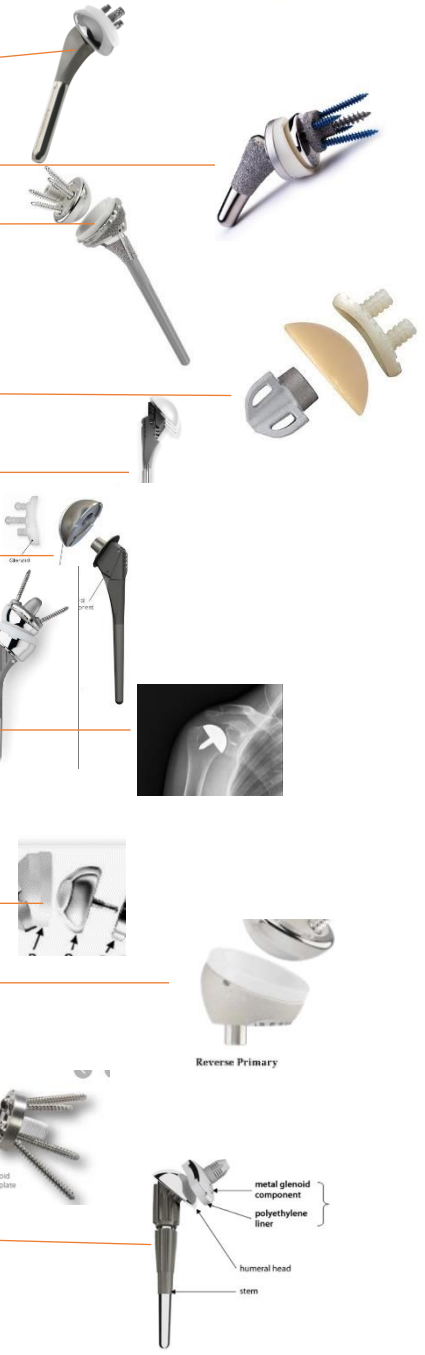
LROI Implant Library – Shoulder

Shoulder prosthesis

- Humeral stem
  - 1. Anatomical stem
  - 10. Ministem
  - 11. Reversed stem
  - 12. Revision Stem
  - 13. Stemless
  - 14. Fracture Stem
- Humeral head-humeral liner
  - 2. Humeral head
  - 3. Humeral liner
  - 15 Resurfacing head
- Glenoid component/ glenosphere
  - 4. Glenoid component (cup)
  - 5. Glenoid head component (glenosphere)
- Metaphyse/taper
  - 6. Humeral baseplate (metaphyse)
  - 9. Humeral taper
- Glenoid baseplate/glenoid liner
  - 7. Glenoid baseplate
  - 8. Glenoid liner



Humeral component

Prosthesis kind		
1	Anatomical stem	Stem for anatomical shoulder prosthesis. 
10	Ministem	Identifies whether the humeral component is a ministem design. 
11	Reversed stem	Stem for reversed shoulder prosthesis. 
12	Revision stem	Revision stem. 
13	Stemless	Humeral component of stemless prosthesis. 

14	Fracture stem	 Stem for fracture prosthesis.
Fixation	See: Fixation	
Side	See: Side	
Size		
	Diameter	Manufacturer defined diameter humeral stem.
	Length	Manufacturer defined length (mm).
Material components		
	See: Material	Material refers to the materials that are used in making up the component.
Fixation surface		
	See: Fixation surface	
Surface treatment		
	See: Surface treatment	
Modular shoulder stem		
1	Yes	Stem existing of two or more components.
2	No	One stem.
0	Unknown	Unknown.

Design		
1	Symmetrical	Symmetrical medial and lateral surface.
2	Asymetrical	Asymmetrical medial and lateral surface.
3	Pegged	Fixation with pegs.
4	Stemmed	Fixation with stem.

Shouder humeral head – humeral liner

Prosthesis kind		
02	Humeral head	Humeral head (anatomical shoulder prosthesis). 
03	Humeral liner	Humeral liner (reversed shoulder prosthesis). 
15	Resurfacing head	Resurfacing head (without humeral stem). 
Fixation	See: Fixation	
Side	See: Side	

Size		
	OD	Outer diameter head (inner diameter humeral liner/cup).
	Length	Length stem (in case of humeral head).
	Headnecklenght	Length head/neck.
Material components		
	See: Material	Material refers to the materials that are used in making up the component.

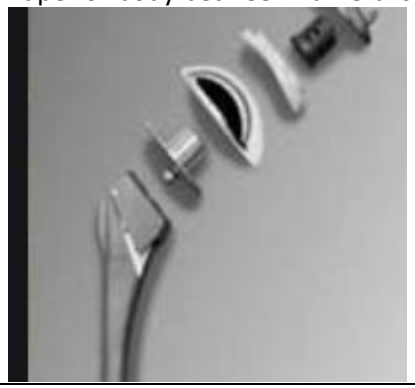
Shouder glenoid component - glenosphere

Prosthesis kind		
4	Glenoid component (cup)	Glenoid cup (anatomical shoulder prosthesis). 
5	Glenoid head component (glenosphere)	 Glenoid head component (reversed shoulder prosthesis).
Fixation	See: Fixation(only for glenoid cups)	
Size		
	Diameter	Diameter cup (for glenosphere).
	OD	Diameter cup/glenosphere.

Material components (bone surface)		
	See: Material	Material refers to the materials that are used in making up the component (glenoid side).
Material components (bearing surface)		
	See: Material	Material refers to the materials that are used in articulation with humeral head/inlay.
Adjunctive fixation- only for glenoid cups		
1	None	No other fixation.
2	Fins	 Moulded fins which penetrate into the bone tissue to achieve fixation.
3	Fins/spikes	Fins als spikes.
4	Flange	Manufactured with flanges which can be bended to conform with the acetabulum  and a hook which is positioned in the foramen obturator hook.
5	Multihole	Manufactured with multiple holes to accommodate additional screws to fix the component.
6	One hole	Manufactured with one apex hole to accommodate an additional screw to fix the component.
7	Pegs	Moulded pegs.
8	Pegs/flanges	Pegs and flanges.
9	Pegs/spikes	Pegs and spikes.
10	schroefcup	Screwcup.

11	Spikes	Spikes.
12	Stems	Stem on cup.
0	Unknown	Unknown.

Schouder metaphyse-taper

Prosthesis		
6	Humeral baseplate Metaphysis	Metaphysis component (Reversed shoulder prosthesis). 
9	Taper/body	Taper or body between humeral stem and shoulder head or shoulder inlay. 
Size		
	OD	Diameter metaphysis.
Material components (bone surface)		
	See: Material	Material refers to the materials that are used in making up the component.
Material components (bearing surface)		

	See: Material	Material refers to the materials that are used in making up the component (for metaphyseal component – inlay side).

Schouder Glenoid baseplate/glenoid liner

Prosthesis kind		
7	Glenoid baseplate	Glenoid baseplate (reversed shoulder prosthesis). 
8	Glenoid liner	Glenoid liner (anatomical shoulder prosthesis). 

Fixation	See: Fixation	
Size		
	OD	Diameter cup.
Material components		
	See: Material	Material refers to the materials that are used in making up the component.
Adjunctive fixation- only for glenoid cup		
1	None	No other fixation.
2	Fins	 Moulded fins which penetrate into the bone tissue to achieve fixation.
3	Fins/spikes	Fins als spikes.
4	Flange	Manufactured with flanges which can be bended to conform with the acetabulum  and a hook which is positioned in the foramen obturator hook.
5	Multihole	Manufactured with multiple holes to accommodate additional screws to fix the component.
6	One hole	Manufactured with one apex hole to accommodate an additional screw to fix the component.
7	Pegs	Moulded pegs.
8	Pegs/flanges	Pegs and flanges.
9	Pegs/spikes	Pegs and spikes.
10	schroefcup	Screwcup.

11	Spikes	Spikes.
12	Stems	Stem on cup.
0	Unknown	Unknown.

Generic attributes

Fixation

1	Cemented	Component that is intended to use cement to hold the component in place.
2	Cementless	Component that is intended to allow for the bone to grow into the surface of the component for fixation.
0	Unknown	Unknown.

Side

Side		
1	Left	
2	Right	
13	Universal Left/Right	

Material

Material (incl. material bearing)		
1	Stainless steel	
2	Cobalt chrome	
3	Titanium	
4	Ceramics	
5	Composite	
6	Titanium with hardened layer	
7	PE Standard	
8	PE Cross-linked	
9	Tantalum	
15	Oxidized Zirconium	
18	Pyrocarbon	
19	Silicone rubber	

21	PE Crosslinked with Antioxidant	
22	Ceramics/Oxidized Zirconium	

Fixation surface

The design of the component fixation surface which articulates with bone.

Fixation surface		
1	Matte (cemented)	Matte finish surface.
2	Polished (cemented)	Highly polished surface.
3	Porous metal (cementless)	Tantalum or spongiosa type metal products.
4	Beaded (cementless)	Microspheres of either cobalt chrome or titanium alloy attached by the use of high temperatures.
5	Grit-blast (cementless)	A textured surface created by bombarding the implant with small abrasive particles.
6	Plasma/arc deposition (cementless)	Molten material sprayed on the implant creating a textured surface.
7	Mesh (cementless)	Metal pads attached by diffusion bonding.
8	Other (cementless)	Other surface treatment.
9	None (cementless)	No surface treatment.
0	Unknown (cementless)	Unknown.

Surface treatment

The treatment on the surface of the component. The treatment can be on the bearing surface side (side interfacing with another component) or the fixation surface side (side affixed to bone). It is designed to dissolve, or disappear, into the bone or cement fixation after being implanted.

Surface treatment		
1	None	No surface treatment.
2	TiN	Titanium Nitride is a ceramic surface coating which gives the prosthesis a gold colouring.
3	Silver	Silver coated surface area.
4	HA	Calcium phosphate compound sprayed directly onto the component with or without porous coating.
5	PMMA	Poly-methyl methacrylate is a transparent thermoplastic.

6	Biofoam	The structure of Biofoam® Cancellous Titanium metal resembles that of trabecular bone. The porosity is between 60 and 70%, creating an open cell structure that encourages biological fixation for long-term stability.
7	TiN/Silver	TiN en Silver coating.
8	Other	Other.
10	BoneMaster	BoneMaster™ is an electrochemical method of depositing hydroxyapatite [HA: Ca10(PO4)6(OH)2] coating on metallic orthopedic implants. HA coatings, with composition similar to the mineral content of bone, can enhance the osseo-integration of metallic implants with host bone.
11	Gription	Gription porous coating is composed of super-textured asperity topography (STAT), which combines macrotexture and microtexture topographies to provide a favorable mechanical loading environment for bone construction, enabling greater cell adhesion and proliferation.
12	Osseoti	Human CT data in combination with 3D printing technology to build a structure that directly mimics the architecture of human cancellous bone.
13	Porocoat	The Porocoat Porous Coating process results in a strong bond of proud, randomly arranged beads that form interconnecting pores for ingrowth.
14	PPS	Porous plasma spray.
15	TiCP	TiCP is a commercially pure titanium alloy characterized by having a good strength-to-weight ratio, corrosion resistance and ductility.
16	TPS	Titanium plasma spray.
17	Plasmapore	Coated with a layer of fine titanium powder applied in a plasmaspray process under vacuum. The Plasmapore® pore sizes range from 50 to 200 µm with a microporosity of 35 % and a thickness of 0.35 mm.
0	Unknown	Unknown.