



TRANSLATIONAL ACP



The Evolution of Translation



# The Evolution of Translation

## **NuVasive Helix-T ACP**

The NuVasive Helix-T Translational ACP system represents the next evolution in cervical plates. Combining an innovative, "zero-step" locking mechanism and unique, friction-based translation with intuitive instrumentation and implant features, such as graft viewing windows. NuVasive Helix-T ACP accommodates natural anatomical settling while optimizing implantation and patient outcomes.











# MINIMAL MATERIAL OVERHANG AT ENDS OF PLATE

Facilitates placement in the lower 1/3 of the vertebral body.

#### ZERO-STEP NUVASIVE HELIX-T ACP CANTED COIL LOCK (CCL)

- Eliminates the need for additional locking instrumentation or steps.
- Screws can be removed and repositioned while maintaining CCL integrity.
- CCL allows the plate to be securely lagged to the ventral surface of the vertebral bodies for a tight, contoured fit.



## GENEROUS SCREW ANGULATION FOR PRECISE CONSTRUCT POSITIONING

- 0°-25° cranial/caudal angulation (Variable Screws).
- 10° cranial/caudal angulation (Fixed Screws).



### **AGGRESSIVE SCREWS**

- Multiple configurations offered in Self-Drilling, Self-Tapping, Variable, and Fixed options.
- Allowing for Fixed, Hybrid, and Variable constructs.



Natural settling occurs when and where patient anatomy requires it.



#### THIN PROFILE

Less than 3mm along midline to reduce chance of postoperative discomfort.



#### LESS THAN 17mm AT ITS WIDEST POINT Results in reduced retraction and ease

retraction and ease of placement and positioning.



# **Implant Design**

### **Plate Design**

NuVasive Helix-T ACP is one of the lowest profile, internally dynamizing plates on the market. The NuVasive Helix-T ACP implant features a unique frictionbased translational mechanism that facilitates streamlined implantation. Segmental translation allows for natural settling to occur on individual levels, according to the anatomical requirements, without prematurely overloading the interbody graft. The friction-based mechanism allows for up to 2mm of natural settling at each level. Robust engagement between each segment minimizes medial/lateral toggle of the plate.



### **Recommended Screw Angulations**

- NuVasive Helix-T ACP Fixed Screws offer rigid fixation at a set trajectory: 10° (cranial/caudal) at the ends of the plate and 0° at intermediate levels.
- NuVasive Helix-T ACP Variable Screws allow for a 25° cone of insertion angulation and a 10° preset angulation on the Fixed Screws. These Variable Screws offer surgeons 0°/25° at the ends of the plate and 12.5°/12.5° at intermediate levels.



### **Intraoperative Visualization**

Innovative, anatomically designed graft windows allow for optimal graft/ endplate visualization and implant placement.



# **Canted Coil Lock**

## NuVasive Helix-T ACP Canted Coil Lock (CCL)

NuVasive Helix-T ACP uses a proprietary canted coil locking mechanism that utilizes a unique canted coil design for even load distribution around the perimeter of the screw head. By "canting" open upon screw insertion, the CCL minimizes the potential for a misplaced or unlocked screw, while maximizing overall ease of use via a low-profile, yet robust, locking mechanism.

The NuVasive Helix-T ACP Canted Coil Lock applies even, anti-backout force around the ledge at the head of the screw. As the ledge passes the canted coil, the screw locks into place. This screw can also be removed easily with the Screw Extractor without compromising the locking mechanism, which can be especially beneficial when intraoperative repositioning of the screws is necessary.

### How the NuVasive Helix-T ACP CCL Works

By deflecting instead of deforming or warping (illustrated on the right) during screw insertion, the canted coil in the NuVasive Helix-T ACP maintains its easy and reproducible insertion flexibility. The CCL was designed to absorb micromotion over long periods of time to prevent locking failure by deformation.

## **Canted Coil Locking Mechanism Cut-Away**

The Canted Coil Lock utilized by NuVasive Helix-T ACP plates works by closing around the screw ledge as it is driven past the locking mechanism, wedging the ledge between the coil and plate.

## Benefits of the NuVasive Helix-T ACP CCL Design

- Creates a zero-step locking mechanism for unparalleled ease of use.
- Allows for multiple screw insertion and removal without compromising the coil's locking integrity.
- Allows an easy, reproducible way to visibly confirm secure locking of the screw.



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Deflection

FREE POSITION

LOCKED POSITION

Illustration of the Canted Coil Lock <u>deflecting</u> instead of deforming





NUVASIVE HELIX-T ACP CANTED COIL LOCK

# **Screw Design**

### **Screw Design**

**Self-Drilling Screws** have a self-tapping flute and feature a sharp tip for maximum efficiency in hard bone.

**Self-Tapping Screws** feature a blunt tip to allow bi-cortical purchase, if desired for additional fixation.

All screw options offer the same aggressive thread pattern to maximize bone purchase and tactile feel. Screws are available in 11, 13, 15, 17, and 19mm lengths. Screw length is measured from the posterior surface of the plate (amount of screw in bone).

### **FIXED SCREW OPTIONS VARIABLE SCREW OPTIONS** 4.0mm 4.0mm 4.5mm 4.0mm 4.0mm 4.5mm Self-Drilling Self-Tapping Self-Tapping Self-Drilling Self-Tapping Self-Tapping Rescue Rescue

## **Plate Sizing**

NuVasive Helix-T ACP is measured from end to end and is available in 1-Level to 5-Level plates.

### **1-LEVEL NUVASIVE HELIX-T ACP PLATE**







# FAQs

1. Is the NuVasive Helix-T ACP plate directional?

No, it can be implanted in either cranial or caudal orientation.

- **2. What is the maximum angulation of the Variable Screws?** 25° in a cranial/caudal orientation (0°-25° cone).
- 3. How much force is needed to collapse the plate?

The plate requires approximately 6.3 lbs. of force to collapse.

#### 4. Can the plate be collapsed/opened intraoperatively?

Yes, a Distractor and Compressor are offered in the sets to collapse/open the plates.

#### 5. What is the smallest plate offered?

NuVasive Helix-T ACP is offered in 1 level, 20mm to accommodate smaller vertebral bodies. Transition sizes are also offered over 1 to 2 levels (34mm) and 2 to 3 levels (54mm). Plate lengths are measured from end to end. All plates in the system maintain translational abilities.

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#### 6. Does the NuVasive Helix-T ACP system offer clips to hold the plate open?

Yes, in certain cases such as small retraction or plate insertion limitations, the optional Spacer Clips can be used. These come pre-installed on the plates and must be removed before wound closure.

#### 7. How thick and wide is the NuVasive Helix-T ACP plate?

The plate is less than 3mm thin and less than 17mm wide (14mm at waist). The leading edge of the plate is 1.2mm.

#### 8. Can the NuVasive Helix-T ACP plate be intraoperatively contoured?

No, the NuVasive Helix-T ACP plate was designed with pre-lordosis to match the natural anatomic curve of the cervical spine. In addition, segmental dynamism facilitates a tight fit between the implant and ventral surface of the vertebral body.

#### 9. How much translation do the NuVasive Helix-T ACP plates allow for at each level?

The NuVasive Helix-T ACP plates offer up to 2mm of translation at each level.

### NUVASIVE HELIX-T ACP INSTRUMENTS

DESCRIPTION	CATALOG #
13mm Drill Bit	7730016
13mm Tap Bit	7730026
Drill Guide Awl	7730062
Self-Centering Awl (Variable)	7730063
Self-Centering Awl (Fixed)	7730064
Screw Extractor	7730072
Drill Guide, Fixed-Angle	7730081
Drill Guide, Variable-Angle	7730091
Universal Handle	7730600
Temporary Tack	7737110
Plate Holder	7780007
Clip Removal Tool	7780009
DTS Mid-Guide, 0°	7780010
Plate Distractor	7780011
Plate Compressor	7780012
Screwdriver	7780014
Rescue Driver	7780015
DTS End-Guide, 10°	7780017
2mm Ext. Spacer Clip	7780054
1.5mm Spacer Clip	7780055
.7mm Spacer Clip	7780056
2mm Spacer Clip	7780057

### NUVASIVE HELIX-T ACP IMPLANTS

DESCRIPTION	CATALOG #
4 x 11mm Self-Drilling Variable Screw	7739111
4 x 13mm Self-Drilling Variable Screw	7739113
4 x 15mm Self-Drilling Variable Screw	7739115
4 x 11mm Self-Tapping Variable Screw	7733111
4 x 13mm Self-Tapping Variable Screw	7739213
4 x 15mm Self-Tapping Variable Screw	7739215
4 x 17mm Self-Tapping Variable Screw	7739217
4 x 19mm Self-Tapping Variable Screw	7733119
4.5 x 13mm Self-Tapping Variable Screw	7735113
4.5 x 15mm Self-Tapping Variable Screw	7735115
4.5 x 17mm Self-Tapping Variable Screw	7735117
4.5 x 19mm Self-Tapping Variable Screw	7735119
4 x 11mm Self-Drilling Fixed Screw	7732111
4 x 13mm Self-Drilling Fixed Screw	7732113
4 x 15mm Self-Drilling Fixed Screw	7732115

### NUVASIVE HELIX-T ACP IMPLANTS

DESCRIPTION	CATALOG #
4 x 11mm Self-Tapping Fixed Screw	7734111
4 x 13mm Self-Tapping Fixed Screw	7734113
4 x 15mm Self-Tapping Fixed Screw	7734115
4 x 17mm Self-Tapping Fixed Screw	7734117
4 x 19mm Self-Tapping Fixed Screw	7734119
4.5 x 13mm Self-Tapping Fixed Screw	7736113
4.5 x 15mm Self-Tapping Fixed Screw	7736115
4.5 x 17mm Self-Tapping Fixed Screw	7736117
1-Level NuVasive Helix-T ACP Plate, 20mm	7781120
1-Level NuVasive Helix-T ACP Plate, 22mm	7781122
1-Level NuVasive Helix-T ACP Plate, 24mm	7781124
1-Level NuVasive Helix-T ACP Plate, 26mm	7781126
1-Level NuVasive Helix-T ACP Plate, 28mm	7781128
1-Level NuVasive Helix-T ACP Plate, 30mm	7781130
1-Level NuVasive Helix-T ACP Plate, 32mm	7781132
1-Level NuVasive Helix-T ACP Plate, 34mm	7781134
2-Level NuVasive Helix-T ACP Plate, 34mm	7781234
2-Level NuVasive Helix-T ACP Plate, 36mm	7781236
2-Level NuVasive Helix-T ACP Plate, 38mm	7781238
2-Level NuVasive Helix-T ACP Plate, 40mm	7781240
2-Level NuVasive Helix-T ACP Plate, 42mm	7781242
2-Level NuVasive Helix-T ACP Plate, 44mm	7781244
2-Level NuVasive Helix-T ACP Plate, 46mm	7781246
2-Level NuVasive Helix-T ACP Plate, 48mm	7781248
2-Level NuVasive Helix-T ACP Plate, 50mm	7781250
2-Level NuVasive Helix-T ACP Plate, 52mm	7781252
2-Level NuVasive Helix-T ACP Plate, 54mm	7781254
3-Level NuVasive Helix-T ACP Plate, 54mm	7781354
3-Level NuVasive Helix-T ACP Plate, 56mm	7781356
3-Level NuVasive Helix-T ACP Plate, 58mm	7781358
3-Level NuVasive Helix-T ACP Plate, 60mm	7781360
3-Level NuVasive Helix-T ACP Plate, 62mm	7781362
3-Level NuVasive Helix-T ACP Plate, 64mm	7781364
3-Level NuVasive Helix-T ACP Plate, 66mm	7781366
3-Level NuVasive Helix-T ACP Plate, 68mm	7781368
4-Level NuVasive Helix-T ACP Plate, 70mm	7781470
4-Level NuVasive Helix-I ACP Plate, 74mm	7781474
4-Level NuVasive Helix-T ACP Plate, 78mm	7781478
4-Level NuVasive Helix-T ACP Plate, 82mm	7781482
4-Level NuVasive Helix-LACP Plate, 86mm	7781486
4-Level Nuvasive Helix-LACP Plate, 90mm	7701505
5-Level Nuvasive Helix-LACP Plate, 95mm	7701501
5-Level Nuvdsive Helix-1 ACP Plate, 100mm	7791505
5-Level NuVasive Helix-1 ACP Plate, 105mm	7781505
S-Level NUVASIVE HEIIX-T ACP Plate, TIUMM	1/01210



To order, please contact your NuVasive Sales Consultant or Customer Service Representative today at: **NuVasive, Inc.** 7475 Lusk Blvd., San Diego, CA 92121 USA • phone: 800-475-9131 fax: 800-475-9134 **ECREP NuVasive Netherlands B.V.** Jachthavenweg 109A, 1081 KM Amsterdam, The Netherlands • phone: +31 20 72 33 000

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