

# DHS & Angle Plates



ORTHOPEDIC  
**CATALOGUE**

# GEOORTHO DHS & Angle Plates

## DHS Plates

### 7.1 Dynamic Hip Screw Plate with Self Compression Holes - Standard Barrel- (DHS)



Dynamic Compression Holes (Stainless Steel)

Holes	130°	135°	140°	145°	150°
2	7.1.SS01	7.1.SS16	7.1.SS31	7.1.SS46	7.1.SS61
3	7.1.SS2.	7.1.SS17	7.1.SS32	7.1.SS47	7.1.SS62
4	7.1.SS03	7.1.SS18	7.1.SS33	7.1.SS48	7.1.SS63
5	7.1.SS04	7.1.SS19	7.1.SS34	7.1.SS49	7.1.SS64
6	7.1.SS05	7.1.SS20	7.1.SS35	7.1.SS50	7.1.SS65
7	7.1.SS06	7.1.SS21	7.1.SS36	7.1.SS51	7.1.SS66
8	7.1.SS07	7.1.SS22	7.1.SS37	7.1.SS52	7.1.SS67
9	7.1.SS08	7.1.SS23	7.1.SS38	7.1.SS53	7.1.SS68
10	7.1.SS09	7.1.SS24	7.1.SS39	7.1.SS54	7.1.SS69
12	7.1.SS10	7.1.SS25	7.1.SS40	7.1.SS55	7.1.SS70
14	7.1.SS11	7.1.SS26	7.1.SS41	7.1.SS56	7.1.SS71
16	7.1.SS12	7.1.SS27	7.1.SS42	7.1.SS57	7.1.SS72
18	7.1.SS13	7.1.SS28	7.1.SS43	7.1.SS58	7.1.SS73
20	7.1.SS14	7.1.SS29	7.1.SS44	7.1.SS59	7.1.SS74
22	7.1.SS15	7.1.SS30	7.1.SS45	7.1.SS60	7.1.SS75

Dynamic Compression Holes (Titanium)

Holes	130°	135°	140°	145°	150°
2	7.1.TI01	7.1.TI16	7.1.TI31	7.1.TI46	7.1.TI61
3	7.1.TI2.	7.1.TI17	7.1.TI32	7.1.TI47	7.1.TI62
4	7.1.TI03	7.1.TI18	7.1.TI33	7.1.TI48	7.1.TI63
5	7.1.TI04	7.1.TI19	7.1.TI34	7.1.TI49	7.1.TI64
6	7.1.TI05	7.1.TI20	7.1.TI35	7.1.TI50	7.1.TI65
7	7.1.TI06	7.1.TI21	7.1.TI36	7.1.TI51	7.1.TI66
8	7.1.TI07	7.1.TI22	7.1.TI37	7.1.TI52	7.1.TI67
9	7.1.TI08	7.1.TI23	7.1.TI38	7.1.TI53	7.1.TI68
10	7.1.TI09	7.1.TI24	7.1.TI39	7.1.TI54	7.1.TI69
12	7.1.TI10	7.1.TI25	7.1.TI40	7.1.TI55	7.1.TI70
14	7.1.TI11	7.1.TI26	7.1.TI41	7.1.TI56	7.1.TI71
16	7.1.TI12	7.1.TI27	7.1.TI42	7.1.TI57	7.1.TI72
18	7.1.TI13	7.1.TI28	7.1.TI43	7.1.TI58	7.1.TI73
20	7.1.TI14	7.1.TI29	7.1.TI44	7.1.TI59	7.1.TI74
22	7.1.TI15	7.1.TI30	7.1.TI45	7.1.TI60	7.1.TI75

### 7.2 Dynamic Hip Screw Plate with Self Compression Holes Short Barrel : 25mm



Holes	Stainless Steel	Titanium
4	7.2.SS01	7.2.TI01
5	7.2.SS2.	7.2.TI2.
6	7.2.SS03	7.2.TI03
7	7.2.SS04	7.2.TI04
8	7.2.SS05	7.2.TI05
9	7.2.SS06	7.2.TI06
10	7.2.SS07	7.2.TI07

# GEOORTHO DHS & Angle Plates

## DCS Plates

### 7.3 95° Dynamic Condylar Plate (DCS)



Holes	Stainless Steel	Titanium
6	7.3.SS01	7.3.TI01
7	7.3.SS2.	7.3.TI2.
8	7.3.SS03	7.3.TI03
9	7.3.SS04	7.3.TI04
10	7.3.SS05	7.3.TI05
12	7.3.SS06	7.3.TI06
14	7.3.SS07	7.3.TI07
16	7.3.SS08	7.3.TI08
18	7.3.SS09	7.3.TI09
20	7.3.SS10	7.3.TI10
22	7.3.SS11	7.3.TI11

### 7.4 Compression Screw

Used with DHS and DCS Screws



	Stainless Steel	Titanium
Code	7.4.SS01	7.4.TI01

### 7.5 DHS/DCS Screw (with Compression Screw)

Length (mm)	Stainless Steel	Titanium
50	7.5.SS01	7.5.TI01
55	7.5.SS2.	7.5.TI2.
60	7.5.SS03	7.5.TI03
65	7.5.SS04	7.5.TI04
70	7.5.SS05	7.5.TI05
75	7.5.SS06	7.5.TI06
80	7.5.SS07	7.5.TI07
85	7.5.SS08	7.5.TI08
90	7.5.SS09	7.5.TI09
95	7.5.SS10	7.5.TI10
100	7.5.SS11	7.5.TI11
105	7.5.SS12	7.5.TI12
110	7.5.SS13	7.5.TI13
115	7.5.SS14	7.5.TI14
120	7.5.SS15	7.5.TI15
125	7.5.SS16	7.5.TI16
130	7.5.SS17	7.5.TI17
135	7.5.SS18	7.5.TI18
140	7.5.SS19	7.5.TI19
145	7.5.SS20	7.5.TI20



### 7.6 DHS-DCS Implants Set

Code	Set Consisting of	Units
<b>DHS Plate - 135°</b>		
7.1.SS18	4 Holes	1
7.1.SS19	5 Holes	2
7.1.SS20	6 Holes	2
7.1.SS22	8 Holes	1
<b>DHS Plate - 150°</b>		
7.1.SS63	4 Holes	1
7.1.SS64	5 Holes	1
7.1.SS65	6 Holes	1
<b>DCS Plate - 95°</b>		
7.3.SS01	6 Holes	1
7.3.SS03	8 Holes	1
7.3.SS05	10 Holes	1
7.3.SS06	12 Holes	1
7.3.SS07	14 Holes	1
7.3.SS08	16 Holes	1
<b>DHS / DCS Screws with Compression Screws</b>		
7.5.SS01	50 mm	2
7.5.SS2.	55 mm	2
7.5.SS03	60 mm	2
7.5.SS04	65 mm	2
7.5.SS05	70 mm	2
7.5.SS06	75 mm	2
7.5.SS07	80 mm	2
7.5.SS08	85 mm	2
7.5.SS09	90 mm	2
7.5.SS10	95 mm	2
7.5.SS11	100 mm	2
7.5.SS12	105 mm	2
7.5.SS13	110 mm	1
7.5.SS14	115 mm	1
7.6.01	Aluminum Box for DHS-DCS Implant Set	1

# GEOORTHO DHS & Angle Plates

## Instruments

### 7.7 Drill Bit - Quick Coupling End



Codes	Dia (mm)	Length (mm)
7.7.01	2.0	100
7.7.2.	3.2	145
7.7.03	4.5	145

### 7.8 Tap



Codes	Dia (mm)
7.8.01	4.5mm Cortical Screws

### 7.9 Universal Drill Guide 4.5/3.2



### 7.10 Insert Drill Bit 4.5/3.2



### 7.11 Depth Gauge, measuring upto 110mm



### 7.12 Hexagonal Screw Driver Shaft - 3.5mm Tip



### 7.13 Hexagonal Screw Driver with Holding Sleeve - 3.5mm Tip



### 7.14 DCS Angle Guide 95°



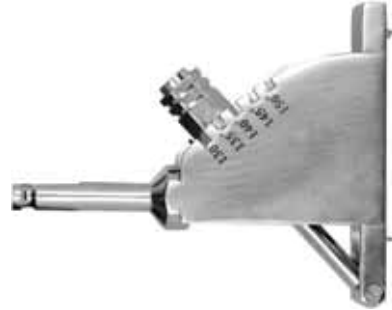
# DHS & Angle Plates

## Instruments

7.15 DHS Angle Guide 135°



7.16 Variable Angle Guide



7.17 DHS Triple Reamer



7.18 DCS Triple Reamer



7.19 DHS-DCS Centering Sleeve, Short



7.20 DHS-DCS Centering Sleeve, Long



7.21 DHS-DCS Tap



7.22 DHS-DCS Wrench



7.23 DHS-DCS Impactor



7.24 Coupling Screw Short, for inserting DHS-DCS Screw



7.25 Guide Shaft for Coupling Screw



7.26 Long Coupling Screw, for DHS-DCS Screw Removal



7.27 T-Handle, Quick Coupling

# GEOORTHO DHS & Angle Plates

## Instruments

**7.28 Guide Wire Ø2.5mm x 230mm, with threaded Trocar Tip**



**7.29 DHS-DCS Direct Measuring Device**



**7.30 Kirshner Wire Ø2.0mm x 150mm with Trocar Tip**



**7.31 Drill Guide 4.5mm, for Neutral and Loaded Position**



### 7.32 Instruments set for DHS/DCS Plates

Codes	Set Consisting of:	Units
7.7.01	Drill Bit Ø2.0mm x 100mm, Quick Coupling	2
7.7.2.	Drill Bit Ø3.2mm x 145mm, Quick Coupling	2
7.7.03	Drill Bit Ø 4.5mm x 145mm, Quick Coupling	2
7.8	Tap for Ø4.5mm Cortical Screws, Quick Coupling	1
7.9	Universal Drill Guide 4.5/3.2	1
7.10	Insert Drill Bit 4.5/3.2	1
7.11	Depth Gauge, measuring upto 110mm	1
7.12	Hexagonal Screw Driver Shaft - 3.5mm Tip	1
7.13	Hexagonal Screw Driver with Holding Sleeve - 3.5mm Tip	1
7.14	DCS Angle Guide 95°	1
7.15	DHS Angle Guide 135°	1
7.16	Variable Angle Guide	1
7.17	DHS Triple Reamer	1
7.18	DCS Triple Reamer	1
7.19	DHS-DCS Centering Sleeve, Short	1
7.20	DHS-DCS Centering Sleeve, Long	1
7.21	DHS-DCS Tap	1
7.22	DHS-DCS Wrench	1
7.23	DHS-DCS Impactor	1
7.24	Coupling Screw Short, for inserting DHS-DCS Screw	1
7.25	Guide Shaft for Coupling Screw	1
7.26	Long Coupling Screw, for DHS-DCS Screw Removal	1
7.27	T-Handle, Quick Coupling	1
7.28	Guide Wire Ø 2.5mm x 230mm, with threaded Trocar Tip	5
7.29	Kirshner Wire Ø 2.0mm x 150mm with Trocar Tip	10
7.30	DHS-DCS Direct Measuring Device	1
7.31	Drill Guide 4.5mm, for Neutral and Loaded Position	1
7.32.01	Aluminum Box for DHS/DCS Instrument Set	1

# DHS & Angle Plates

## Angle Blade Plates

### 7.33 95° Condylar Plates (with Dynamic Compression Holes)

All Condylar Plates have an angle of 95° between blade and shaft.

The two holes next to the blade are suitable for 6.5mm Cancellous bone Screw. Fixation with 4.5mm Cortical screw.

For Fractures in the Distal and Proximal Femoral region as well as for Intertrochanteric valgus osteotomy.



Blade Length

Holes	Stainless Steel				Titanium			
	50mm	60mm	70mm	80mm	50mm	60mm	70mm	80mm
5	7.33.SS01	7.33.SS12	7.33.SS23	7.33.SS34	7.33.TI01	7.33.TI12	7.33.TI23	7.33.TI34
6	7.33.SS2.	7.33.SS13	7.33.SS24	7.33.SS35	7.33.TI2.	7.33.TI13	7.33.TI24	7.33.TI35
7	7.33.SS03	7.33.SS14	7.33.SS25	7.33.SS36	7.33.TI03	7.33.TI14	7.33.TI25	7.33.TI36
8	7.33.SS04	7.33.SS15	7.33.SS26	7.33.SS37	7.33.TI04	7.33.TI15	7.33.TI26	7.33.TI37
9	7.33.SS05	7.33.SS16	7.33.SS27	7.33.SS38	7.33.TI05	7.33.TI16	7.33.TI27	7.33.TI38
10	7.33.SS06	7.33.SS17	7.33.SS28	7.33.SS39	7.33.TI06	7.33.TI17	7.33.TI28	7.33.TI39
11	7.33.SS07	7.33.SS18	7.33.SS29	7.33.SS40	7.33.TI07	7.33.TI18	7.33.TI29	7.33.TI40
12	7.33.SS08	7.33.SS19	7.33.SS30	7.33.SS41	7.33.TI08	7.33.TI19	7.33.TI30	7.33.TI41
14	7.33.SS09	7.33.SS20	7.33.SS31	7.33.SS42	7.33.TI09	7.33.TI20	7.33.TI31	7.33.TI42
16	7.33.SS10	7.33.SS21	7.33.SS32	7.33.SS43	7.33.TI10	7.33.TI21	7.33.TI32	7.33.TI43
18	7.33.SS11	7.33.SS22	7.33.SS33	7.33.SS44	7.33.TI11	7.33.TI22	7.33.TI33	7.33.TI44

### 7.34 130° Angle Blade Plates (with Dynamic Compression Holes)

Fixation with 4.5mm Cortical Screw. | These plates have an angle of 130° between blade and shaft. | For femoral neck and pertrochanteric fractures.



(Stainless Steel) Blade Length

Holes	50mm	60mm	70mm	75mm	80mm	85mm	90mm	95mm	100mm
4	7.34.SS01	7.34.SS10	7.34.SS19	7.34.SS28	7.34.SS37	7.34.SS46	7.34.SS55	7.34.SS64	7.34.SS73
5	7.34.SS2.	7.34.SS11	7.34.SS20	7.34.SS29	7.34.SS38	7.34.SS47	7.34.SS56	7.34.SS65	7.34.SS74
6	7.34.SS03	7.34.SS12	7.34.SS21	7.34.SS30	7.34.SS39	7.34.SS48	7.34.SS57	7.34.SS66	7.34.SS75
7	7.34.SS04	7.34.SS13	7.34.SS22	7.34.SS31	7.34.SS40	7.34.SS49	7.34.SS58	7.34.SS67	7.34.SS76
8	7.34.SS05	7.34.SS14	7.34.SS23	7.34.SS32	7.34.SS41	7.34.SS50	7.34.SS59	7.34.SS68	7.34.SS77
9	7.34.SS06	7.34.SS15	7.34.SS24	7.34.SS33	7.34.SS42	7.34.SS51	7.34.SS60	7.34.SS69	7.34.SS78
10	7.34.SS07	7.34.SS16	7.34.SS25	7.34.SS34	7.34.SS43	7.34.SS52	7.34.SS61	7.34.SS70	7.34.SS79
11	7.34.SS08	7.34.SS17	7.34.SS26	7.34.SS35	7.34.SS44	7.34.SS53	7.34.SS62	7.34.SS71	7.34.SS80
12	7.34.SS09	7.34.SS18	7.34.SS27	7.34.SS36	7.34.SS45	7.34.SS54	7.34.SS63	7.34.SS72	7.34.SS81

(Titanium) Blade Length

Holes	50mm	60mm	70mm	75mm	80mm	85mm	90mm	95mm	100mm
4	7.34.TI01	7.34.TI10	7.34.TI19	7.34.TI28	7.34.TI37	7.34.TI46	7.34.TI55	7.34.TI64	7.34.TI73
5	7.34.TI2.	7.34.TI11	7.34.TI20	7.34.TI29	7.34.TI38	7.34.TI47	7.34.TI56	7.34.TI65	7.34.TI74
6	7.34.TI03	7.34.TI12	7.34.TI21	7.34.TI30	7.34.TI39	7.34.TI48	7.34.TI57	7.34.TI66	7.34.TI75
7	7.34.TI04	7.34.TI13	7.34.TI22	7.34.TI31	7.34.TI40	7.34.TI49	7.34.TI58	7.34.TI67	7.34.TI76
8	7.34.TI05	7.34.TI14	7.34.TI23	7.34.TI32	7.34.TI41	7.34.TI50	7.34.TI59	7.34.TI68	7.34.TI77
9	7.34.TI06	7.34.TI15	7.34.TI24	7.34.TI33	7.34.TI42	7.34.TI51	7.34.TI60	7.34.TI69	7.34.TI78
10	7.34.TI07	7.34.TI16	7.34.TI25	7.34.TI34	7.34.TI43	7.34.TI52	7.34.TI61	7.34.TI70	7.34.TI79
11	7.34.TI08	7.34.TI17	7.34.TI26	7.34.TI35	7.34.TI44	7.34.TI53	7.34.TI62	7.34.TI71	7.34.TI80
12	7.34.TI09	7.34.TI18	7.34.TI27	7.34.TI36	7.34.TI45	7.34.TI54	7.34.TI63	7.34.TI72	7.34.TI81

# GEOORTHORTHO DHS & Angle Plates

## Instruments

**7.37 Drill Bit 2.0mm x 100mm, Quick Coupling**



**7.38 Double Drill Guide 4.5/3.2**



**7.39 Drill Guide 4.5, For Neutral and Loaded Position**



**7.40 Triple Drill Guide**



**7.41 Slotted Hammer**



**7.42 Chisel Guide, with adjustable Angle**



**7.43 Seating Chisel**



**7.44 Impactor**



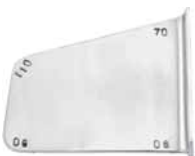
**7.45 Inserter - Extractor**



**7.46 Triangular Positioning Plates (Set of Three)**



**7.47 Quadrangular Positioning Plate**



**7.48 Condylar Plate Guide**





# GEOORTHOTHO DHS & Angle Plates

## Instruments

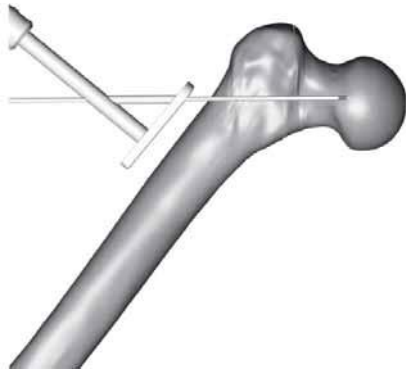
### 7.49 Kirschner Wire Ø 2.0mm x 150mm, with Trocar Tip



### 7.50 Angled Blade Plate Instrument Set

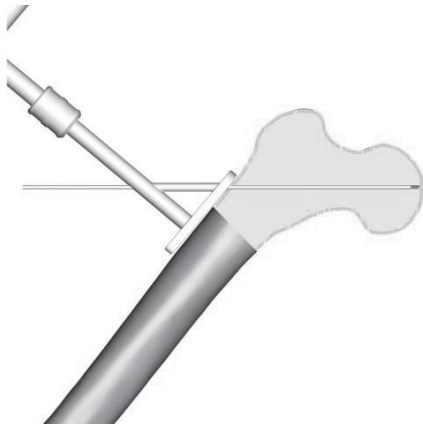
Codes	Set Consisting of:	Units
7.37	Drill Bit Ø 2.0mm x 100mm, Quick Coupling	1
7.38	Double Drill Guide 4.5/3.2	1
7.39	Drill Guide 4.5, For Neutral and Loaded Position	1
7.40	Triple Drill Guide 130°	1
7.41	Slotted Hammer	1
7.42	Chisel Guide, with adjustable Angle	1
7.43	Seating Chisel	1
7.44	Impactor	1
7.45	Insertor - Extractor	1
7.46	Triangular Positioning Plates (Set of Three)	1
7.47	Quadrangular Positioning Plate	1
7.48	Condylar Plate Guide	1
7.49	Kirschner Wire Ø 2.0mm x 150mm, with Trocar Tip	10
7.50.01	Aluminum Box for Angle Blade Plate Instrument Set	1

## GEOORTHO Dynamic Hip Screw Surgical Technique



**1.**

Reduce the fracture. Determine ante- version by placing a **DHS Guide Pin** anterior along the femoral neck, using the appropriate **DHS Angle Guide**. Gently hammer the pin into the femoral head. This ante-version pin will later allow correct placement of the central guide pin in the center of the femoral head.



**2.**

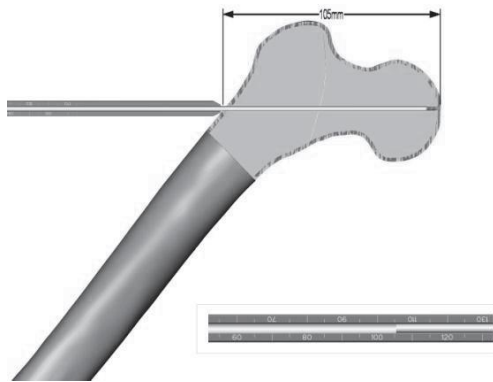
Align the appropriate **DHS Angle Guide** along the axis of the femoral shaft, and place it on the femur. Point the guide tube toward the center of the femoral head. Predrilling of the lateral cortex with the 2.0 mm Drill Bit is recommended in dense bone. Insert a **DHS Guide Pin** through the appropriate **DHS Angle Guide**, parallel to the ante- version pin and directed toward the center of the femoral head. This point of introduction varies with barrel angle. When a 135° barrel angle is used, the guide pin enters the proximal femur approximately 2.5 cm distal to the vastus ridge.



**3.**

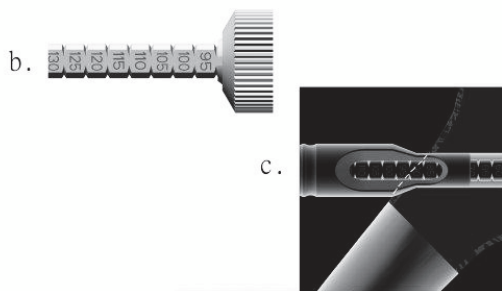
Confirm placement of the **DHS Guide Pin** under image intensification. It must lie along the axis of the femoral neck in both the A-P and lateral views, and parallel to the ante-version pin. If its position is incorrect, insert a new **DHS Guide Pin**. Remove and discard the ante-version pin.

## C7- Solutions Dynamic Hip Screw Surgical Technique



### 4.

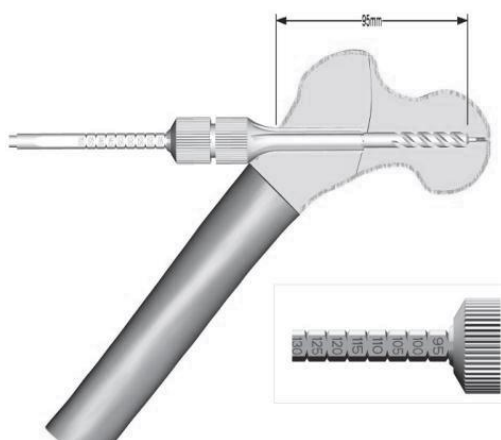
Slide the **Direct Measuring Device** over the guide pin to determine guide pin insertion depth. Calibration on the measuring device provides a direct reading.



### 5.

To calculate reaming depth, tapping depth and lag screw length, subtract 10 mm from the reading. For example:

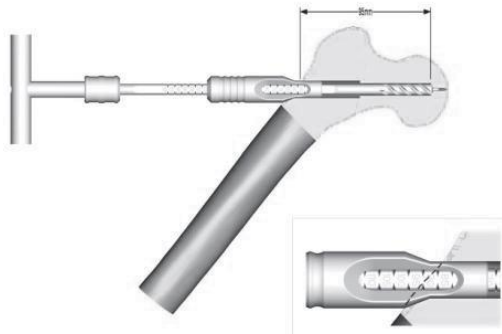
- a. Direct reading.....105 mm
- b. Reamer setting.....95 mm
- c. Tapping depth (optional) ..... 95 mm
- Lag screw length.....95 mm



### 6.

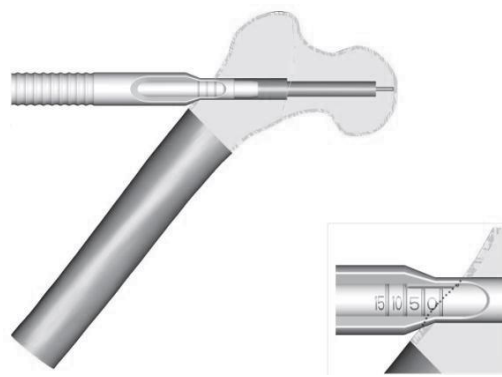
Assemble the appropriate **DHS Triple Reamer**. Set the reamer to the correct depth. Insert the **DHS Triple Reamer** into the **Power Drive** using the **Large Quick Coupling** attachment. Slide the reamer over the guide pin to simultaneously drill for the lag screw, ream for the plate barrel, and countersink for the plate/barrel junction to the preset depth. When reaming in dense bone, continuously irrigate the DHS Triple Reamer to prevent thermal necrosis.

## GEOORTHO Dynamic Hip Screw Surgical Technique



7.

If necessary, tap to the predetermined depth using the **Tap Assembly**. Tapping depth can be seen through the window in the **Short Centering Sleeve**.



8.

Select the **DHS Lag Screw** and assemble the **Lag Screw Insertion Assembly**. Slide the assembly over the guide pin and into the reamed hole. Seat the **Long Centering Sleeve** in the hole to center and stabilize the assembly. Insert the lag screw by turning the handle clockwise, until the zero mark on the assembly aligns with the lateral cortex. The threaded tip of the lag screw now lies 10 mm from the joint surface. The lag screw may be inserted an additional 5 mm in osteoporotic bone, for increased holding power and additional controlled collapse.



9.

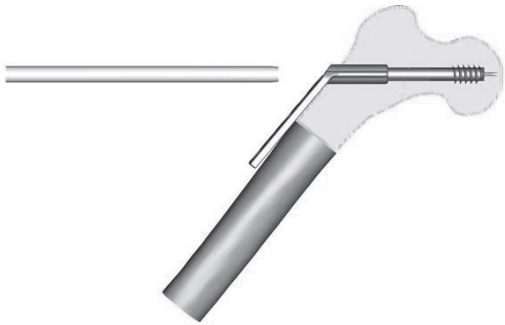
Before removing the assembly, align the handle so it is in the same plane as the femoral shaft (parallel to the femoral shaft axis when viewed laterally). This allows proper placement of the **DHS Plate** onto the lag screw.



010

Slide the appropriate **DHS Plate** onto the guide shaft/lag screw assembly until it contacts the lateral cortex. Loosen and remove the **Coupling Screw** and **Guide Shaft**. Use the **Power Drive** in reverse, with the **Jacobs Chuck** attachment, to withdraw the **DHS Guide Pin**.

## C7- Solutions™ Dynamic Hip Screw Surgical Technique



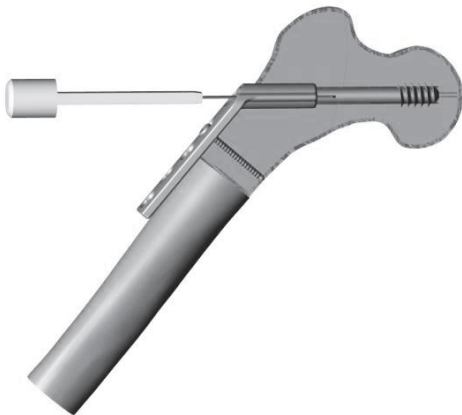
**11.**

Gently seat the plate with the **DHS Impactor**. The vastus ridge may be chiseled to further seat the plate on bone..



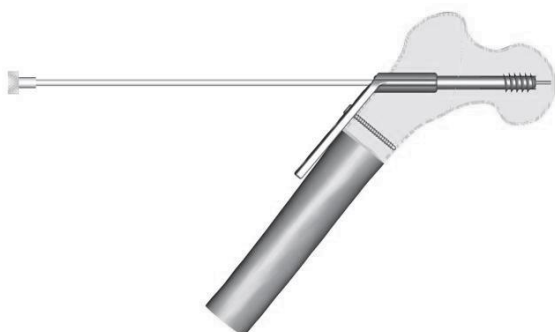
**012**

• Using standard screw insertion technique, fix the **DHS Plate** to the femur with **4.5 mm Cortex Screws**.



**013**

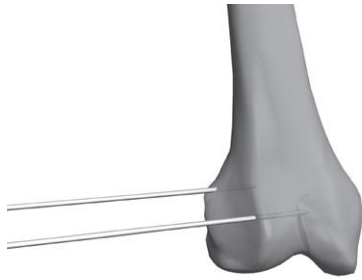
• Gently seat the **Blade** with the **Blade Impactor**.



**014**

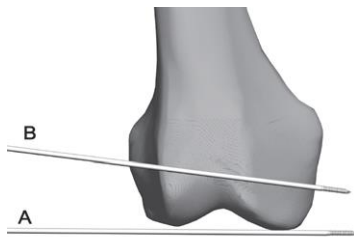
• Insert the **DHS Compression Screw** into the lag screw to secure the **Blade**, and for further intraoperation compression of the trochanteric fracture.

## GEOORTHO Dynamic Condylar Screw Surgical Technique



### 1.

Reduce the fracture. The fracture can be temporarily stabilized with 2.5 mm Threaded Guide Wires. Place these wires so they do not interfere with subsequent positioning of the DCS implant assembly



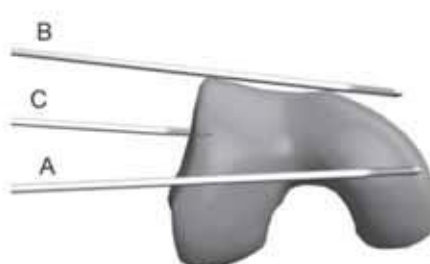
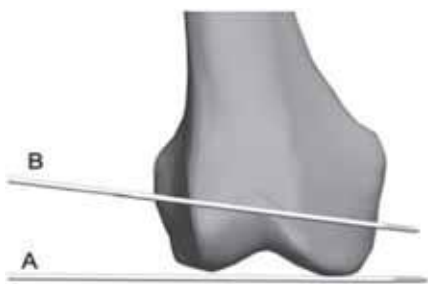
### 2.

To determine the direction of the central guide wire, flex the knee to 90°, and mark the axis of the knee joint by placing a K-wire distally over the condyles (A). Place a second K-wire anteriorly over the condyles (B).

**Note:** Placement of the guide wire determines placement of the DCS implant assembly. Misplacement of the guide wire can result in varus/valgus or rotational malalignment of the fracture fragments.

### 3.

Using the DCS Drill Guide, insert the central guide wire (C) parallel to the distal K-wire (A) in the AP view, and parallel to the anterior K-wire (B) in the axial view. Do not insert the guide wire too far medially; consider the inclination of the medial wall of the distal femur. In the sagittal plane, the central guide wire enters the distal femur at a point anterior to the midline between the condyles, and in line with the shaft axis, approximately 2 cm from the knee joint. Confirm placement of the central guide wire under image intensification. If it is not parallel to the knee joint axis, insert a new 2.5 mm Threaded Guide Wire.



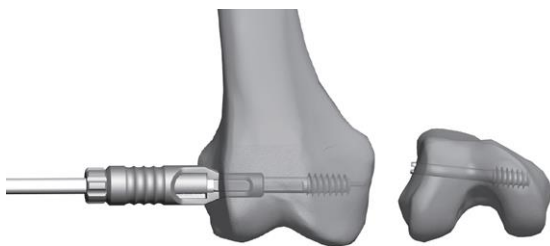
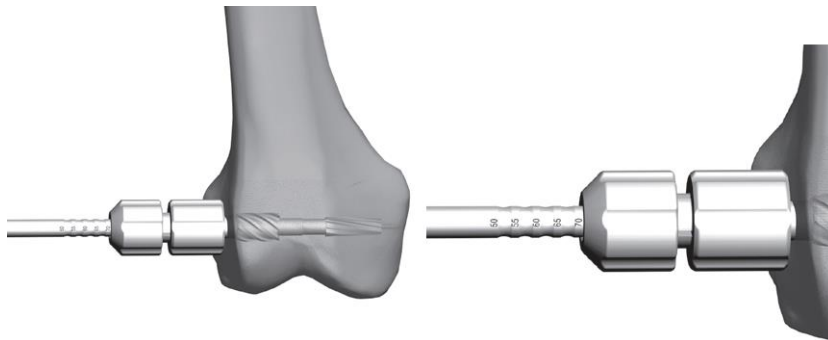
**4.**

Slide the Depth gauge over the guide wire to determine guide wire insertion depth. Calibration on the Depth gauge provides a direct reading. To calculate reaming depth, tapping depth and lag screw length, subtract 10 mm from the reading. If the Compression Screw will be used, allow for additional compression of the fracture by selecting a lag screw 5 mm shorter and inserting it an additional 5 mm.



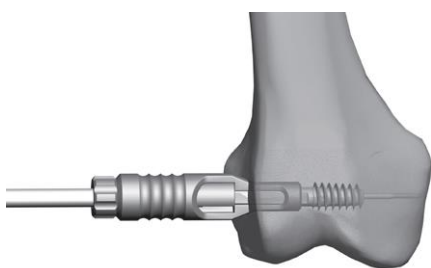
**5.**

Assemble the appropriate DCS Triple Reamer. Set the reamer to the correct depth. Slide the Reamer over the guide wire to simultaneously drill for the lag screw, ream for the plate barrel, and countersink for the plate/barrel junction to the preset depth. When reaming in dense bone, continuously irrigate the DCS Triple Reamer to prevent thermal necrosis.



**6.**

Tap to the predetermined depth, using the Tap Assembly. Tapping depth can be seen through the window in the Centering Sleeve.



**7.**

Select the DCS Lag Screw and assemble the Lag Screw Insertion Assembly. Slide the assembly over the guide wire and into the reamed hole. Seat the Centering Sleeve in the hole to center and stabilize the assembly. Insert the lag screw by turning the handle clockwise, until the zero mark on the assembly aligns with the lateral cortex. The threaded tip of the lag screw now lies 10 mm from the medial cortex. The lag screw may be inserted an additional 5 mm in osteoporotic bone, for increased holding power.

**Note:** If a lag screw 5 mm shorter than reaming and tapping depth is used, insert it an additional 5 mm, until the 5 mark on the assembly aligns with the lateral cortex.

## GEOORTHO Dynamic Condylar Screw Surgical Technique



**8.**

Before removing the assembly, align the handle so it is in the same plane as the femoral shaft (parallel to the femoral shaft axis when viewed laterally). This allows proper placement of the DCS Plate onto the lag screw.



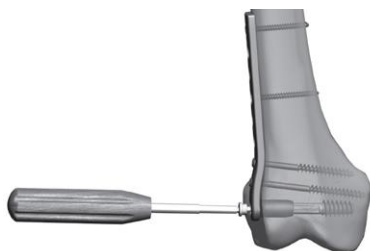
**9.**

Remove the DCS Wrench and Centering Sleeve. Slide the appropriate DCS Plate onto the guide shaft/lag screw assembly until it contacts the lateral cortex. Loosen and remove the Coupling Screw and Guide Shaft. Use the Small Battery Drive in reverse, with the Quick Coupling for K-wires, to withdraw the 2.5 mm Threaded Guide Wire. Gently seat the plate with the DCS Impactor.



**010**

Fix the DCS Plate to the femur with 4.5 Cortex Screws. Further interfragmentary compression can be achieved by using 6.5 mm Cancellous Bone Screws through the distal round holes of the DCS Plate.



**11.**

When the fracture requires additional intraoperative compression, the DCS Compression Screw can be inserted into the lag screw. In osteoporotic bone, insert the screw very carefully to avoid stripping the lag screw thread.



## **Using the DCS for Intertrochanteric and Subtrochanteric fractures**

The design of the DCS Plate can enhance fixation of selected Intertrochanteric and subtrochanteric fractures. Compared with the DHS, the DCS especially permits stable fixation in the transverse subtrochanteric fractures, trochanteric fractures, and lateral cortex fractures within the drilling. The DCS Plate has a 95° barrel angle, allowing it to enter the femur more proximally than the DHS Plate and the round proximal plate holes permit insertion of 6.5 mm Cancellous Bone Screws for stable proximal fixation.



Refer To DHS Surgical Guide

## **DHS/DCS Implant Removal**

DHS/DCS removal may normally be carried out after 18-24 months provided that there is radiological evidence of union. The situation may be different in varied cases. First expose the implant through the previous incision, and remove the DHS/DCS plate. Advance the wrench over the DHS/DCS lag screw, the outer thread of the long connecting screw must be securely held by the inner thread of the lag screw. Undo the lag screw while exerting axial traction.