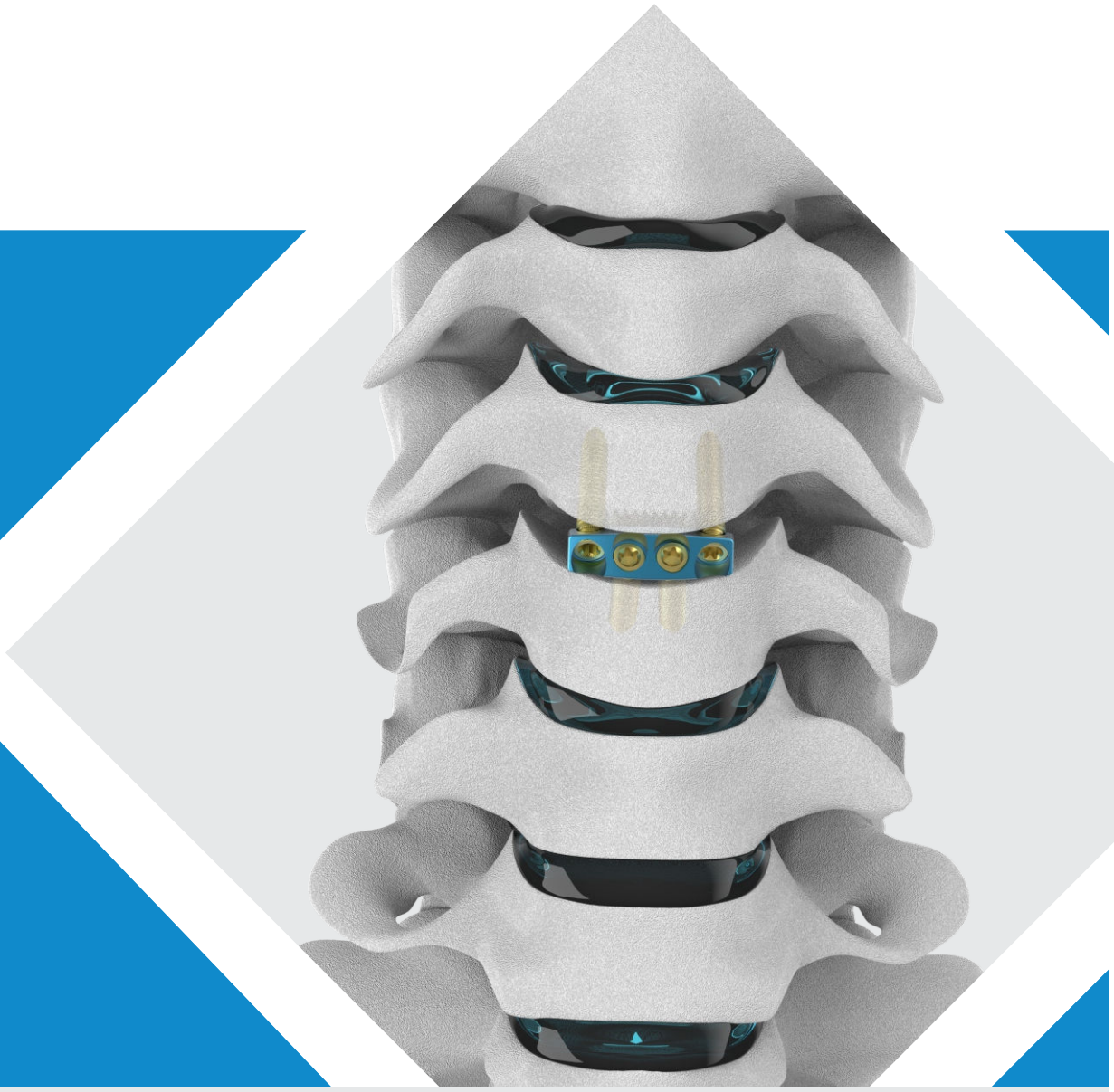
Auxein®



Surgical Technique

PALLAS- Low Profile Anterior Cervical Cage

www.auxein.com

about us

Auxein Medical is an integrated, research based, orthopaedic Implants & instruments manufacturing company, producing a wide range of quality, affordable generic implants, trusted by healthcare professionals and patients across geographies. It is the Company's constant endeavor to provide a wide basket of generic and our innovator products that exceed the highest expectations of customers in term of quality and safety. The company has world-class manufacturing unit established in india and serves customers in over 75 countries worldwide.

Our Achievements

Guidelines

This publication sets forth detailed recommended procedures for using Auxein Medical devices and instruments.

It offers guidance that needs to be heeded. However, with any such technical guide, each surgeon must consider the unique needs of each patient and make appropriate adjustments when and as required.

A workshop training under DAIS Academy by Auxein will provide assistance prior to first surgery. It is vital to know that all non-sterile devices must be cleaned and sterilized before use.

Moreover, multi-component instruments must be disassembled for cleaning. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.

Please NOTE that all the bone screws referenced in this document here are not approved for screw attachment or fixation in the areas not mentioned in this publication.

Warning:
This description is not sufficient for immediate application of the instrumentation. Instruction by a surgeon experienced in handling this instrumentation is highly recommended.

DAIS
Division of Auxein Institute for Surgeons

Organised by: Auxein

Contents

PRODUCT OVERVIEW:

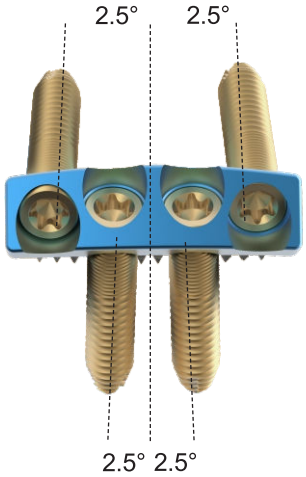
PALLAS Low Profile Anterior Cervical Cage is a stand-alone device for use in cervical inter-body fusion, designed to combine the functionality of a cervical inter-body cage with an anterior cervical plate. The implant is designed to be contained within the excised disc space and does not protrude past the anterior wall of the vertebral body as do anterior cervical plates. In addition, preparation of the anterior surface of the vertebral body is limited because the implant does not lie against this surface.

PEEK Interbody Space

- Radiopaque marker for posterior visualization during imaging
- Spacer component is made of pure medical grade PEEK-OPTIMA (polyetheretherketone)
- Teeth on the superior and inferior implant surfaces provide initial stability

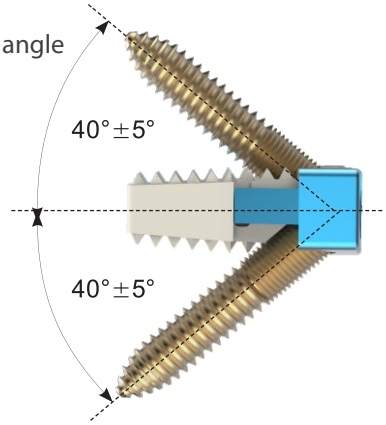
Titanium Alloy Plate Provides a secure, rigid screw locking interface

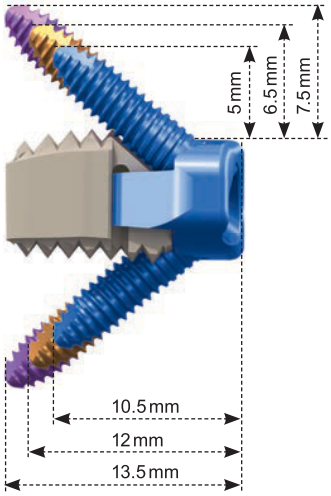
- Stresses in the plate are decoupled from the spacer through an innovative interface

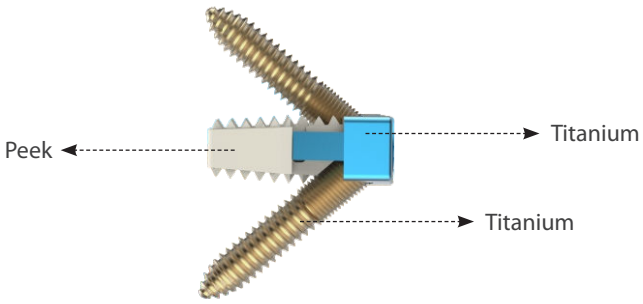


Locking Head Screws

- Screws form a bone wedge with a 40° ± 5° cranial/caudal angle and 2.5° medial/lateral angle
- One-step locking screws
- Self-tapping screw improves thread purchase
- Trilobular thread-cutting flutes are self-centering







INDICATIONS AND CONTRAINDICATIONS

Indications

The Auxein Spine PALLAS (LPAC) is a stand alone anterior cervical interbody fusion device indicated for use in skeletally mature patients with degenerative disc disease (DDD) with accompanying radicular symptoms at one level from C2 to T1. DDD is defined as discogenic pain with degeneration of the disc confirmed by history and radiographic studies. These patients should have had six weeks of nonoperative treatment. The interior of the spacer component of the Auxein Spine PALLAS (LPAC) should be packed with autogenous bone graft and implanted via an anterior approach.

Contraindications

1. Use of the Auxein Spine PALLAS (LPAC) is contraindicated when there is active systemic infection, infection localized to the site of the proposed implantation, or when the patient has demonstrated allergy or foreign body sensitivity to any of the implant materials.

2. Severe osteoporosis may prevent adequate fixation and thus preclude the use of this or any other orthopaedic implant.

3. Severe obesity or degenerative diseases are relative contraindications. The decision whether to use these devices in such conditions must be made by the physician taking into account the risks versus the benefits to the patient.

4. Use of these implants is relatively contraindicated in patients whose activity, mental capacity, mental illness, alcoholism, drug abuse, occupation, or lifestyle may interfere with their ability to follow postoperative restrictions. These patients may place undue stresses on the implant during bony healing and may be at a higher risk of implant failure.

5. Prior fusion at the level to be treated.

6. Any condition not described in the Indications for Use.

PREOPERATIVE PLANNING

Determine the surgical approach and estimate the appropriate PALLAS (LPAC) size.

Notes: With the segment fully distracted, the PALLAS (LPAC) must fit firmly between the end plates before locking head screws are inserted. When rocking the Guide for PALLAS (7-011-28)backward and forward in a cranial to caudal direction, no toggling of the implant should be evident.

It is recommended to select the maximum implant size in order to optimize the stability of the segment through tension in the annulus fibrosus and longitudinal ligaments.

CONSIDERATIONS

When implanting the PALLAS (LPAC) adjacent to a prior fusion, take care to avoid placing the PALLAS (LPAC) and screws in direct contact with previously implanted hardware. As necessary, remove adjacent-level hardware that prevents the PALLAS (LPAC) from being implanted using the correct technique.

Caution: Placement of the PALLAS (LPAC) adjacent to a previous, multi-level fusion could result in increased loading. Supplemental fixation should be considered in cases where the PALLAS (LPAC) is placed adjacent to a previous, multi-level fusion.

Do not place the PALLAS (LPAC) adjacent to previously implanted hardware if the adjacent level cannot be confirmed to be fused or where fusion has not occurred.

Important: Use radiographic imaging to verify final implant position relative to the vertebral bodies in the AP and lateral direction and remaining implanted hardware associated with the previously fused level.

To accommodate previously placed hardware, orient the PALLAS (LPAC) with lordotic and parallel sagittal profiles with either the medial screws facing cranially or caudally. Consider screw dimensions to determine desired orientation.

Caution: Do not orient the PALLAS (LPAC) having convex sagittal profiles with medial screws facing cranial. Orienting convex sagittal profile implants with medial screws facing cranial may prevent proper seating of the implant between vertebral bodies.

SURGICAL STEPS:

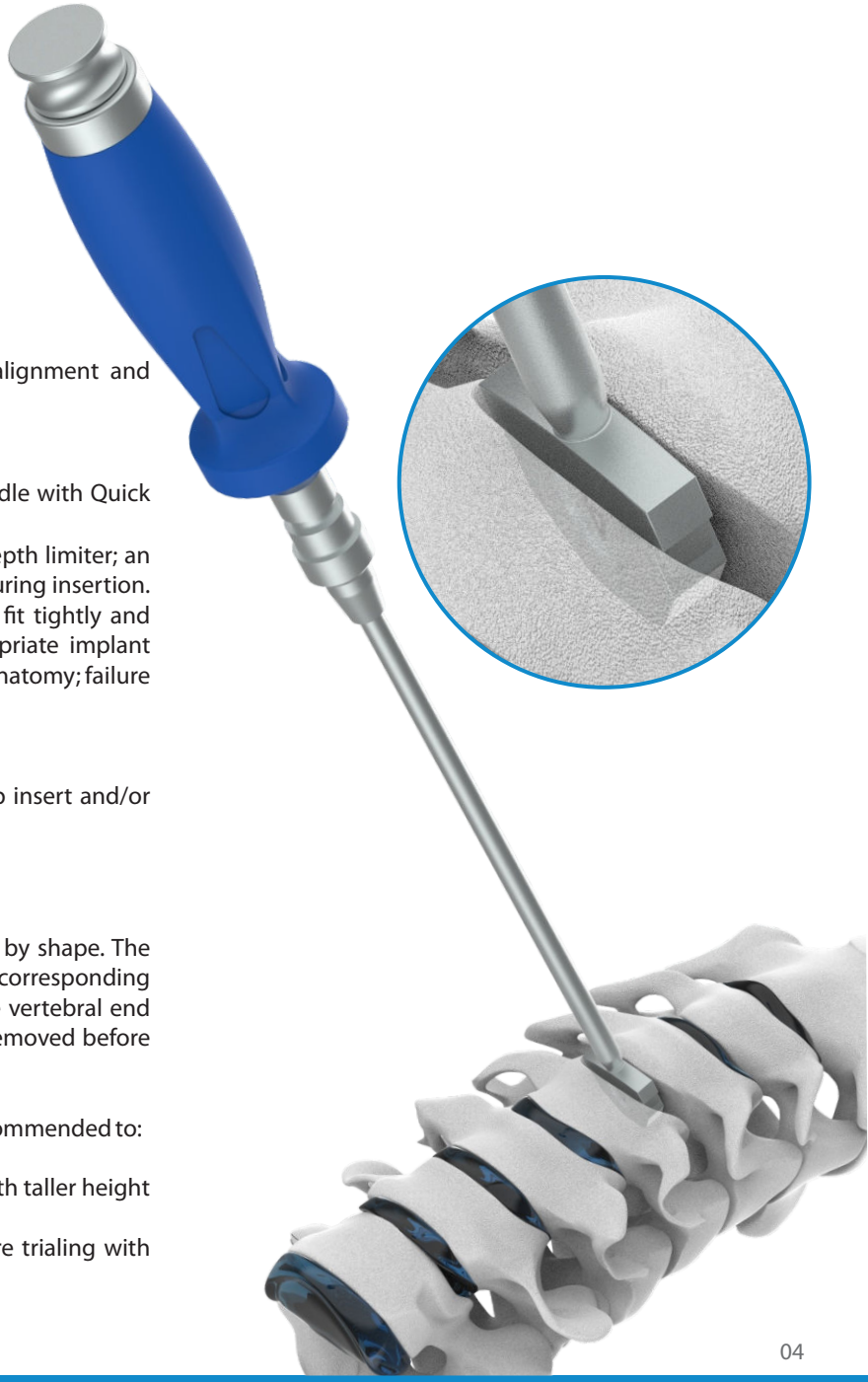
IMPLANT INSERTION

1. Approach

Using the standard surgical approach, expose the vertebral bodies to be fused. Prepare the fusion site following the appropriate technique for the given indication.

2. Determine Appropriate Implant

Choose a parallel, lordotic or convex trial spacer of the appropriate height and depth based on the height of the intervertebral space, the preparation technique and the patient anatomy.



Position the trial Pallas in the correct cranial/caudal alignment and carefully insert it into the disc space.

Caution:
The trial Pallas **(7-011-04 to 7-011-11)** fits into the Handle with Quick Coupling for PALLAS **(7-011-23)**
The trial Pallas **(7-011-04 to 7-011-11)** do not have a depth limiter; an image intensifier should be used to check the position during insertion. With the segment fully distracted, the trial Pallas must fit tightly and accurately between the end plates. Choose the appropriate implant footprint and size to accommodate variations in patient anatomy; failure to do so may injure the patient.

The Impactor for PALLAS (7-011-02) can be used to help insert and/or remove the trial Pallas.

Notes:
The trial Pallas **(7-011-04 to 7-011-11)** are color-coded by shape. The height of the trial Pallas is 0.8 mm less than that of the corresponding implant to account for penetration of the teeth into the vertebral end plate. trial Pallas are not for implantation and must be removed before insertio of the PALLAS (LPAC).

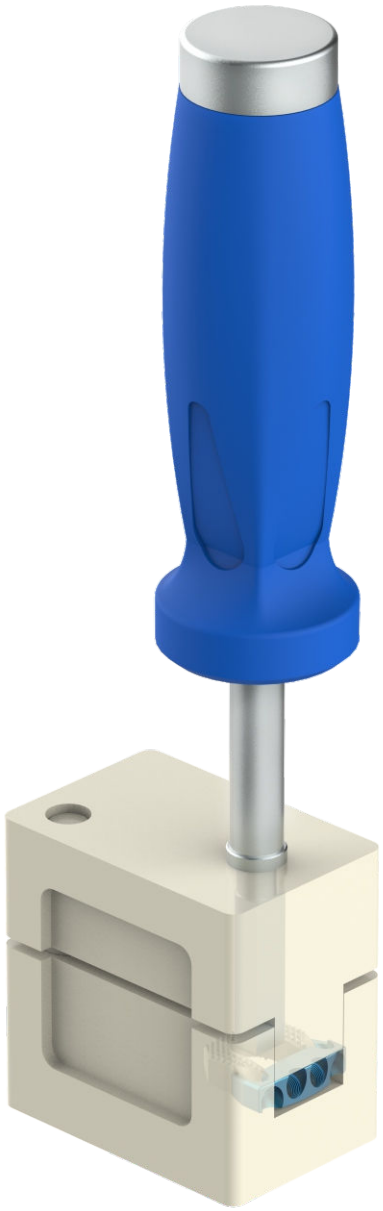
To minimize potential increased risk to the patient, it is recommended to:

- Trial with shorter height trial spacers before trialing with taller height trial spacers; and
- Trial with the standard footprint size trial Pallas before trialing with large footprint size trial Pallas.

3. Pack Implant with Autogenous Bone Graft

Place the appropriate PALLAS (LPAC) into the Implant Support for PALLAS **(7-011-25)**.

Use the cancellous Bone Plugger for PALLAS **(7-011-03)** to firmly pack the autogenous graft material into the implant cavity.



Notes:
To ensure optimal contact with the vertebral end plates, it is important to fill the implant until the graft material protrudes from the perforations.

The Bone Plugger for PALLAS **(7-011-03)** can only be used with the standard size footprints of the PALLAS (LPAC).

4. Insert Implant

Use the Guide for PALLAS **(7-011-28)** or implant holder to introduce the implant into the disc space. The recommended orientation is with the medial screws pointing caudally.

Caution: The Guide for PALLAS **(7-011-28)** do not have a depth limiter, therefore an image intensifier should be used to check the position while inserting.

Using the Guide for Pallas
Attach the Guide for PALLAS to the implant by aligning the screw holes of the implant with the retention features on the Guide for PALLAS **(7-011-28)** and then expanding the aiming device. Once the implant is securely attached, carefully insert the implant into the distracted segment.

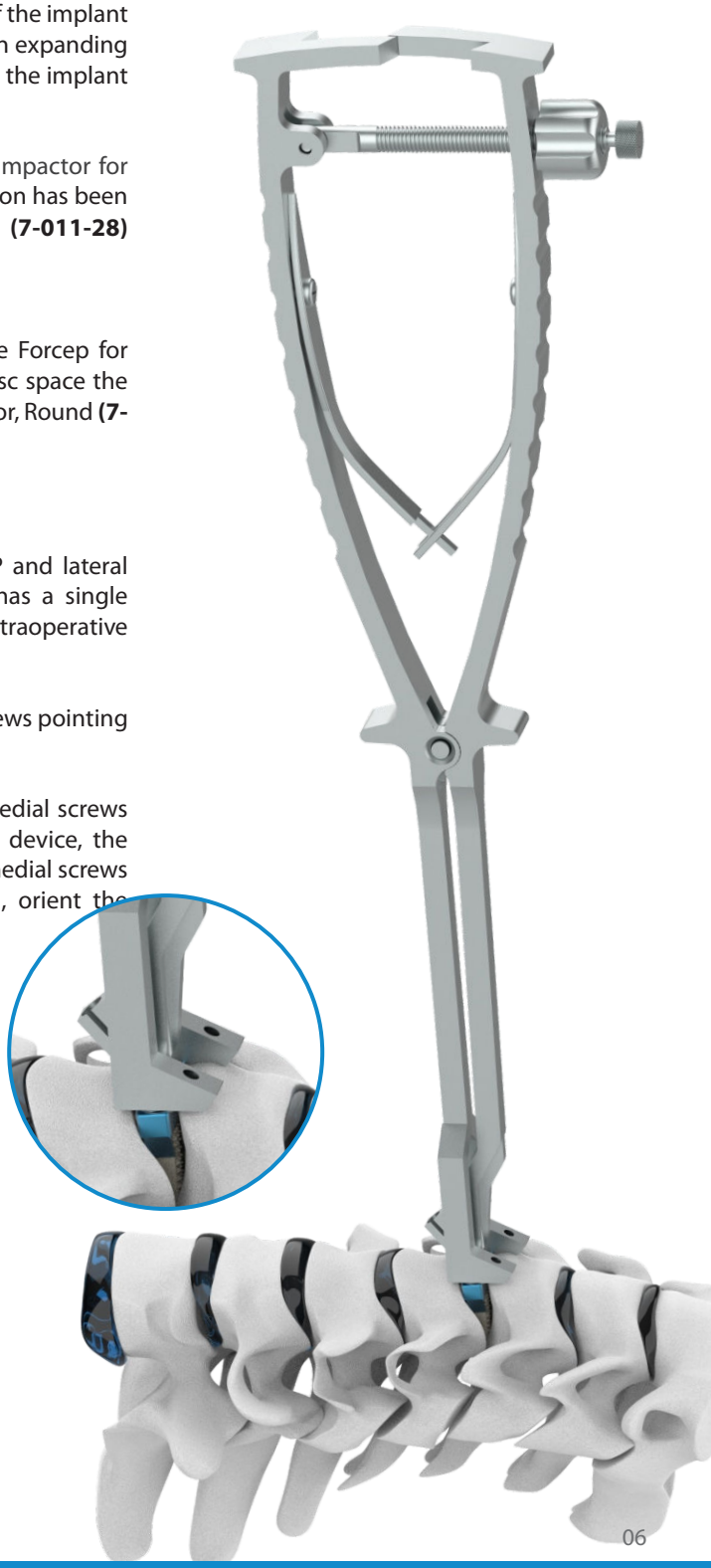
If necessary, the top of the Guide for PALLAS can be tapped with the Impactor for PALLAS (7-011-02) to advance the implant into the disc space. If distraction has been applied, release the distraction while leaving the Guide for PALLAS **(7-011-28)** attached to the implant.

Using the Implant Holder
Alternatively, the implant can be inserted into the disc space with the Forcep for PALLAS **(7-011-27)**. Once the implant is partially introduced into the disc space the implant can be advanced to the correct posterior depth using the Impactor, Round **(7-011-12)** or Impactor, Flat **(7-011-13)**.

Important:
Verify final implant position relative to the vertebral bodies in the AP and lateral direction with the help of intraoperative imaging. The PEEK spacer has a single posterior x-ray marker incorporated into the implant to enable accurate intraoperative radiographic assessment of the implant position.

Notes: The convex shaped spacers must be oriented with the medial screws pointing caudally.

The parallel and lordotic spacers can be oriented in either direction (medial screws pointing cranially or caudally). In order to facilitate placement of the device, the recommendation is to first attempt orientation of the implant with the medial screws pointing caudally. If implantation is compromised in this orientation, orient the implant in the other direction (medial screws pointing cranially).



OPTION A : Guide for PALLAS

The Guide for PALLAS **(7-011-28)** allows one screw to be inserted with the instrument attached to the implant. This helps to keep the implant in place while the other screw holes are prepared and screws inserted.

A1. Drill First Pilot Hole Through Drill and Screw Hole of Guide for PALLAS

Select a Drill Bit With Stop **(7-011-16 to 7-011-18)** of appropriate stop depth. Insert the Drill Bit With Stop **(7-011-16 to 7-011-18)** into the drill and screw hole of the Guide for PALLAS **(7-011-28)** and drill until the stop on the drill contacts the guide.

Important: Intraoperative imaging should be used to verify drill position.

Remove the Drill Bit With Stop **(7-011-16 to 7-011-18)**.

Note: The Drill Bit With Stop **(7-011-16 to 7-011-18)** are each marked with a colored ring corresponding to the color-coded screw lengths.

Caution: When using the Drill Bit With Stop **(7-011-16 to 7-011-18)** in combination with the guide for PALLAS, take care to apply only axial forces to the drill. Bending force is applied when the tip of the drill is engaged in the Guide for PALLAS **(7-011-28)** can lead to the drill breaking and potentially increased risk to the patient.

A2. Insert First Screw

Select the appropriate screw length according to the preoperative planning and intraoperative findings.

Assemble the Torque Limiting Attachment, 1.2Nm **(7-011-31)** to the Screwdriver Shaft,T8 **(7-011-20)** and Handle with quick coupling **(7-011-23)**.

Caution: The Torque Limiting Attachment, 1.2Nm **(7-011-31)** must be used. If the Torque Limiting Attachment, 1.2Nm **(7-011-31)** is not used, breakage of the driver may occur, potentially increasing risk to the patient.

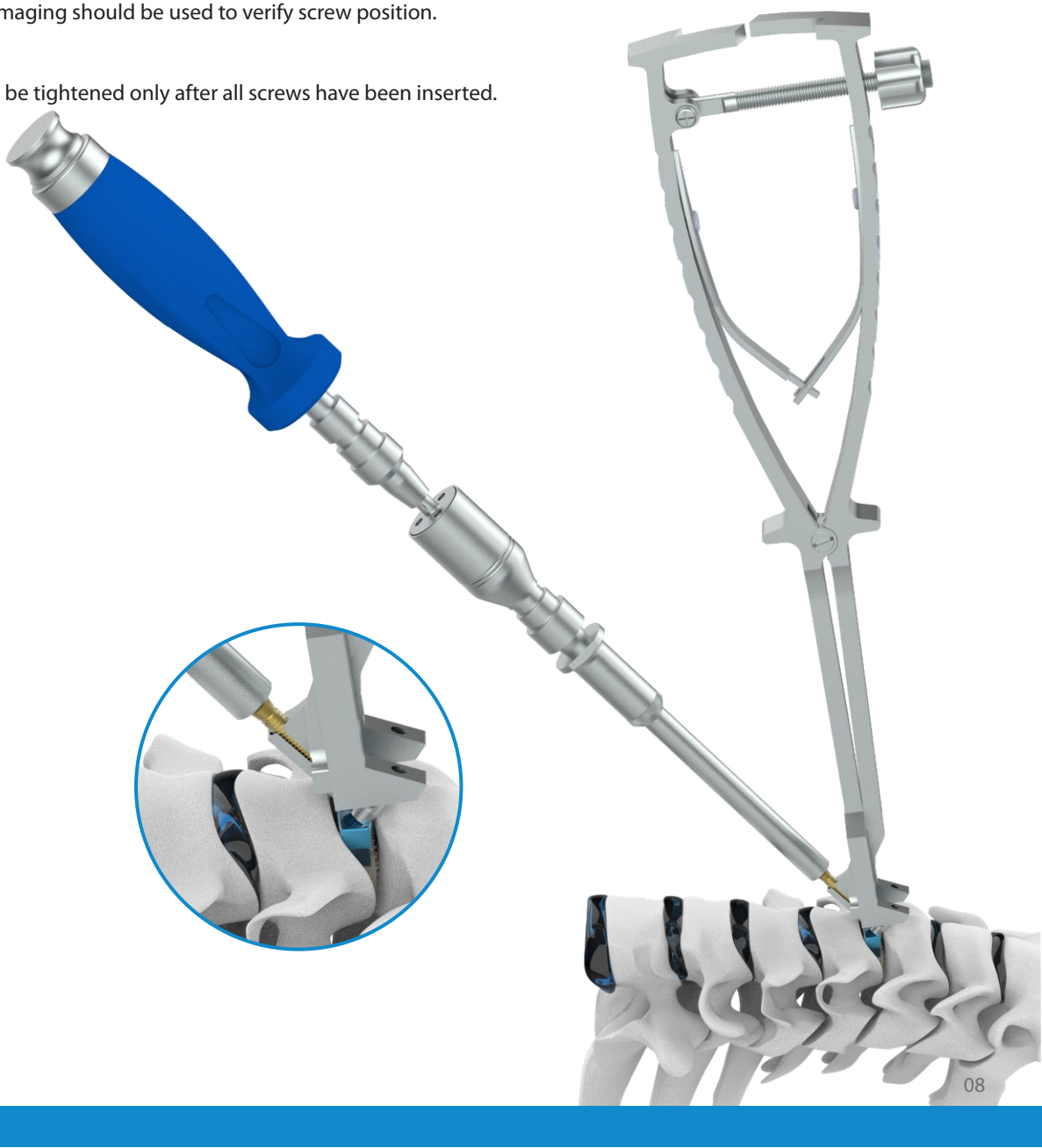
Load a screw onto the Screwdriver Shaft,T8 **(7-011-20)** with Torque Limiting Attachment, 1.2Nm **(7-011-31)** attachment through Screw Holding Sleeve for PALLAS **(7-011-26)**. The screw will self-retain to the screwdriver, however, The holding Threadec Sleeve for PALLAS may be used for increased screw retention.

Note: Retract the Threadec Screw Holding Sleeve for PALLAS **(7-011-15)** when inserting the first screw through the aiming device.

Advance the screw until the head of the screw contacts the plate.

Important: Intraoperative imaging should be used to verify screw position.

Caution: The screws should be tightened only after all screws have been inserted.



A3. Drill Remaining Pilot Holes

Select a Drill Bit With Stop **(7-011-16 to 7-011-18)** of appropriate stop depth. Insert the Drill Bit With Stop into a drill hole of the Guide for PALLAS **(7-011-28)** and drill until the stop on the drill contacts the guide.

Important: Intraoperative imaging should be used to verify drill position.

Remove the Drill Bit With Stop **(7-011-16 to 7-011-18)**.

Repeat for the remaining screw holes.

Note: The Drill Bit With Stop are each marked with a colored ring corresponding to the color-coded screw lengths.

Caution: When using the Drill Bit With Stop **(7-011-16 to 7-011-18)** in combination with the Guide for PALLAS **(7-011-28)**, take care to apply only axial forces to the drill. Bending forces applied when the tip of the drill is engaged in the Guide for PALLAS can lead to the drill breakage and potentially increased risk to the patient.

A4. Insert Remaining Screws

Remove the Guide for PALLAS **(7-011-28)** from the implant.

Load the selected screw onto the screwdriver with torque limiting attachment. The screw will self-retain to the screwdriver, however, the Screw Holding Sleeve for PALLAS **(7-011-26)** may be used for increased screw retention.

Advance the screw until the head of the screw contacts the plate.

Repeat for the remaining screws.

Caution: The screws should be tightened only after all screws have been inserted.

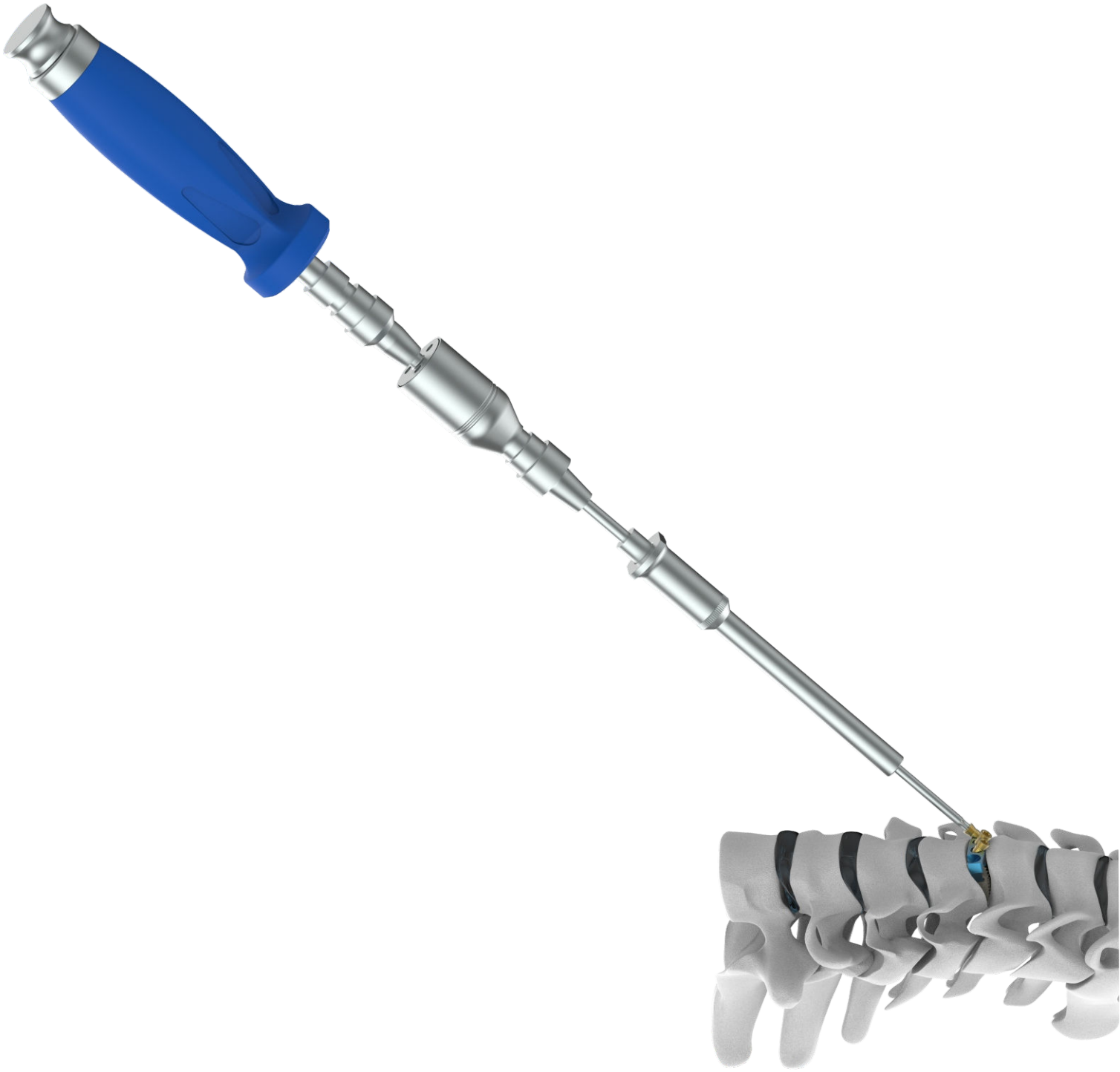
Note: If the Guide for PALLAS **(7-011-28)** is difficult to remove, verify that the screw is advanced far enough so that the Guide for PALLAS **(7-011-28)** is not contacting the screw during removal.

A5. Tighten Screws

To lock the screwhead in the plate, always use the torque limiting attachment with the **Screwdriver** (Handle with quick coupling **(7-011-23)** & Screw driver shaft T8 **(7-011-20)** to tighten each screw to the recommended Torque Limiting Attachment, 1.2Nm **(7-011-31)**.

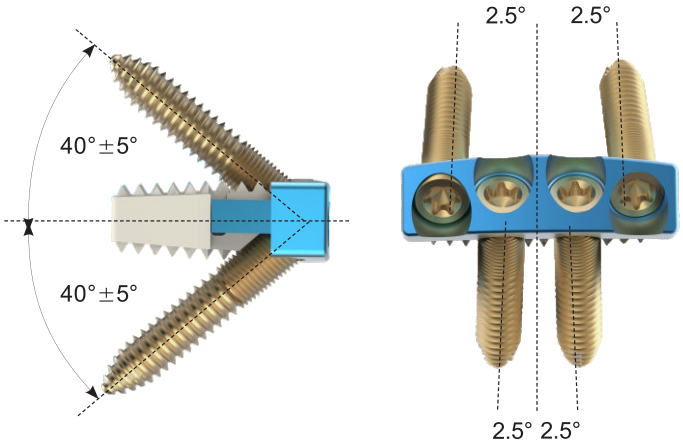
Caution: If the torque limiting attachment is not used, breakage of the driver may occur and could potentially harm the patient.

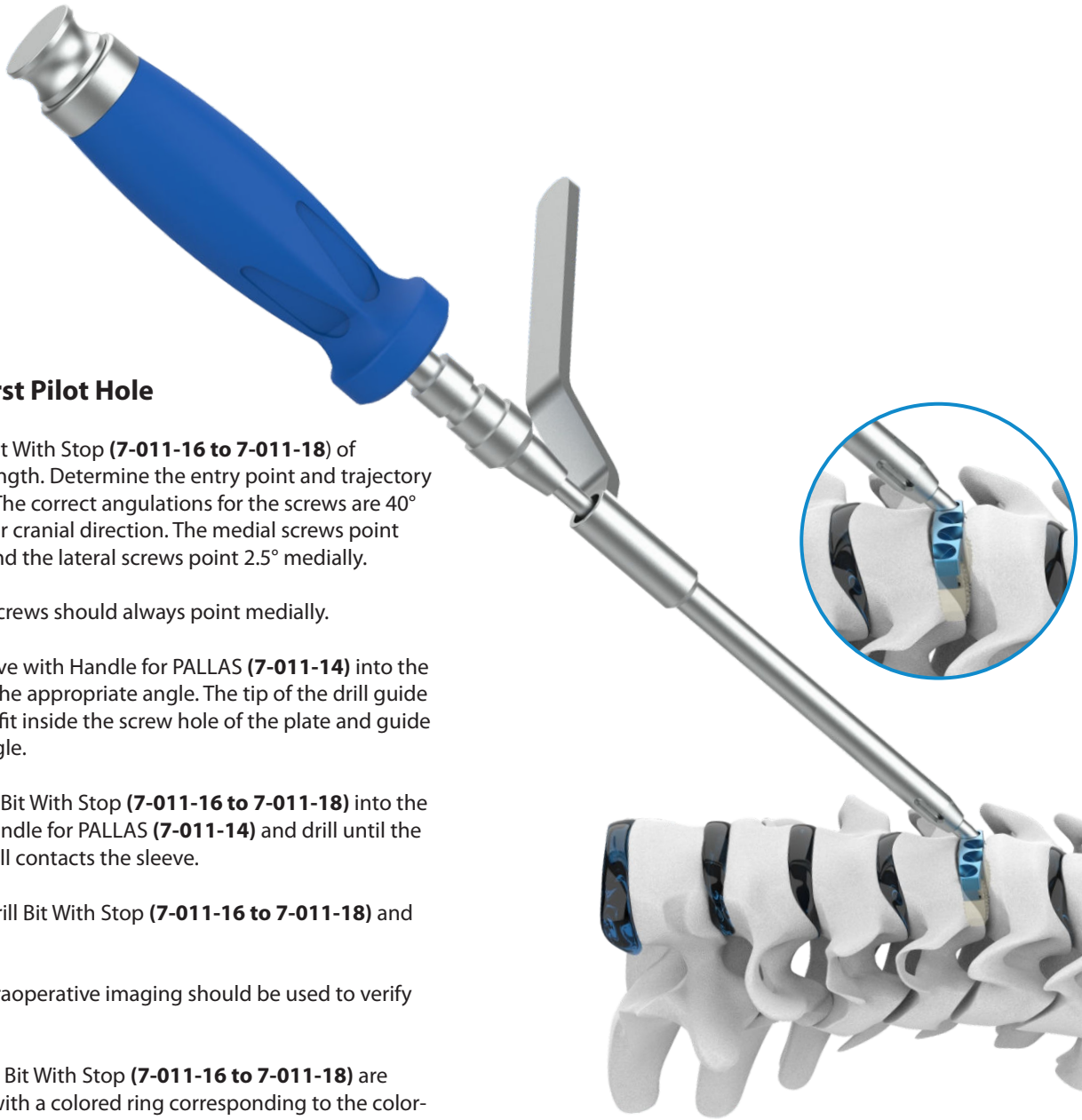
Note: Screws placed using the surgical technique may not always be flush with the plate, but will be sufficiently locked when Torque Limiting Attachment, 1.2Nm **(7-011-31)** is achieved.



OPTION B: DRILL GUIDE AND FREEHAND SCREW

If surgeon preference is to not use the aiming device, this alternative technique may be used.





B1. Drill First Pilot Hole

Select a Drill Bit With Stop **(7-011-16 to 7-011-18**) of appropriate length. Determine the entry point and trajectory for the screw. The correct angulations for the screws are 40° in the caudal or cranial direction. The medial screws point 2.5° laterally and the lateral screws point 2.5° medially.

Note: Lateral screws should always point medially.

Insert the Sleeve with Handle for PALLAS **(7-011-14)** into the screw hole at the appropriate angle. The tip of the drill guide is designed to fit inside the screw hole of the plate and guide the correct angle.

Insert the Drill Bit With Stop **(7-011-16 to 7-011-18)** into the Sleeve with Handle for PALLAS **(7-011-14)** and drill until the stop on the drill contacts the sleeve.

Remove the Drill Bit With Stop **(7-011-16 to 7-011-18)** and guide.

Important: Intraoperative imaging should be used to verify drill position.

Note: The Drill Bit With Stop **(7-011-16 to 7-011-18)** are each marked with a colored ring corresponding to the color-coded screw lengths. When the ring is flush with the top of the Sleeve the appropriate depth has been reached.

B2. Insert First Screw

Select the appropriate screw length according to the preoperative planning and intraoperative findings.

Assemble the Torque Limiting Attachment, 1.2Nm **(7-011-31)** to the Screwdriver Shaft,T8 **(7-011-20)** and Handle with quick coupling **(7-011-23)**.

Caution: If the Torque Limiting Attachment, 1.2Nm **(7-011-31)** is not used, breakage of the driver may occur and could potentially increase risk to the patient.

Load the screw onto the self-retaining screwdriver with torque limiting attachment. The screw will self-retain to the screwdriver, however, the Holding Sleeve for PALLAS **(7-011-26)** may be used for increased screw retention.

Advance the screw until the head of the screw contacts the plate.

Important: Intraoperative imaging should be used to verify screw position.

Caution: The screws should be tightened only after all screws have been inserted.

B3. Insert Remaining Screws

Repeat Steps B1 and B2 for the remaining screws.

B4. Tighten Screws

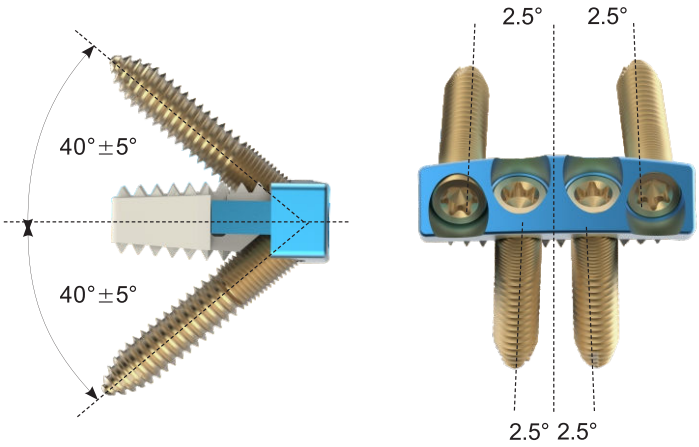
To lock the screw head in the plate, always use the Torque Limiting Attachment, 1.2Nm **(7-011-31)** with the Screwdriver Shaft,T8 **(7-011-20)** to tighten each screw to the recommended 1.2 Nm torque.

Caution: If the torque limiting attachment is not used, breakage of the driver may occur and could potentially increase risk to the patient.

Note: Screws placed using the surgical technique may not always be flush with the plate, but will be sufficiently locked when 1.2 Nm torque is achieved.

OPTION C: THREADED DRILL GUIDE AND FREEHAND SCREW

C1. Drill First Pilot Hole



Determine the trajectory for the threaded Drill Bit With Stop **(7-011-16 to 7-011-18**). The correct angulations are 40° in the caudal or cranial direction. The medial screws point 2.5° laterally and the lateral screws point 2.5° medially.

Note: Lateral screws should always point medially.

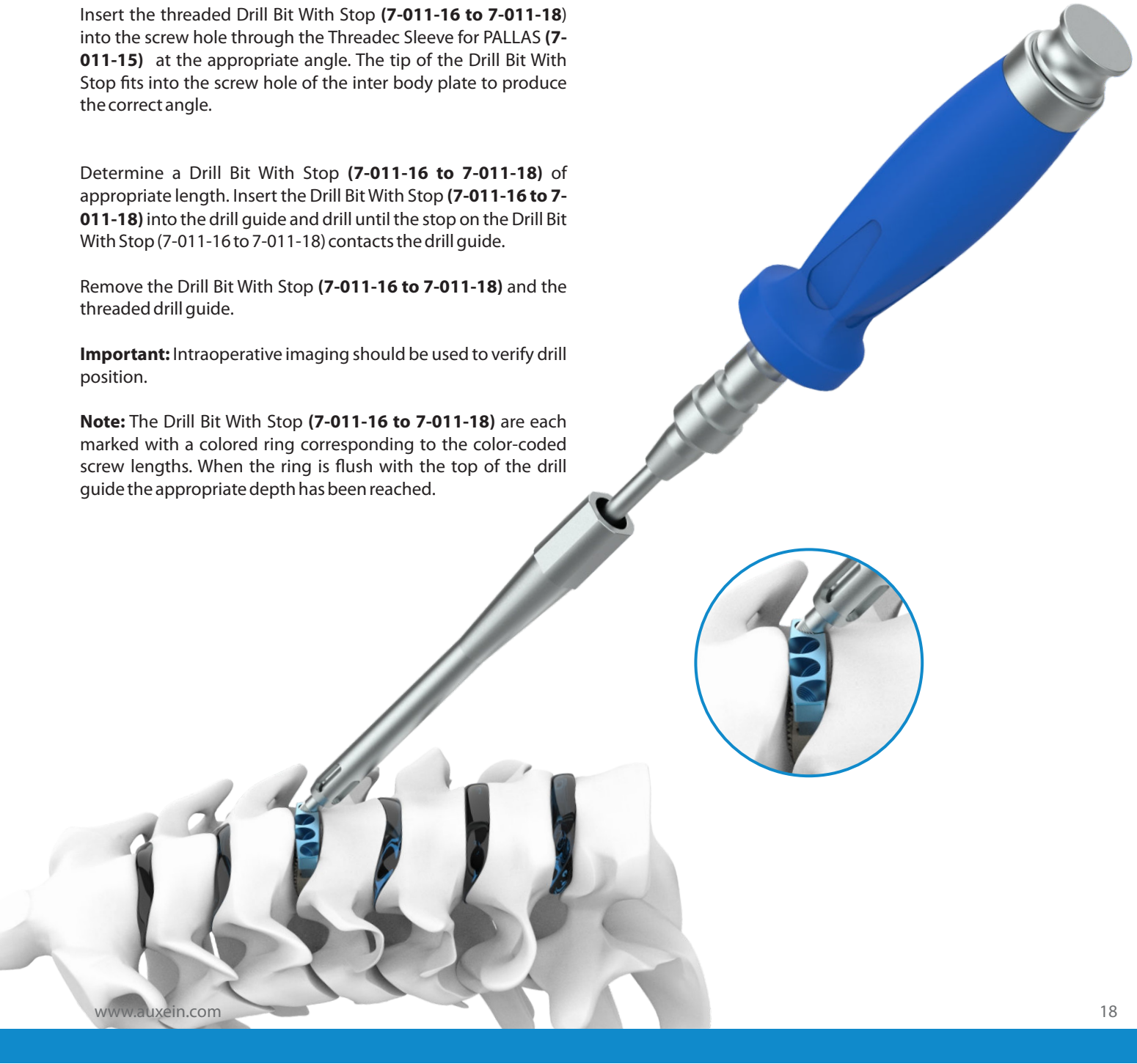
Insert the threaded Drill Bit With Stop **(7-011-16 to 7-011-18**) into the screw hole through the Threadec Sleeve for PALLAS **(7-011-15)** at the appropriate angle. The tip of the Drill Bit With Stop fits into the screw hole of the inter body plate to produce the correct angle.

Determine a Drill Bit With Stop **(7-011-16 to 7-011-18)** of appropriate length. Insert the Drill Bit With Stop **(7-011-16 to 7-011-18)** into the drill guide and drill until the stop on the Drill Bit With Stop (7-011-16 to 7-011-18) contacts the drill guide.

Remove the Drill Bit With Stop **(7-011-16 to 7-011-18)** and the threaded drill guide.

Important: Intraoperative imaging should be used to verify drill position.

Note: The Drill Bit With Stop **(7-011-16 to 7-011-18)** are each marked with a colored ring corresponding to the color-coded screw lengths. When the ring is flush with the top of the drill guide the appropriate depth has been reached.



C2. Insert First Screw

Select the appropriate screw length according to the pre operative planning and intraoperative findings.

Assemble the Torque Limiting Attachment, 1.2Nm **(7-011-31)** to the Screwdriver Shaft,T8 **(7-011-20)** and handle.

Caution: If the Torque Limiting Attachment, 1.2Nm **(7-011-31)** is not used, breakage of the Screwdriver Shaft,T8 **(7-011-20)** may occur and could potentially harm the patient.

Load the screw onto the self-retaining Screwdriver Shaft,T8 **(7-011-20)**with the Torque Limiting Attachment, 1.2Nm **(7-011-31)**. The screw will self-retain to the screwdriver, however, the Holding Sleeve for PALLAS **(7-011-26)** may be used for increased screw retention.

Advance the screw until the head of the screw contacts the plate.

Important: Intraoperative imaging should be used to verify screw position.

Caution: The screws should be tightened only after all screws have been inserted.

C3. Insert Remaining Screws

Repeat Steps C1 and C2 for the remaining screws.

C4. Tighten Screws

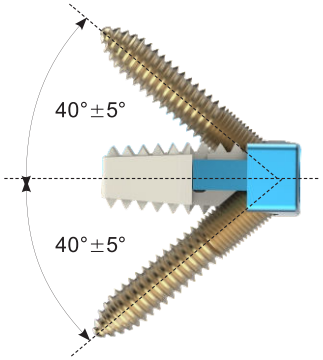
To lock the screwhead in the plate, always use the torque limiting attachment with the **Screwdriver** (Handle with quick coupling **(7-011-23)** & Screw driver shaft T8 **(7-011-20)** to tighten each screw to the recommended Torque Limiting Attachment, 1.2Nm **(7-011-31)**.

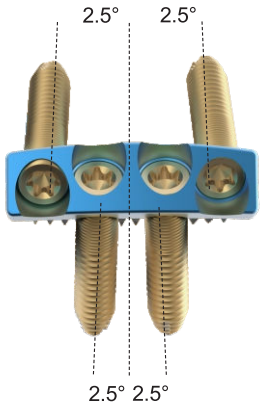
Caution: If the torque limiting attachment is not used, breakage of the driver may occur and could potentially harm the patient.

Note: Screws placed using the surgical technique may not always be flush with the plate, but will be sufficiently locked when Torque Limiting Attachment, 1.2Nm **(7-011-31)** is achieved.

OPTION D: AWL AND FREEHAND SCREW

If surgeon preference is to awl and not to use the drilling technique, this alternative technique may be used.





D1. Awl First Pilot Hole

Determine the entry point and trajectory for the screw. The correct angulations for the screws are 40° in the caudal or cranial direction. The medial screws point 2.5° laterally and the lateral screws point 2.5° medially.

Note: Lateral screws should always point medially.

Insert the Straight Awl **(7-011-22)** at the appropriate angle into a screw hole in the plate and push down, while simultaneously twisting the handle.

Remove the Straight Awl **(7-011-22)**, maintaining alignment of the hole and plate.

Important: Intraoperative imaging should be used to verify awl position.

Note: The tip of the Straight Awl **(7-011-22)** is designed to fit inside the screw hole of the plate and guide the correct angle.

Caution: Take care that the awl does not move the implant relative to the vertebral body. For particularly hard bone, drilling is recommended to minimize implant movement.

D2. Insert First Screw

Select the appropriate screw length according to the preoperative planning and intraoperative findings.

Assemble the Torque Limiting Attachment, 1.2Nm **(7-011-31)** to the Screwdriver Shaft,T8 **(7-011-20)** and handle.

Caution: If the torque limiting attachment is not used, breakage of the driver may occur and could potentially increase risk to the patient.

Load the screw onto the self-retaining Screwdriver Shaft,T8 **(7-011-20)** with Torque Limiting Attachment, 1.2Nm **(7-011-31)**. The screw will self-retain to the screwdriver, however, the Holding Sleeve for PALLAS **(7-011-26)** may be used for increased screw retention.

Advance the screw until the head of the screw contacts the plate.

Important: Intraoperative imaging should be used to verify screw position.

Caution: The screws should be tightened only after all screws have been inserted.

D3. Insert Remaining Screws

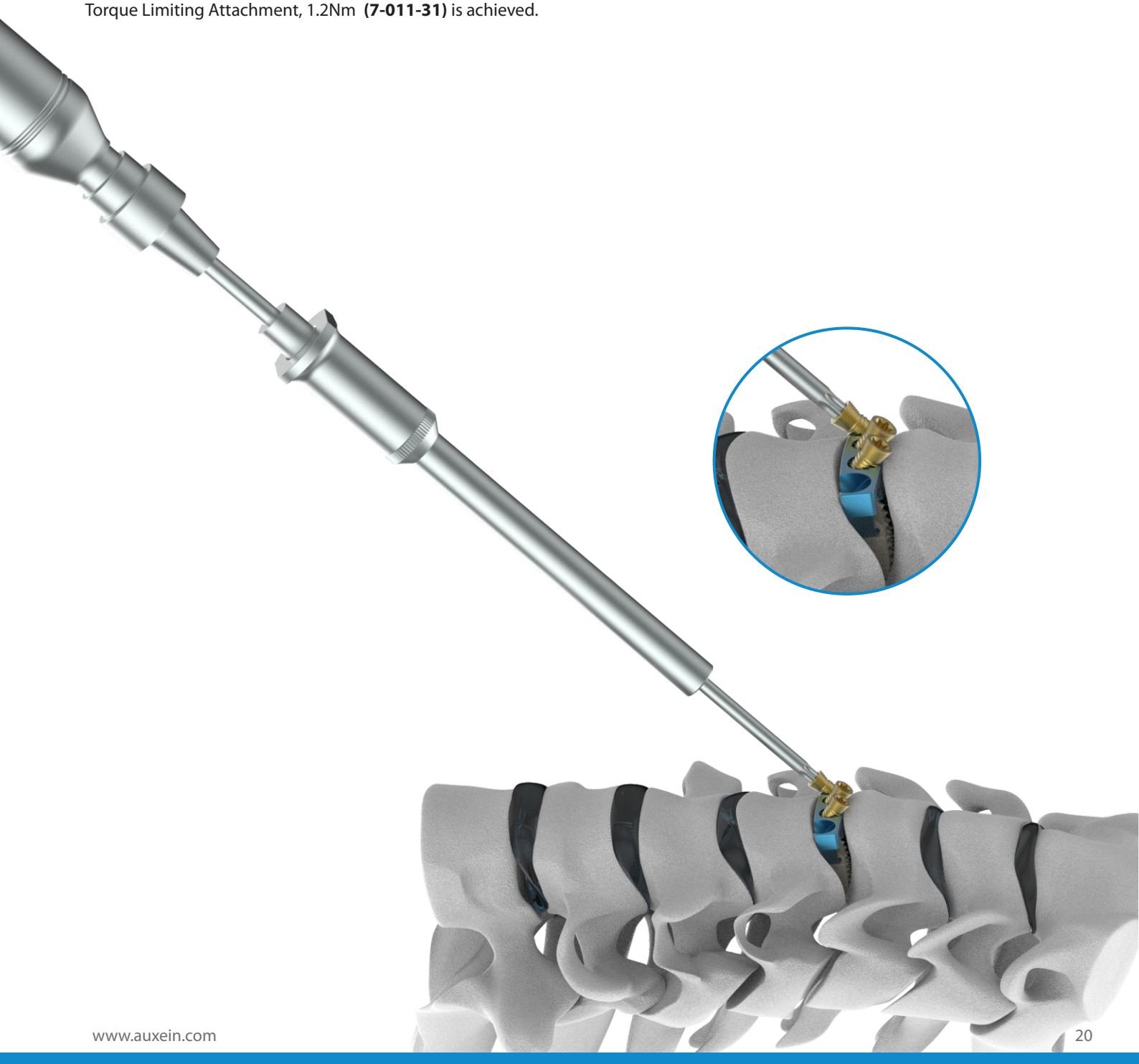
Repeat Steps D1 and D2 for the remaining screws.

D4. Tighten Screws

To lock the screwhead in the plate, always use the torque limiting attachment with the **Screwdriver** (Handle with quick coupling **(7-011-23)** & Screw driver shaft T8 **(7-011-20)** to tighten each screw to the recommended Torque Limiting Attachment, 1.2Nm **(7-011-31)**.

Caution: If the torque limiting attachment is not used, breakage of the driver may occur and could potentially harm the patient.

Note: Screws placed using the surgical technique may not always be flush with the plate, but will be sufficiently locked when Torque Limiting Attachment, 1.2Nm **(7-011-31)** is achieved.



OPTION E: ANGLED INSTRUMENTS

If patient anatomy does not allow use of the straight instruments, the Curved Awl **(7-011-21)** and angled screwdriver may be used.

E1. Awl First Pilot Hole

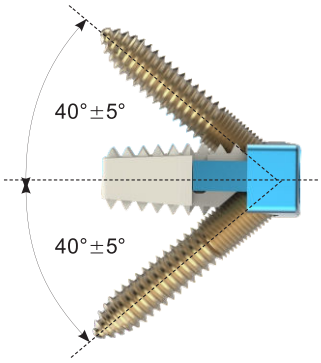
Determine the entry point and trajectory for the screw. The correct angulations for the screws are 40° in the caudal or cranial direction. The medial screws point 2.5° laterally and the lateral screws point 2.5° medially.

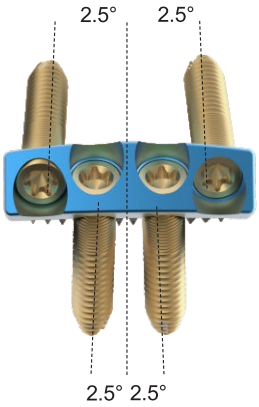
Note: Lateral screws should always point medially.

Insert the Curved Awl **(7-011-21)** at the appropriate angle into the screw hole of the plate and tap with the slotted Impactor for PALLAS **(7-011-02)** until the Curved Awl **(7-011-21)** is seated.

Remove the Curved Awl **(7-011-21)**, maintaining alignment of the hole and plate.

Important: Intraoperative imaging should be used to verify awl position.





E2. Insert First Screw

Select the appropriate screw length according to the preoperative planning and intraoperative findings.

Load the screw onto the Universal Wrench **(7-011-01)**. Advance the screw until the head of the screw contacts the plate.

Important: Intraoperative imaging should be used to verify screw position.

E3. Insert Remaining Screws

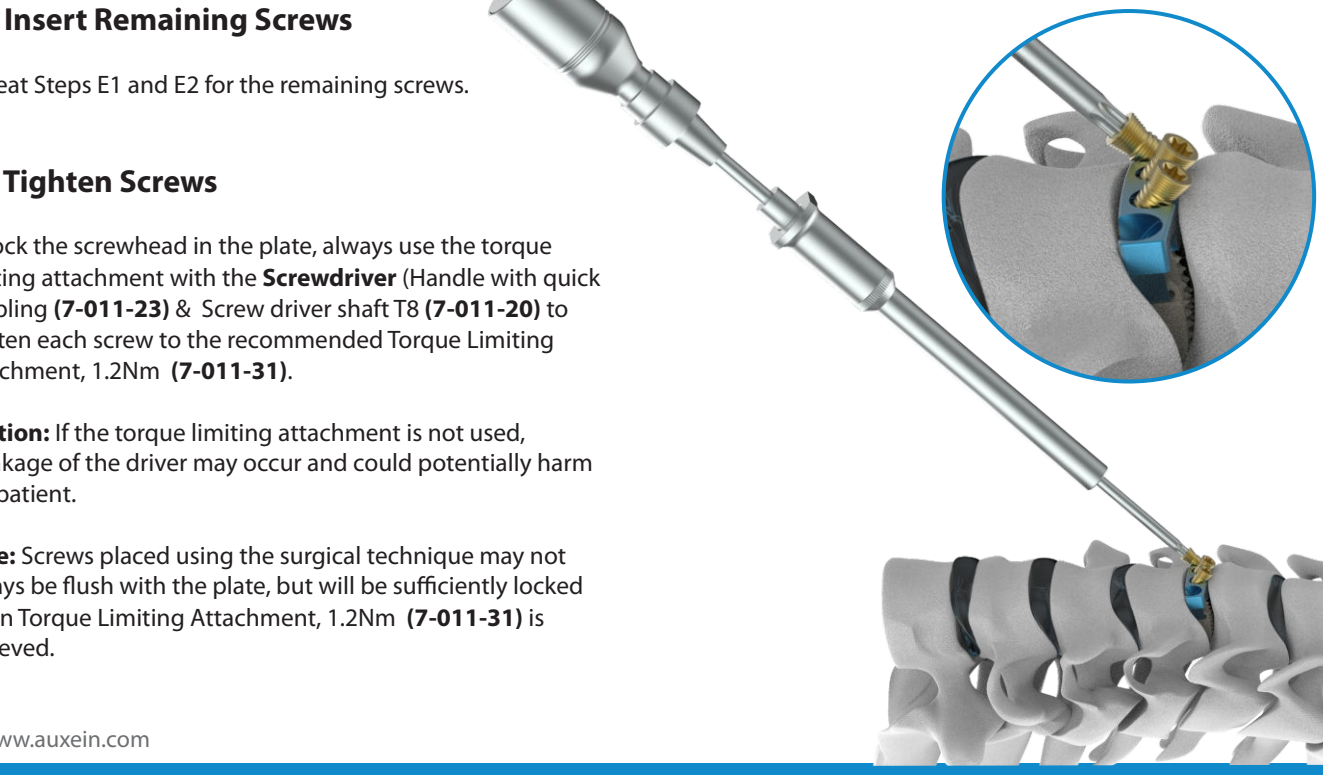
Repeat Steps E1 and E2 for the remaining screws.

E4. Tighten Screws

To lock the screwhead in the plate, always use the torque limiting attachment with the **Screwdriver** (Handle with quick coupling **(7-011-23)** & Screw driver shaft T8 **(7-011-20)** to tighten each screw to the recommended Torque Limiting Attachment, 1.2Nm **(7-011-31)**.

Caution: If the torque limiting attachment is not used, breakage of the driver may occur and could potentially harm the patient.

Note: Screws placed using the surgical technique may not always be flush with the plate, but will be sufficiently locked when Torque Limiting Attachment, 1.2Nm **(7-011-31)** is achieved.



IMPLANT REMOVAL

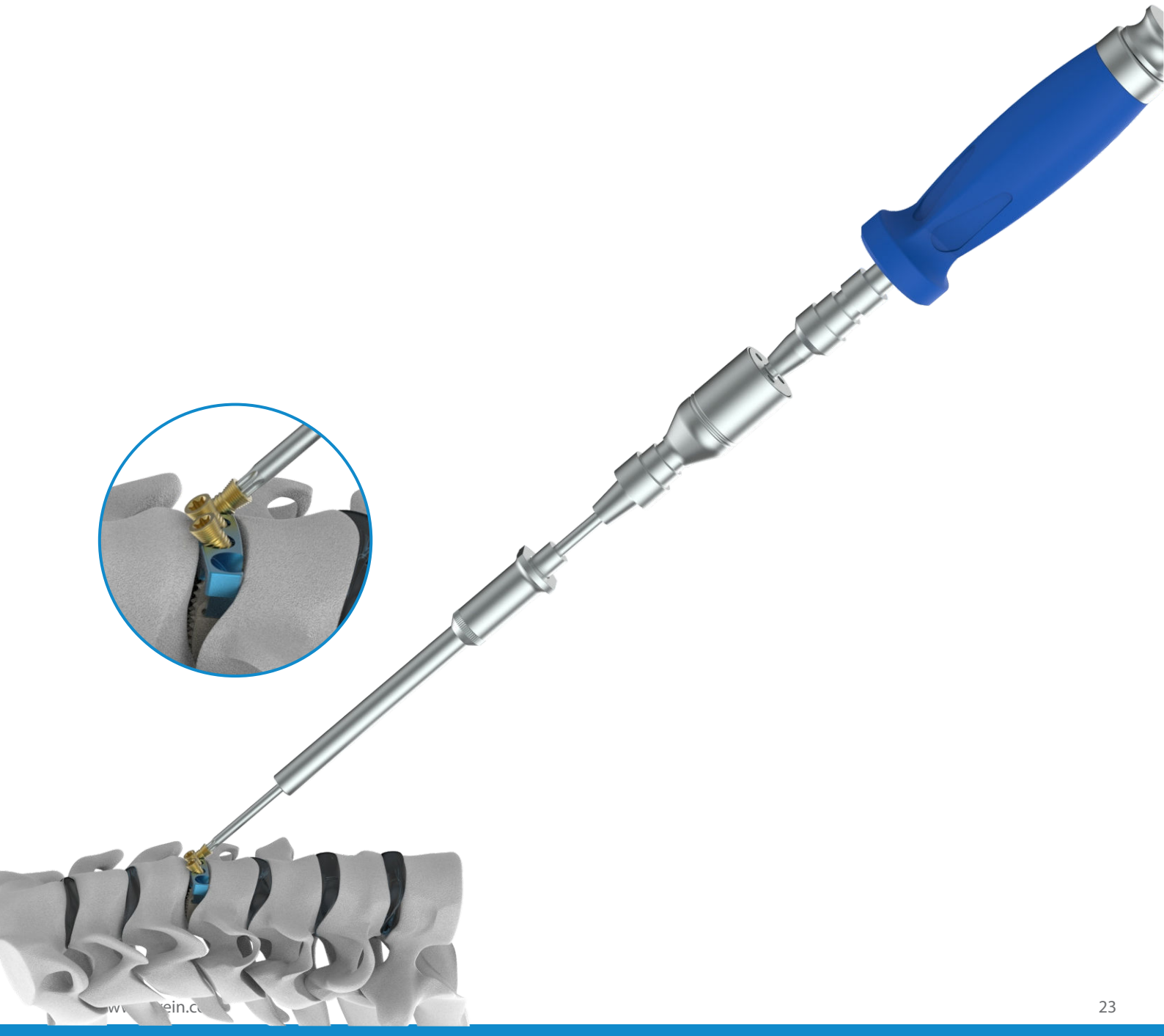
If a PALLAS (LPAC) must be removed, the following technique is recommended.

1. Remove Screw

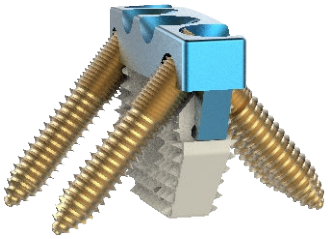
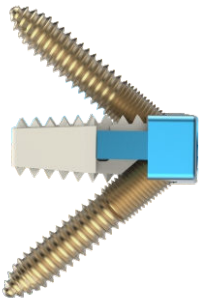
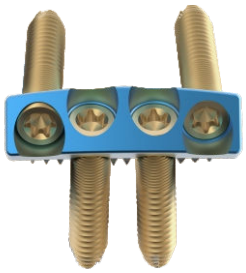
Attach the Handle with quick coupling **(7-011-23)** to the Screwdriver Shaft,T8 **(7-011-20)**, then engage the assembled into the drive recess of the screw to be removed. Rotate the driver counterclockwise to first loosen the screw from the PALLAS (LPAC). Continue to rotate the driver counterclockwise to remove the loosened screw from the implant.

Note: If multiple screws need to be removed, it is recommended to first loosen all screws before removing any of the screws from the implant. Loosening all screws before removal of any screw ensures the implant will be properly secured during removal.

Note: Torque Limiting Attachment, 1.2Nm **(7-011-31)** should not be used with driver to remove screws.



PALLAS-Low Profile Anterior Cervical Fusion Device

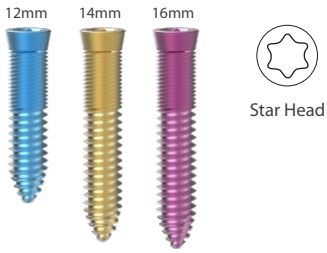




	Convex		Lordotic		Parallel	
Height	**Standard**	**Large**	**Standard**	**Large**	**Standard**	**Large**
4mm	4-008-04	4-009-04	4-010-04	4-011-04	4-012-04	4-013-04
5mm	4-008-05	4-009-05	4-010-05	4-011-05	4-012-05	4-013-05
6mm	4-008-06	4-009-06	4-010-06	4-011-06	4-012-06	4-013-06
7mm	4-008-07	4-009-07	4-010-07	4-011-07	4-012-07	4-013-07
8mm	4-008-08	4-009-08	4-010-08	4-011-08	4-012-08	4-013-08
9mm	4-008-09	4-009-09	4-010-09	4-011-09	4-012-09	4-013-09
10mm	4-008-10	4-009-10	4-010-10	4-011-10	4-012-10	4-013-10
11mm	4-008-11	4-009-11	4-010-11	4-011-11	4-012-11	4-013-11
12mm	4-008-12	4-009-12	4-010-12	4-011-12	4-012-12	4-013-12

available in:
STERILE R

3.0mm Titanium Cervical Spine Locking Screw

Height	**Code**	**Colour**
12mm	4-014-12TI	Blue
14mm	4-014-14TI	Gold
16mm	4-014-16TI	Purple



Star Head

4-082 PALLAS-Low Profile Anterior Cervical Cage Implant Set

Convex

Height	Standard	Large	Unit
4mm	4-008-04	4-009-04	2
5mm	4-008-05	4-009-05	2
6mm	4-008-06	4-009-06	2
7mm	4-008-07	4-009-07	2
8mm	4-008-08	4-009-08	2
9mm	4-008-09	4-009-09	2
10mm	4-008-10	4-009-10	2
11mm	4-008-11	4-009-11	2
* 12mm	4-008-12	4-009-12	2

** Parallel

Height	Standard	Large	Unit
4mm	4-012-04	4-013-04	2
5mm	4-012-05	4-013-05	2
6mm	4-012-06	4-013-06	2
7mm	4-012-07	4-013-07	2
8mm	4-012-08	4-013-08	2
9mm	4-012-09	4-013-09	2
10mm	4-012-10	4-013-10	2
11mm	4-012-11	4-013-11	2
* 12mm	4-012-12	4-013-12	2

** Lordotic

Height	Standard	Large	Unit
4mm	4-010-04	4-011-04	2
5mm	4-010-05	4-011-05	2
6mm	4-010-06	4-011-06	2
7mm	4-010-07	4-011-07	2
8mm	4-010-08	4-011-08	2
9mm	4-010-09	4-011-09	2
10mm	4-010-10	4-011-10	2
11mm	4-010-11	4-011-11	2
* 12mm	4-010-12	4-011-12	2

3.0mm Titanium Cervical Spine Locking Screw

Height	Code	Unit
12mm	4-014-12TI	8
14mm	4-014-14TI	8
16mm	4-014-16TI	8

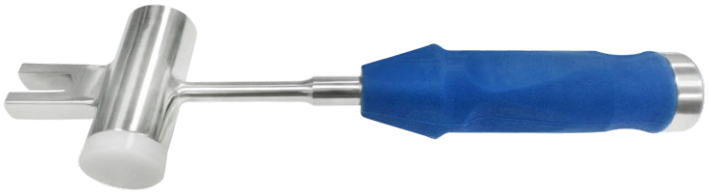
Code	Description	Unit
7-011-32	Implant Box for PALLAS-Low Profile Anterior Cervical Cage System	1

* Mark Size is Optional

** Mark All Sizes are Optional

7-011-01 Universal Wrench

7-011-02 Impactor for PALLAS



7-011-03 Bone Plugger for PALLAS

7-011-04 Trial, 4mm for PALLAS

7-011-05 Trial, 5mm for PALLAS

7-011-06 Trial, 6mm for PALLAS

7-011-07 Trial, 7mm for PALLAS

7-011-08 Trial, 8mm for PALLAS

7-011-09 Trial, 9mm for PALLAS

7-011-10 Trial, 10mm for PALLAS

7-011-11 Trial, 11mm for PALLAS

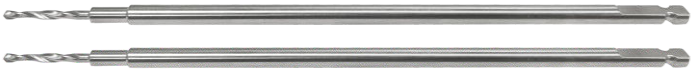
7-011-12 Impactor, Round

7-011-13 Impactor, Flat

7-011-14 Sleeve with Handle for PALLAS

7-011-15 Threadec Sleeve for PALLAS

7-011-16 Drill Bit With Stop, Ø2.0mm x Length 12mm



7-011-17 Drill Bit With Stop, Ø2.0mm x Length 14mm

7-011-18 Drill Bit With Stop, Ø2.0mm x Length 16mm

7-011-19 Locking Device

7-011-20 Screwdriver Shaft,T8

7-011-21 Curved Awl

7-011-22 Straight Awl

7-011-23 Handle with Quick Coupling for PALLAS

7-011-24 Insert for Distractor Pin

7-011-25 Implant Support for PALLAS

7-011-26 Screw Holding Sleeve for PALLAS

7-011-27 Forcep for PALLAS

7-011-28 Guide for for PALLAS

7-011-29 Position Rod

7-011-30 Cervical Distractor

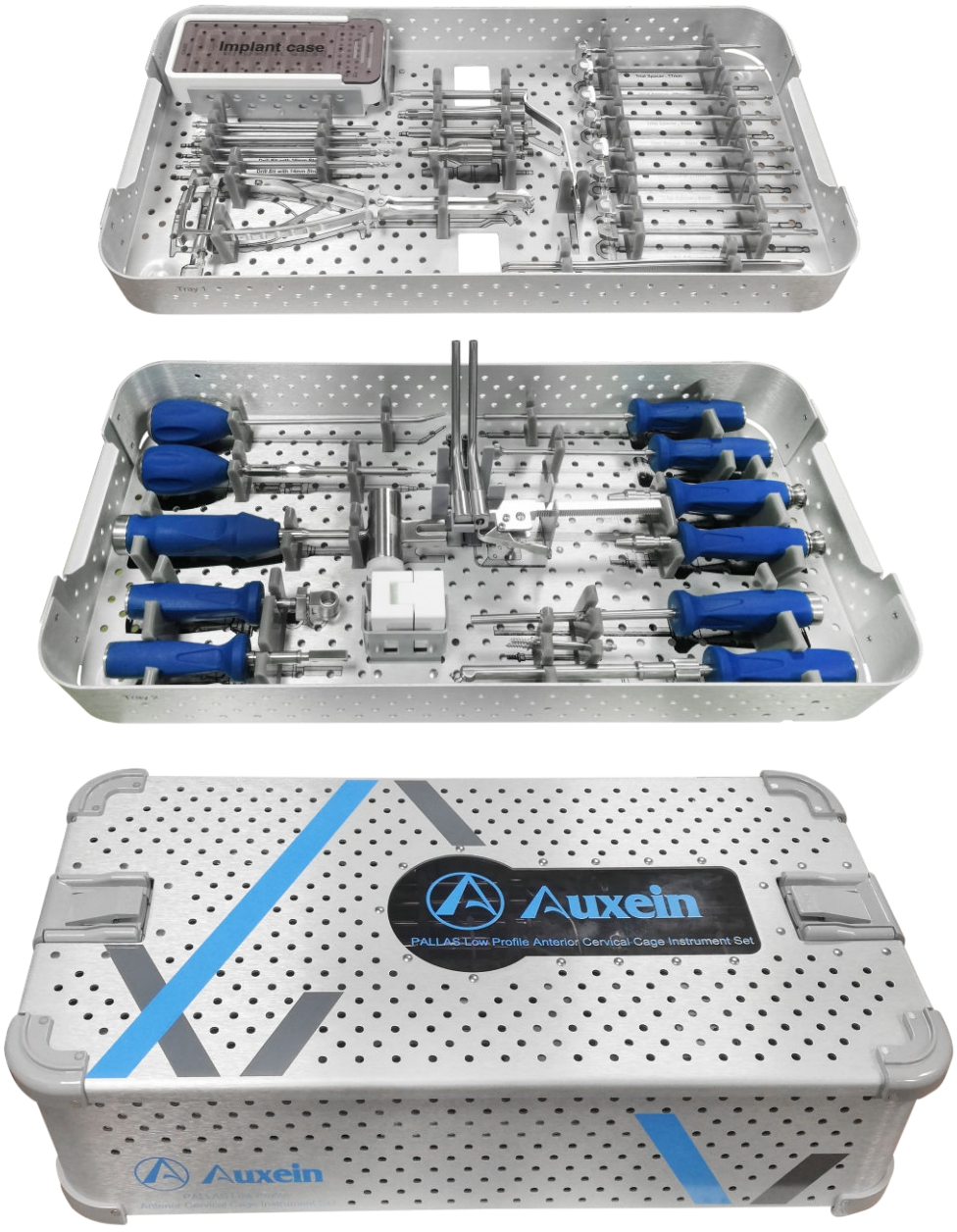
7-011-31 Torque Limiting Attachment, 1.2Nm

7-011-32 Implant Box for PALLAS-Low Profile Anterior Cervical Cage System

7-011-34 Instrument Trays for PALLAS-Low Profile Anterior Cervical Fusion Instrument Set

7-011-33 Container for PALLAS-Low Profile Anterior Cervical Fusion Instrument Set

7-011 PALLAS-Low Profile Anterior Cervical Fusion Instrument Set



7-011 PALLAS-Low Profile Anterior Cervical Fusion Instrument Set

Code	Set Consisting of	Qty.
7-011-01	Universal Wrench	1
7-011-02	Impactor for PALLAS	1
7-011-03	Bone Plugger for PALLAS	1
7-011-04	Trial, 4mm for PALLAS	1
7-011-05	Trial, 5mm for PALLAS	1
7-011-06	Trial, 6mm for PALLAS	1
7-011-07	Trial, 7mm for PALLAS	1
7-011-08	Trial, 8mm for PALLAS	1
7-011-09	Trial, 9mm for PALLAS	1
7-011-10	Trial, 10mm for PALLAS	1
7-011-11	Trial, 11mm for PALLAS	1
7-011-12	Impactor, Round	1
7-011-13	Impactor, Flat	1
7-011-14	Sleeve with Handle for PALLAS	1
7-011-15	Threadec Sleeve for PALLAS	1
7-011-16	Drill Bit With Stop, Ø2.0mm x Length 12mm	2
7-011-17	Drill Bit With Stop, Ø2.0mm x Length 14mm	2
7-011-18	Drill Bit With Stop, Ø2.0mm x Length 16mm	2
7-011-19	Locking Device	1
7-011-20	Screwdriver Shaft,T8	2
7-011-21	Curved Awl	1
7-011-22	Straight Awl	1
7-011-23	Handle with Quick Coupling for PALLAS	2
7-011-24	Insert for Distractor Pin	1
7-011-25	Implant Support for PALLAS	1
7-011-26	Screw Holding Sleeve for PALLAS	1
7-011-27	Forcep for PALLAS	1
7-011-28	Guide for for PALLAS	1
7-011-29	Position Rod	2
7-011-30	Cervical Distractor	1
7-011-31	Torque Limiting Attachment, 1.2Nm	1
7-011-32	Implant Box for PALLAS-Low Profile Anterior Cervical Cage System	1
7-011-34	Instrument Trays for PALLAS-Low Profile Anterior Cervical Fusion Instrument Set	2
7-011-33	Container for PALLAS-Low Profile Anterior Cervical Fusion Instrument Set	1

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