

veterinary technology for life

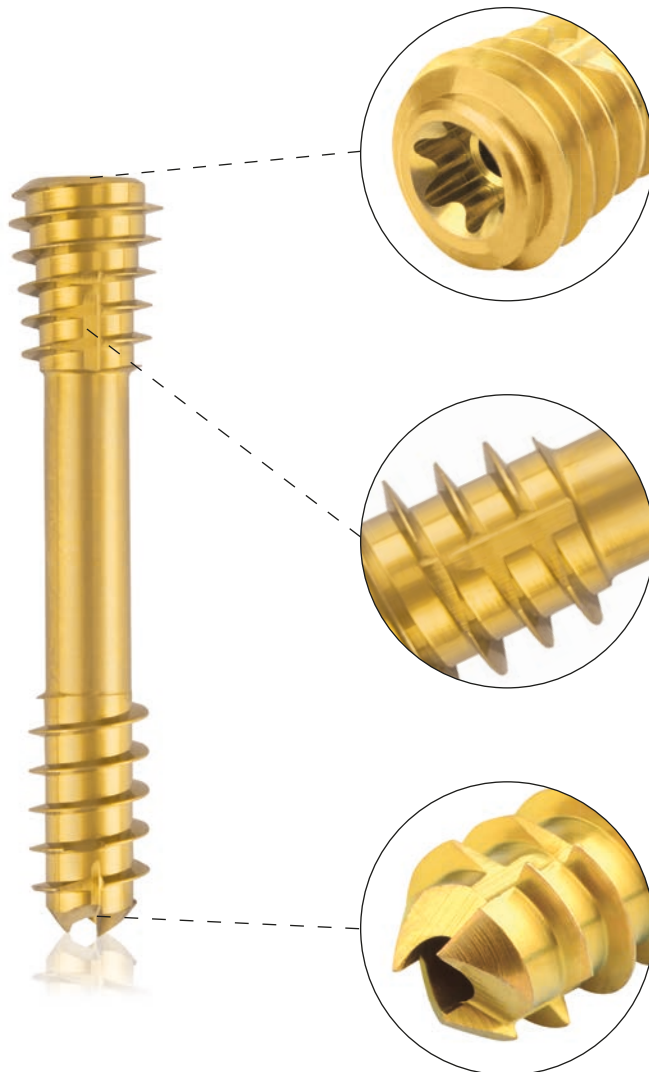
# Eickemeyer®

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# *CBS System*

## Compression Bone Screw System



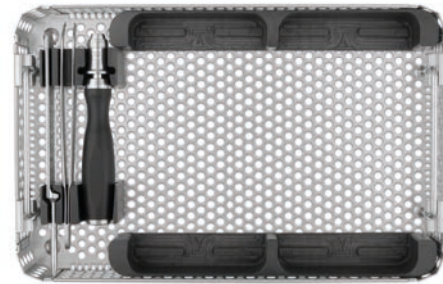
**With Case Reports**

## CBS SYSTEM – COMPONENTS AND CHARACTERISTICS

With its different screw diameters and lengths, the cannulated CBS system enables a wide range of indications for the treatment of fractures in small animal orthopaedics and trauma surgery. CBS stands for Compression Bone Screw and, in its function as a lag screw, enables the compression of two bone fragments.

In contrast to conventional cortex tension screws, which are inserted using a smaller pilot or threaded hole in the distant cortex and a larger spacing or sliding hole in the nearby cortex, the cannulated CBS is screwed in using a KIRSCHNER guide wire. The principle operation of a lag screw with compression is achieved because the threads on the head and the shaft end have different pitches. This gradient difference causes the interosseous compression. The temporary fixation of the bone fragments with the KIRSCHNER wire enables a largely minimally invasive procedure on the one hand, and on the other hand precise screw placement via the KIRSCHNER wire.

The cannulated CBS system is modular and designed for different patient sizes: It comprises a basic instrument set and 4 modules (toy breeds/cat, dog small, dog medium and dog large). The individual modules include a selection of screw lengths and the instruments required for the respective implant size, which are required in addition to the basic instrument set.



CBS Basic Instrument Set  
Item No. 185105



Micro/High CBS Set – Toy Breeds and Cat  
Item No. 191465



4.5 mm CBS Set – Dog Small  
Item No. 191470



5.5 mm CBS Set – Dog Medium  
Item No. 191475



6.5 mm CBS Set – Dog Large  
Item No. 191480

### Titanium Compression Screws

- ▶ Self-drilling & self-tapping
- ▶ Cannulated for minimally invasive technique and guided insertion
- ▶ Minimisation of soft tissue irritation through self-cutting grooves on the head thread
- ▶ Cut back flanks in the head and shaft for easier explanation
- ▶ Different diameters (3.0, 4.0, 4.5, 5.5 and 6.5 mm) for a wide range of indications
- ▶ Screw and thread design enable optimal fixation
- ▶ Optimisation of the fracture or osteotomy compression

### Technical Characteristics

- ▶ Screw material: TiAl6V4
- ▶ Easier removal of the implants after the fracture has healed
- ▶ Improved fatigue strength of the implants
- ▶ Reduction of the risk of inflammation and allergies
- ▶ Titanium also reduces artefacts in post-operative imaging
- ▶ Biocompatible
- ▶ Surface anodised with a uniform, continuous passivation layer
- ▶ Colour-coded for easy determination of the size diameter

# CBS SYSTEM – INDICATIONS AND SURGICAL TECHNIQUE

## Application

The compression screws can be used as single implants or in combination with additional KIRSCHNER wires to increase the rotational stability with a target instrument such as, for example, the PinPositioner (191370) or PinCube (191348) which can be used for guided insertion.

## Indications

Fractures, corrective osteotomies, pseudarthroses, degenerative changes in small bones:

- ▶ Sacroiliac luxation
- ▶ Isolated processus anconaeus (IPA)
- ▶ Incomplete ossification of the condylus humeri (IOHC)
- ▶ T/Y fractures of the humeral condyle
- ▶ Intracondylar fractures of the distal femur

## Surgical Technique

### Temporary fixation with the KIRSCHNER wire

Caution: Carefully insert the guide wire to avoid possible bending (tip: grasp the thin guide wires and push them in in small steps).

### Optional Drilling

In the case of strong cortical bone, it is possible to drill out to the core diameter in order to facilitate the insertion of the compression screw with stable angles. Drill over the guide wire with the drill bit.

Attention: The end of the guide wire must not be drilled over to ensure that the guide wire remains firmly held.

### Optional use of a Cortical Bur

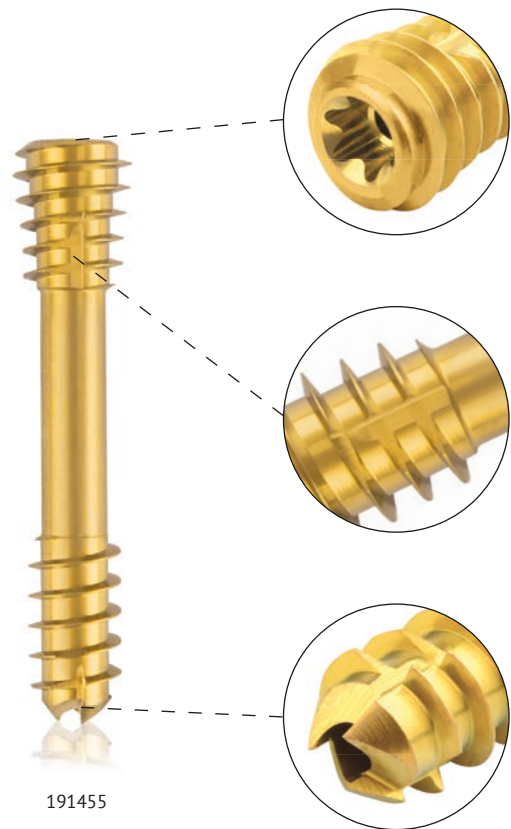
If the bone is surrounded by little soft tissue or if the bone quality is very good, the use of the cortical bur is recommended to minimize any soft tissue irritation, protrusion of the screw head in the cortex and to counteract possible deformation of the instruments.

### Determination of Screw Length

Place the length gauge over the guide wire and guide it through the soft tissue to the bone. Then read off the required length at the end of the guide wire.

### Placing the Screw

Screw in the compression screws over the guide wire with the screwdriver (cannulated, AO shaft) up to the head thread. Then remove the guide wire and countersink the screw to the bone surface.



# CBS BASIC INSTRUMENT SET – ITEM LIST

CBS Basic Instrument Set		
Item No.	Description	Quantity
185105	Complete set, consisting of:	
185780	Tray for CBS Implants and Instruments, without implants and instruments	1
185515	Silicone Screwdriver Handle, cannulated, AO Quick Coupling, L 120 mm	1
185779	Plate and Screw Holding Forceps, stainless steel, angled, L 150 mm	1
185781	Screw Length Measuring Device, for KIRSCHNER Wires Ø 0.9–1.6 mm, L 150 mm	1



185105



185515



185779



185781



# MICRO / HIGH CBS SET – TOY BREEDS AND CAT – ITEM LIST

Micro/High CBS Set – Toy Breeds and Cat		
Item No.	Description	Quantity
191465	Complete set, consisting of:	
191466	Module for CBS Toy Breeds and Cat Instruments and Screws, without instruments and screws, with cover	1
185782	Twist Drill, Ø 1.8 mm, cannulated, Ø cannulation 1.1 mm, AO Quick Coupling	1
185783	Twist Drill, Ø 2.2 mm, cannulated, Ø cannulation 1.1 mm, AO Quick Coupling	1
185670	Screwdriver Blade, Torx 6, cannulated, AO Quick Coupling	1
191361	Screwdriver Blade, Torx 8, cannulated, AO Quick Coupling	1
185192	Head Reamer, for Ø 3.0 Micro CBS, cannulated, round shaft	1
185193	Head Reamer, for Ø 4.0 High CBS, cannulated, round shaft	1
185109	KIRSCHNER Wire, Ø 1.1 x L 150 mm, trocar/blunt, round shaft	5
191391	Micro Titanium Compression Screw, Ø 3.0 x L 14 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191392	Micro Titanium Compression Screw, Ø 3.0 x L 16 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191393	Micro Titanium Compression Screw, Ø 3.0 x L 18 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191394	Micro Titanium Compression Screw, Ø 3.0 x L 20 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191303	High Titanium Compression Screw, Ø 4.0 x L 14 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191304	High Titanium Compression Screw, Ø 4.0 x L 16 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191305	High Titanium Compression Screw, Ø 4.0 x L 18 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191306	High Titanium Compression Screw, Ø 4.0 x L 20 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191307	High Titanium Compression Screw, Ø 4.0 x L 22 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1



191465



191392



191304



Optional Accessories		
Item No.	Description	Quantity
191389	Micro Titanium Compression Screw, Ø 3.0 x L 10 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191390	Micro Titanium Compression Screw, Ø 3.0 x L 12 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191395	Micro Titanium Compression Screw, Ø 3.0 x L 22 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191396	Micro Titanium Compression Screw, Ø 3.0 x L 24 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191397	Micro Titanium Compression Screw, Ø 3.0 x L 26 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191398	Micro Titanium Compression Screw, Ø 3.0 x L 28 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191399	Micro Titanium Compression Screw, Ø 3.0 x L 30 mm, cannulated, magenta, Torx 6, self-drilling, self-tapping	1
191301	High Titanium Compression Screw, Ø 4.0 x L 10 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191302	High Titanium Compression Screw, Ø 4.0 x L 12 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191308	High Titanium Compression Screw, Ø 4.0 x L 24 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191309	High Titanium Compression Screw, Ø 4.0 x L 26 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191310	High Titanium Compression Screw, Ø 4.0 x L 28 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1
191300	High Titanium Compression Screw, Ø 4.0 x L 30 mm, cannulated, silver, Torx 8, self-drilling, self-tapping	1

## 4.5 MM CBS SET – DOG SMALL – ITEM LIST

4.5 mm CBS Set – Dog Small		
Item No.	Description	Quantity
191470	Complete set, consisting of:	
191471	Module for CBS Dog Small Instruments and Screws Ø 4.5 mm, without instruments and screws, with cover	1
185784	Twist Drill, Ø 2.8 mm, cannulated, Ø cannulation 1.5 mm, AO Quick Coupling	1
185671	Screwdriver Blade, Torx 10, cannulated, AO Quick Coupling	1
185194	Head Reamer, for Ø 4.5 CBS, cannulated, round shaft	1
185114	KIRSCHNER Wire, Ø 1.4 x L 150 mm, trocar/blunt, round shaft	5
191414	Titanium Compression Screw, Ø 4.5 x L 28 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191415	Titanium Compression Screw, Ø 4.5 x L 30 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191416	Titanium Compression Screw, Ø 4.5 x L 32 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191417	Titanium Compression Screw, Ø 4.5 x L 34 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191418	Titanium Compression Screw, Ø 4.5 x L 36 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191419	Titanium Compression Screw, Ø 4.5 x L 38 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191420	Titanium Compression Screw, Ø 4.5 x L 40 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1



191470



191414

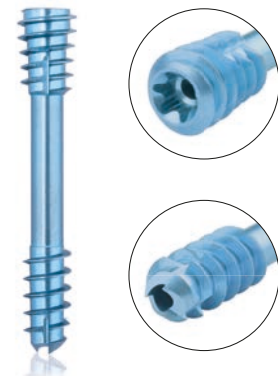
Optional Accessories		
Item No.	Description	Quantity
191410	Titanium Compression Screw, Ø 4.5 x L 20 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191411	Titanium Compression Screw, Ø 4.5 x L 22 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191412	Titanium Compression Screw, Ø 4.5 x L 24 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191413	Titanium Compression Screw, Ø 4.5 x L 26 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191421	Titanium Compression Screw, Ø 4.5 x L 45 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191422	Titanium Compression Screw, Ø 4.5 x L 50 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191423	Titanium Compression Screw, Ø 4.5 x L 55 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1
191424	Titanium Compression Screw, Ø 4.5 x L 60 mm, cannulated, green, Torx 10, self-drilling, self-tapping	1

## 5.5 MM CBS SET – DOG MEDIUM – ITEM LIST

5.5 mm CBS Set – Dog Medium		
Item No.	Description	Quantity
191475	Complete set, consisting of:	
191476	Module for CBS Dog Medium Instruments and Screws Ø 5.5 mm, without instruments and screws, with cover	1
185787	Twist Drill, Ø 3.5 mm, cannulated, Ø cannulation 1.5 mm, AO Quick Coupling	1
185115	Screwdriver Blade, Torx 15, cannulated, AO Quick Coupling	1
185195	Head Reamer, for Ø 5.5 CBS, cannulated, round shaft	1
185114	KIRSCHNER Wire, Ø 1.4 x L 150 mm, trocar/blunt, round shaft	5
191434	Titanium Compression Screw, Ø 5.5 x L 32 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191435	Titanium Compression Screw, Ø 5.5 x L 34 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191436	Titanium Compression Screw, Ø 5.5 x L 36 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191437	Titanium Compression Screw, Ø 5.5 x L 38 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1



191475



191434

Optional Accessories		
Item No.	Description	Quantity
191430	Titanium Compression Screw, Ø 5.5 x L 24 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191431	Titanium Compression Screw, Ø 5.5 x L 26 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191432	Titanium Compression Screw, Ø 5.5 x L 28 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191433	Titanium Compression Screw, Ø 5.5 x L 30 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191438	Titanium Compression Screw, Ø 5.5 x L 40 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191439	Titanium Compression Screw, Ø 5.5 x L 45 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191440	Titanium Compression Screw, Ø 5.5 x L 50 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191441	Titanium Compression Screw, Ø 5.5 x L 55 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1
191442	Titanium Compression Screw, Ø 5.5 x L 60 mm, cannulated, light blue, Torx 15, self-drilling, self-tapping	1

## 6.5 MM CBS SET – DOG LARGE – ITEM LIST

6.5 mm CBS Set – Dog Large		
Item No.	Description	Quantity
191480	Complete set, consisting of:	
191481	Module for CBS Dog Large Instruments and Screws Ø 6.5 mm, without instruments and screws, with cover	1
185786	Twist Drill, Ø 4.0 mm, cannulated, Ø cannulation 1.5 mm, AO Quick Coupling	1
185115	Screwdriver Blade, Torx 15, cannulated, AO Quick Coupling	1
185796	Head Reamer, for Ø 6.5 CBS, cannulated, round shaft	1
185114	KIRSCHNER Wire, Ø 1.4 x L 150 mm, trocar/blunt, round shaft	5
191455	Titanium Compression Screw, Ø 6.5 x L 36 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191456	Titanium Compression Screw, Ø 6.5 x L 38 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191457	Titanium Compression Screw, Ø 6.5 x L 40 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191458	Titanium Compression Screw, Ø 6.5 x L 45 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191459	Titanium Compression Screw, Ø 6.5 x L 50 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1



191480



191455

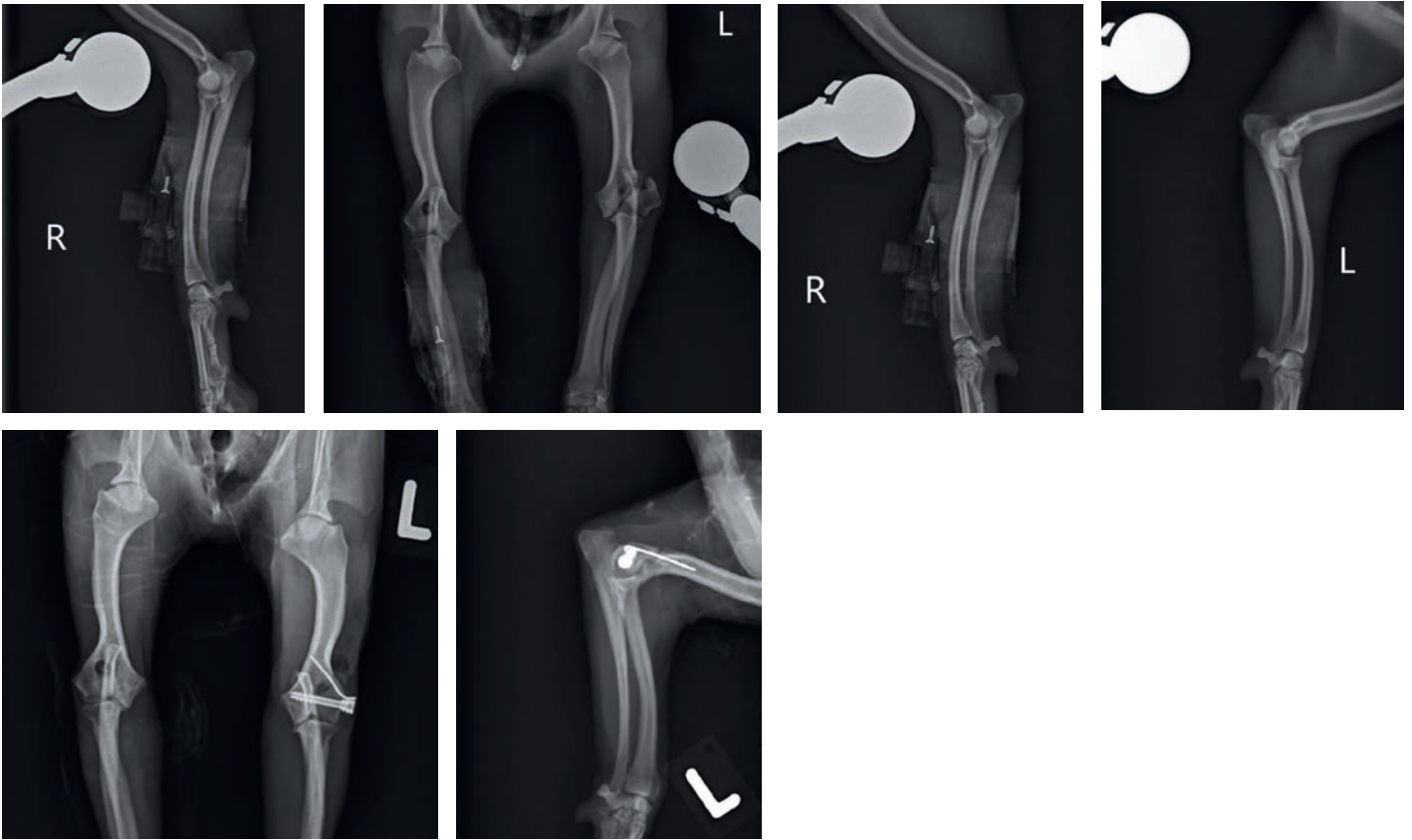
Optional Accessories		
Item No.	Description	Quantity
191450	Titanium Compression Screw, Ø 6.5 x L 26 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191451	Titanium Compression Screw, Ø 6.5 x L 28 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191452	Titanium Compression Screw, Ø 6.5 x L 30 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191453	Titanium Compression Screw, Ø 6.5 x L 32 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191454	Titanium Compression Screw, Ø 6.5 x L 34 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191460	Titanium Compression Screw, Ø 6.5 x L 55 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1
191461	Titanium Compression Screw, Ø 6.5 x L 60 mm, cannulated, gold, Torx 15, self-drilling, self-tapping	1



## Case Report 1

**Andreas Käsa**, Lörrach, Germany, March 17th, 2017

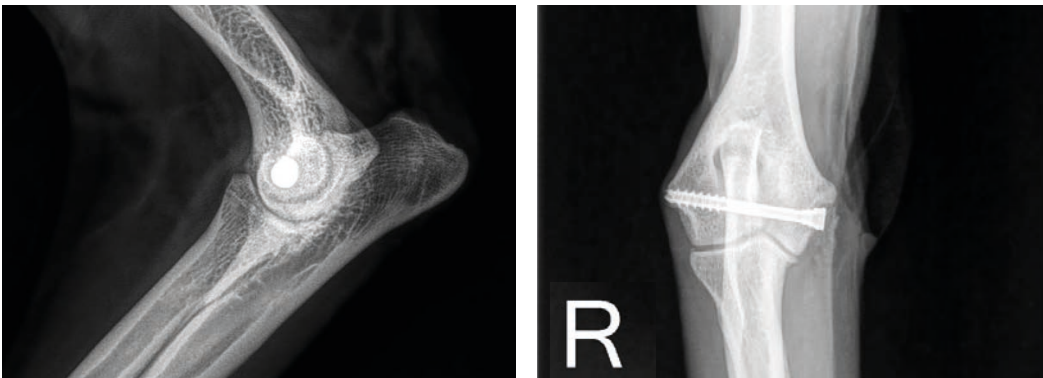
Yorkshire Terrier, 2.2 kg, High Titanium Compression Screw, Ø 4.0 x L 18 mm



## Case Report 2

**Diane Meiler**, Haar, Germany, February 11th, 2017

Australian Shepherd "Maybe", transcondylar lag screw due to IOHC on the right, High Titanium Compression Screw, Ø 4.0 x L 34 mm



## Case Report 3

**Daniel Koch**, Diessenhofen, Switzerland, December 22nd, 2017  
Acetabulum, High Titanium Compression Screw



## Case Report 4

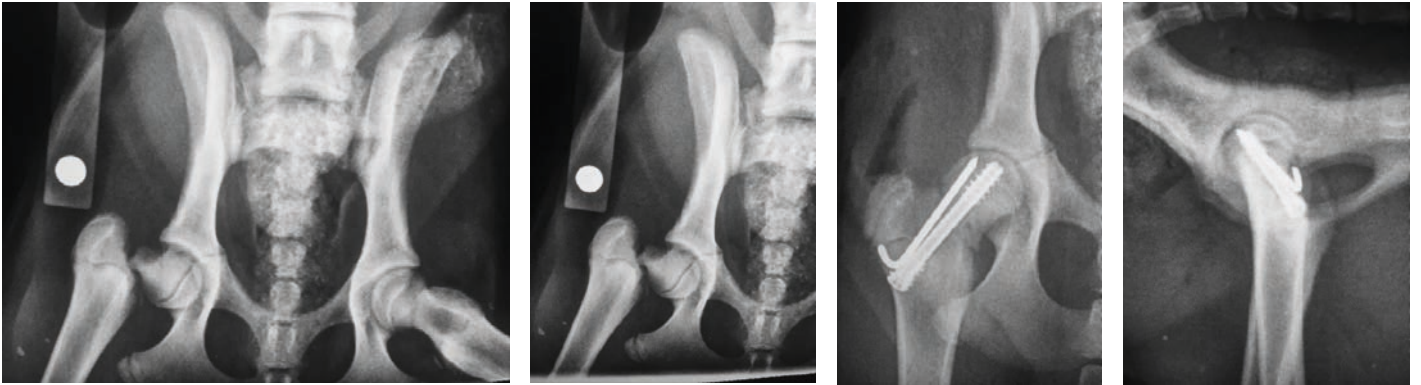
**Lena von Spiessen**, Aarau, Switzerland, August 3rd, 2018  
Tarsus and Carpus, Micro Titanium Compression Screw, Ø 3.0 mm



### Case Report 5

Shane Guerin, Cork, Ireland, May 30th, 2020

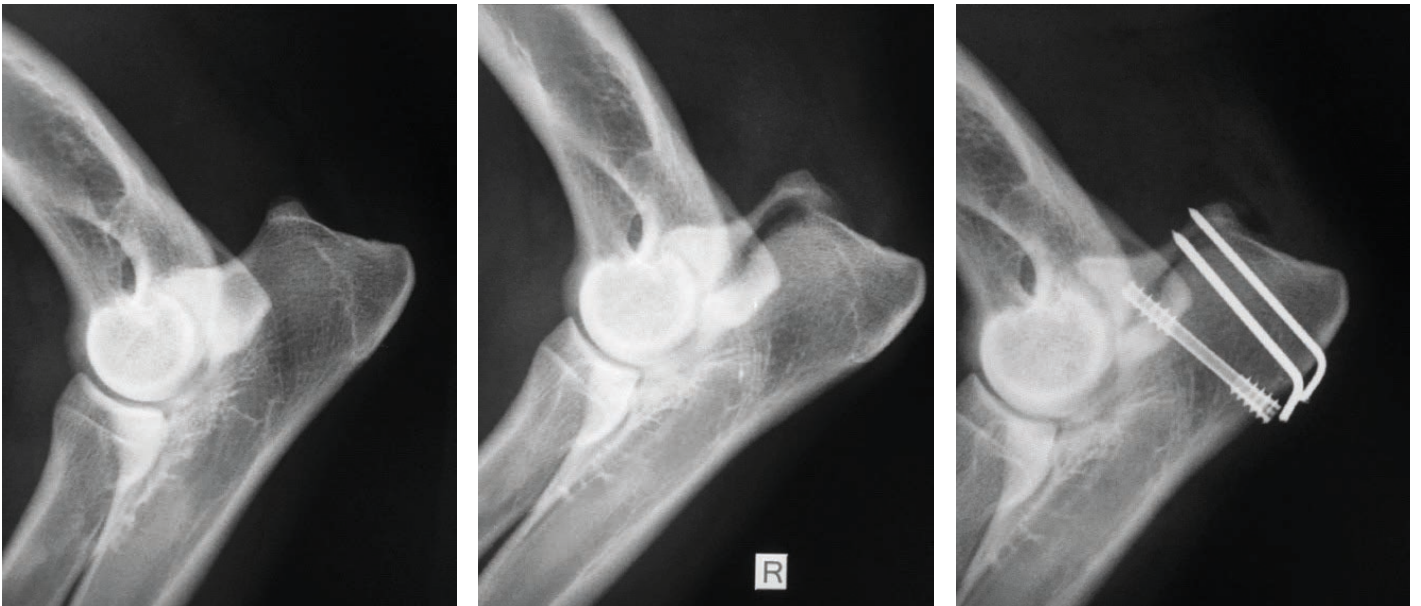
Femoral neck fracture repair with the 5.5 mm CBS set.



### Case Report 6

Shane Guerin, Cork, Ireland, August 13th, 2020

Traumatic fracture of the anconeal process of the elbow; repaired with 4.5 mm CBS set and two KIRSCHNER wires.



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