal humerus and proximal ulna in adults.

Contraindications:

- Pregnancy.
- Acute or chronic local or systemic infections.
- Allergy to one of the materials used or sensitivity to foreign bodies.

A COMPREHENSIVE RANGE OF PLATES



PARALLEL CONSTRUCT





FIXATION WITH LATERAL SUPPORT

In the case of a perpendicular construct, the lateral support enables the insertion of 2 additional polyaxial screws through the articular block.

The construct is stabilized by these two screws running from the lateral column to the medial column.

PERPENDICULAR CONSTRUCTS



FIXATION WITHOUT LATERAL SUPPORT

Distal humerus postero-lateral plates can be fitted to several types of fractures. It is possible to remove the support in the case of isolated fractures of the capitellum or on very small humeri. In this case, a Ø3.5 mm locking screw can be inserted into the free hole.

ALIANS ELBOW S

A COMPREHENSIVE RANGE OF PLATES

→ DISTAL HUMERUS: Y PLATES





→ OLECRANON PLATES



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PRECONTOURED IMPLANTS

→ OPTIMIZED ANATOMICAL CONGRUENCE

The design of Alians Elbow S implants is the result of a proprietary state-of-the-art mapping technology to establish the maximum congruence between the plate and the bone.

→ BENDABLE PLATE

Some plates from the Alians Elbow S range (distal humerus and olecranon plates) offer bending areas. In certain cases, it is possible to bend the plate using the bending irons (ANC650) 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.
- There is a risk of distortion of the holes when bending the plate. Thus, the holes must be protected to avoid damaging the fixation system.

POLYAXIAL LOCKING FIXATION



MONOAXIAL LOCKING SYSTEM

- The screw head is stopped in the hole, ensuring its locking (1).
- The screw head is buried in the plate (2).
- Plate and screw made from the same material: titanium alloy.
- Non locking screws (CT3.5LxxD) can be used in the locking holes at the surgeon's discretion.







The threads under the screw head and inside the hole have strictly the same characteristics.



Polyaxial locking fixation gives the surgeon the ability to reach all fragments in different directions. It also allows to avoid conflicts between screws from another plate.

The DTS3 technology ensures the locking of the screw into the plate while allowing its angulation. This system enables screws to be inserted in diverging or converging directions, thereby improving the stability of the assembly.



Dualtec System® III Technology Polyaxial locking fixation

NEWCLIP-TECHNICS

DISTAL HUMERUS : MEDIAL, LATERAL AND POSTERO-LATERAL PLATES

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→ POLYAXIAL FIXATION: TWO-PLATE CONSTRUCT

Polyaxial locking fixation:

- Gives the surgeon the ability to reach all fragments of the articular block using long screws.
- Avoids conflicts between screws in the articular block.



DISTAL HUMERUS: Y PLATE



- Plate designed for extra-articular fractures.
- Y shape to offer support of both the lateral and the medial columns with only one plate.
- Single diameter 3.5 mm for all screws.
- Premovable medial bracket to adapt to different fractures patterns and patient anatomy (see page 8 for more information).



NEWCLIP-TECHNICS

OLECRANON PLATES

→ PRECONTOURED IMPLANTS



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→ POLYAXIAL LOCKING FIXATION



2 OLECRANON SCREWS: The screws are directed towards the tip of the olecranon.



THE CORONOID SCREW : The coronoid screw allows to stabilize the coronoid.

INSTRUMENTATION

MEASURING SCREW LENGTHS

For all the holes of the Alians Elbow S range, the measurement of a screw length can be obtained in the following 2 ways:

- During drilling, by reading the length directly on the guide gauge using the laser marking on the drill bit (a)
- Using the appropriate length gauge after drilling (b)





DRILLING GUIDES

For all the Ø2.8 locking holes for the Alians Elbow S range, the drilling can be performed using two different drill guides:

- ANC1428: Ø2.0 mm threaded long guide gauge for Ø2.8 mm screws *screw length can be directly read during drilling* (c)
- ANC1429: Ø2.0 mm threaded drill guide for Ø2.8 mm screws
 screw length must be measured using the length gauge (ANC102L) (d)

REMOVABLE SUPPORTS

The Alians Elbow S range offers plates with removable supports. Depending on the indications and the anatomy of the patient, these brackets can be removed with the T15 screwdriver (ANC1027) (e).



Y PLATE: The Y plate offers a removable medial support allowing to support the medial column of the distal humerus.





POSTERO-LATERAL PLATE

The postero-lateral plate offers a removable lateral support, allowing the insertion of 2 additional polyaxial long screws in the articular block. These two screws extend from the lateral column to the medial column of the distal humerus.

2-PLATE CONSTRUCT : MEDIAL PLATE DISTAL HUMERUS -

Example of a surgical technique using a medial plate size 1 (NTSM1D).

This technique is applicable for both perpendicular and parallel constructs. The finalization of the fixation of the medial plate occurs after the fixation of the second plate.



1. After reduction of the distal humerus, position the plate on the medial part of the bone. The plate can be provisionally fixed using Ø1.6 mm pins (33.0216.210).



- 2. In one of the oblong holes, perform the drilling using the non threaded bent guide gauge (ANC1030) and the Ø2.7 mm drill bit (ANC1355).
- 3. Measure the screw length directly on the guide gauge (ANC1030) (a) or with the length gauge (ANC1028) (b).

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4. Insert a Ø3.5 mm locking screw (CT3.5LxxD) using the T15 screwdriver (ANC1027).

Repeat the steps 2 to 4 for the remaining oblong holes.



5. The distal holes of the plates allow for polyaxial fixation of the screws.

Insert the Ø2.0 mm threaded long guide gauge (ANC1428) into one of the distal holes. If needed, angulate as required and perform the drilling using the Ø2.0 mm drill bit (ANC1431) (C).

Option: a shorter threaded drill guide (ANC1429) can be used to guide the drill bit (d).

Repeat these steps for all the remaining distal screws.



6. Measure the screw length directly on the guide gauge (ANC1428) (c) or with the length gauge (ANC102L) (e).

Option: if the shorter drill guide (ANC1429) was used, the use of the length gauge is mandatory to measure the screw length.

- 7.Insert a Ø2.8 mm locking screw (TDT2.8LxxD) using the Т8 screwdriver (ANC575).

Repeat these steps for the remaining distal holes.





with a lateral plate for a parallel construct refer to page 10



with a postero-lateral plate for a perpendicular construct refer to page 11



PARALLEL CONSTRUCT: LATERAL DISTAL HUMERUS -PLATE

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Example of a surgical technique using a medial plate size 1 (NTSM1D) and a lateral plate size 2 (NTDL2D) for a parallel construct. This technique is applicable for all medial and lateral plates.







- 9. In one of the oblong holes, perform the drilling using the threaded bent guide gauge (ANC1030) and the Ø2.7 mm drill bit (ANC1355).
- 10. Measure the screw length (see details on page 9 step 3).
 - Insert a Ø3.5 mm non locking screw (CT3.5LxxD) using the T15 screwdriver (ANC1027).

Repeat the steps 9 and 10 for the remaining oblong holes.



- 11. The distal holes of the plates allow for polyaxial fixation of the screws
 - Insert the Ø2.0 mm threaded guide gauge (see details on page 9 step 5) into one of the distal holes. If needed, angulate as required and perform the drilling using the Ø2.0 mm drill bit (ANC1431).



- 12. Measure the screw length (see details on page 9 step 6).
 - Insert a Ø2.8 mm locking screw (TDT2.8LxxD) using the Т8 screwdriver (ANC575).

Repeat these steps for all the remaining distal holes.



13. In the first diaphyseal locking hole, perform the drilling using threaded guide the gauge (ANC1445) and the Ø2.7 mm drill bit (ANC1355).



14. Measure the screw length (see details on page 9 step 3).

Insert a Ø3.5 mm locking screw (SOT3.5LxxD) using the T15 screwdriver (ANC1027).



FINAL RESULT

Following the steps 13 and 14, finalize the procedure by inserting the remaining Ø3.5 mm locking screws (SOT3.5LxxD) into the diaphyseal part of the medial and lateral plates, working distally to proximally.

DISTAL HUMERUS – PERPENDICULAR CONSTRUCT: POSTERO-LATERAL PLATE

Example of a surgical technique using a medial plate size 1 (NTSM1D) and a postero-lateral plate size 2 (NTDQ2D) for a perpendicular construct. This technique is applicable for all medial and postero-lateral plates.





8. Position the posterolateral plate on the posterior part of the bone. The plate can be provisionally fixed using Ø1.6 mm pins (33.0216.210).

Option: In cases for which the lateral support is not required, this part of the plate can be removed using the T15 screwdriver (ANC1027) (a). If so, a Ø3.5 mm locking screw can be inserted in the free locking hole.

- 9. In one of the oblong hole, perform the drilling using the non threaded bent guide gauge (ANC1030) and the Ø2.7 mm drill bit (ANC1355).
- 10. Measure the screw length (see details on page 9).

Insert a Ø3.5 mm non locking screw (CT3.5LxxD) using the T15 screwdriver (ANC1027).

Repeat the steps 9 et 10 for the remaining oblong holes.



11. The distal holes of the plate allow for polyaxial fixation of the screws.

Insert Ø2.0 mm threaded guide gauge (see details on page 9 step 5) into one of the distal holes. If needed, angulate as required and perform the drilling using the Ø2.0 mm drill bit (ANC1431).

- 12. Measure the screw length (see details *on page 9 step 6*).

Insert a Ø2.8 mm locking screw (TDT2.8LxxD) using the T8 screwdriver (ANC575).

Repeat these steps for the remaining distal locking holes.



- In the first diaphyseal locking hole, perform the drilling using the threaded guide gauge (ANC1445) and the Ø2.7 mm drill bit (ANC1355).
- 14. Measure the screw length (see details on page 9 step 3).

Insert a Ø3.5 mm locking screw (SOT3.5LxxD) using a T15 screwdriver (ANC1027).

Option: If the lateral support has been removed, repeat the steps 13 and 14 for the free distal hole.



FINAL RESULT

Following the steps 13 and 14, finalize the procedure by inserting the remaining Ø3.5 mm locking screws (SOT3.5LxxD) into the diaphyseal part of the medial and postero-lateral plates, working distally to proximally.

DISTAL HUMERUS - Y PLATE

Example of a surgical technique using a Y plate size 3 (NTDY3D). This technique is applicable for all the Y plates.





1. Position the Y plate on the posterior part of the bone. The plate can be provisionally fixed using Ø1.6 mm pins (33.0216.210).

Option: In cases for which the lateral support is not required, this part of the plate can be removed using the T15 screwdriver (ANC1027) (a). If so, a Ø3.5 mm locking screw can be inserted into the free locking hole.

- 2. In a oblong hole, perform the drilling using the non threaded bent guide gauge (ANC1030) and the Ø2.7 mm drill bit (ANC1355).
- 3. Measure the screw length (see details on page *9 step 3).*

Insert a Ø3.5 mm non locking screw (CT3.5LxxD) using the T15 screwdriver (ANC1027).

Repeat the steps 2 and 3 for the remaining oblong holes.



 In the most distal locking hole of the lateral column, perform the drilling using the threaded guide gauge (ANC1445) and the Ø2.7 mm drill bit (ANC1355).



- 5. Measure the screw length (see details on page *9 step 3*).
 - Insert a Ø3.5 mm locking screw (SOT3.5LxxD) using a T15 screwdriver (ANC1027).
- 6.Proceed similarly for the most distal screw of the medial column.
 - Option: If the lateral support has been removed, repeat steps 4 and 5 for the free locking hole.



OLECRANON - OLECRANON OSTEOTOMY GUIDE

→ SPECIFIC CUTTING GUIDE FOR OLECRANOTOMY

The olecranon cutting guide (ANC1432) is used to make the cuts **required for an olecranotomy approach**.

The olecranon cutting guide allows the adjustment of the chevron cut in 4 positions. It also allows the olecranon to be predrilled for subsequent anatomical reduction using the narrow plate (HTSPN1D).





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→ SURGICAL TECHNIQUE



OLECRANON - NARROW PLATE

Example of a surgical technique using a narrow olecranon plate (HTSPN1D). This technique is applicable for all the olecranon standard plates for the proximal part



1. Position the plate on the olecranon

pins (33.0216.210).

process. The plate can be provisionally fixed using Ø1.6 mm



2. In the most distal oblong hole,

perform drilling using the non threaded bent guide gauge

(ANC1430) and the Ø2.0 mm drill bit

(ANC1431).

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3. Measure the screw length with the length gauge (ANC102L) (see details on page 9 step 6).

Insert a Ø2.8 mm non locking screw (CT2.8LxxD) using the T8

screwdriver (ANC575).

- 4. "Home run" screw
- Insert the Ø2.0 mm threaded guide gauge (see details on page 9) in the monoaxial hole between the two proximal hooks. Perform the drilling with the Ø2.0 mm drill bit (ANC1431).



5. Measure the screw length (see details on page 9).

Insert a Ø2.8 mm non locking screw (RDT2.8LxxD) into the base of the coronoid process using the T8 screwdriver (ANC575) to apply compression.

- If compression is not required, a Ø2.8 mm locking screw (TDT2.8LxxD) can be inserted instead.
- 6. The two distal polyaxial holes allow to target the tip of the olecranon.

Insert the Ø2.0 mm threaded guide gauge (see details on page 9) in one of the most proximal polyaxial holes and perform the drilling using the Ø2.0 mm drill bit (ANC1431).

To avoid conflict with the "Home run" screw, angulate the drilling in a divergent way.



7. Measure the screw length (*see details on page 9* step 6).

Insert a Ø2.8 mm locking screw (TDT2.8LxxD) using the T8 screwdriver (ANC575).

Repeat the step 6 for the second polyaxial screw.



8. Coronoid screw

Insert the Ø2.0 mm threaded guide gauge (ANC1428) (see details on page 9 step 5) in the proximal polyaxial hole. Angulate the guide in order to both target the coronoid tip and avoid any conflict with the "home run" screw.

Perform the drilling using a Ø2.0 mm drill bit (ANC1431).



9. Measure the screw length (see details on page 9 step 6).

Insert a Ø2.8 mm locking screw (TDT2.8LxxD) using the T8 screwdriver (ANC575).



 Insert the Ø2.0 mm threaded guide gauge (see details page 9 step 5) in the remaining monoaxial distal hole and perform the drilling using the Ø2.0 mm drill bit (ANC1431).



11. Measure the screw length (see details on page 9 step 6)

Insert a Ø2.8 mm locking screw (TDT2.8LxxD) using a T8 screwdriver (ANC575).



FINAL RESULT

If the fracture line allows it, finalize the construct by inserting the last cortical screw in the proximal oblong hole. (following the steps 2 and 3)

OLECRANON – STANDARD PLATE

Example of a surgical technique using a standard olecranon plate size 3 (HTDPS3D).





- 12.Standard olecranon plates surgical technique is strictly identical to that of the narrow plate for the proximal part.
 - For the distal part, Ø3.5 mm screw must be used.





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14. Measure the screw length (see details on page 9 step 3).

Insert a Ø3.5 mm locking screw (SOT3.5LxxD) using the T15 screwdriver (ANC1027).

Repeat the steps 13 and 14 for the remaining locking holes.



15. In the proximal oblong hole, perform the drilling using the non threaded bent guide gauge (ANC1030) and the Ø2.7 mm drill bit (ANC1355).



16. Measure the screw length (see details on page 9 step 3).

Insert a Ø3.5 mm non locking screw (CT3.5LxxD) using the T15 screwdriver (ANC1027).

Repeat the steps 15 et 16 for the remaining oblong holes.



REFERENCES IMPLAI

→ DISTAL HUMERUS PLATES



MEDIAL PLATES		
Ref.	Description	
NTSM1D	Medial distal humerus plate - Symmetrical - Size 1 - 7 holes - L77 mm	
NTSM2D	Medial distal humerus plate - Symmetrical - Size 2 - 10 holes - L113 mm	
NTSM3D	Medial distal humerus plate - Symmetrical - Size 3 - 13 holes - L151 mm	
NTSM4D	Medial distal humerus plate - Symmetrical - Size 4 - 16 holes - L189 mm	









	LATERAL PLATES
Ref.	Description
NTGL1D	Lateral distal humerus plate - Left - Size 1 - 7 holes - L67 mm
NTDL1D	Lateral distal humerus plate - Right - Size 1 - 7 holes - L67 mm
NTGL2D	Lateral distal humerus plate - Left - Size 2 - 9 holes - L93 mm
NTDL2D	Lateral distal humerus plate - Right - Size 2 - 9 holes - L93 mm
NTGL3D	Lateral distal humerus plate - Left - Size 3 - 12 holes - L131 mm
NTDL3D	Lateral distal humerus plate - Right - Size 3 - 12 holes - L131 mm
NTGL4D	Lateral distal humerus plate - Left - Size 4 - 15 holes - L169 mm
NTDL4D	Lateral distal humerus plate - Right - Size 4 - 15 holes - L169 mm
NTGL5D-ST*	Lateral distal humerus plate - Left - Size 5 - STERILE - 18 holes - L207 mm
NTDL5D-ST*	Lateral distal humerus plate - Right - Size 5 - STERILE - 18 holes - L207 mm



POSTERO-LATERAL PLATES			
Ref.	Description		
NTGQ1D	Posterolateral distal humerus plate - Left - Size 1 - 9 plots - L71 mm		
NTDQ1D	Posterolateral distal humerus plate - Right - Size 1 - 9 plots - L71 mm		
NTGQ2D	Posterolateral distal humerus plate - Left - Size 2 -11 plots – L99 mm		
NTDQ2D	Posterolateral distal humerus plate - Right - Size 2 - 11 plots - L99 mm		
NTGQ3D	Posterolateral distal humerus plate - Left - Size 3 - 14 plots - L137 mm		
NTDQ3D	Posterolateral distal humerus plate - Right - Size 3 - 14 plots - L137 mm		
NTGQ4D	Posterolateral distal humerus plate - Left - Size 4 - 17 plots - L175 mm		
NTDQ4D	Posterolateral distal humerus plate - Right - Size 4 - 17 plots - L175 mm		
NTGQ5D-ST*	Posterolateral distal humerus plate - Left - Size 5 - STERILE - 20 plots - L212 mm		
NTDQ5D-ST*	Posterolateral distal humerus plate - Right - Size 5 - STERILE - 20 plots - L212 mm		

* Only available in sterile version on request

IMPLANT REFERENCES

→ DISTAL HUMERUS PLATES







	Y PLATES
Ref.	Description
NTGY1D	Y distal humerus plate - Left - Size 1 - 12 holes - L134 mm
NTDY1D	Y distal humerus plate - Right - Size 1 - 12 holes - L134 mm
NTGY2D	Y distal humerus plate - Left - Size 2 - 15 holes - L180 mm
NTDY2D	Y distal humerus plate - Right - Size 2 - 15 holes - L180 mm
NTGY3D	Y distal humerus plate - Left - Size 3 - 18 holes - L226 mm
NTDY3D	Y distal humerus plate - Right - Size 3 - 18 holes - L226 mm

→ OLECRANON PLATES



	NARROW PLATE
Ref.	Description
HTSPN1D	Olecranon plate - Narrow - Symmetrical - Size 1 - 7 holes – L64 mm



HTxPS1D

HTxPS2D



	STANDARD PLATES
Ref.	Description
HTGPS1D	Olecranon plate - Standard - Left - Size 1 - 10 holes - L112 mm
HTDPS1D	Olecranon plate - Standard - Right - Size 1 - 10 holes - L112 mm
HTGPS2D	Olecranon plate - Standard - Left - Size 2 - 13 holes - L153 mm
HTDPS2D	Olecranon plate - Standard - Right - Size 2- 13 holes - L153 mm
HTGPS3D	Olecranon plate - Standard - Left - Size 3 - 16 holes - L194 mm
HTDPS3D	Olecranon plate - Standard - Right - Size 3 - 16 holes - L194 mm

IMPLANT REFERENCES

→ Ø2.8 MM SCREW



*Green anodized

	REINFORCED CORE Ø2.8 MM NON LOCKING SCREWS*
Ref.	Description
RDT2.8LxxD	Ø2.8 mm reinforced core non-locking screw Length: from 10 mm to 60 mm (2 mm incrementation from L10 to 40 mm) (5 mm incrementation from L40 to 60 mm)

*Gold anodized



*Pink anodized

→ Ø3.5MM SCREW



*Blue anodized



*Light blue anodized

REMARK

Please note that all implants are also available in a sterile version. An "-ST" code is added at the end of the reference.

Example: TDT2.8L10D-ST

INSTRUMENT REFERENCES

INSTRUMENTS			
Ref.	Description	Qty	
ANC344	24 cm verbrugge forceps	1	
ANC345	200 mm reduction forceps	1	
ANC348	240 mm reduction forceps	1	
ANC350	Ø4.5 mm AO quick coupling handle - Size 1	1	
ANC351	Ø4.5 mm AO quick coupling handle - Size 2	1	
ANC575	T8 quick coupling screwdriver	2	
ANC650	Bending iron 1	2	
ANC1027	T15 AO quick coupling prehensor screwdriver	2	
ANC1028	Length gauge for Ø3.5 mm screws	1	
ANC102L	Length gauge for screw Ø2.8 mm - Measures 10 - 60 mm	1	
ANC1030	Ø2.7 mm non threaded bent guide gauge for Ø3.5 mm screws	1	
ANC1355	Ø2.7 mm quick coupling drill bit - L125 mm	2	
ANC1428	Ø2.0 mm threaded long guide gauge for Ø2.8 mm screws	1	
ANC1429	Ø2.0 mm threaded drill guide for Ø2.8 mm screws	2	
ANC1430	Ø2.0 mm non threaded bent drill guide for Ø2.8 mm screws	1	
ANC1431	Ø2.0 mm quick coupling drill bit - L 180 mm	2	
ANC1432	Olecranon cutting guide	1	
ANC1445	Ø2.7 mm threaded guide gauge for Ø3.5 mm screws	2	
33.0216.210	Pin Ø1.6 - L210 mm	8	
33.0220.210	Pin Ø2.0 - L210 mm	8	

REMOVAL KITS

If you have to remove Alians Elbow S implants, it is essential to order **Newclip Technics removal sets** : • ANC350: Ø4.5 mm AO quick coupling handle - Size 1 • ANC351: Ø4.5 mm AO quick coupling handle - Size 2 • ANC575: T8 quick coupling screwdriver • ANC974: T15 screwdriver with AO quick coupling system

KIT DESCRIPTION



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SCREWS



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This information is intended to demonstrate the Newclip Technics portfolio of medical devices. Always refer to the package insert, product label and/or user instructions including cleaning and sterilization before using any Newclip Technics product. These products must be handled and/or implanted by trained and qualified staff who have read the instructions before use. A surgeon must always rely on her or his own professional clinical judgement when deciding whether to use a particular product when treating a particular patient. 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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