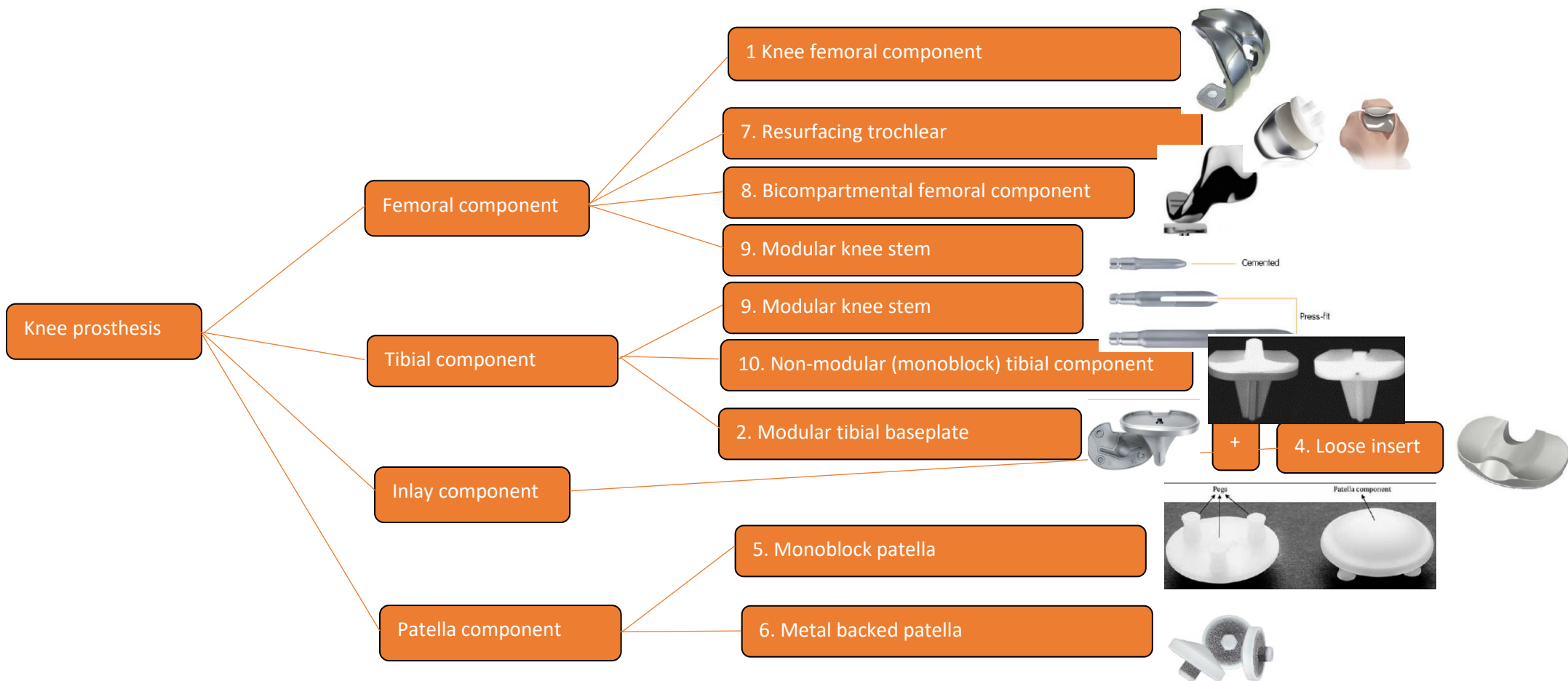



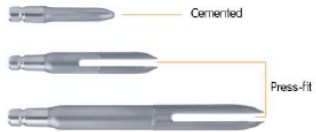


LROI Implant Library – Knee





Femoral component

Prosthesis kind		
1	Knee femoral component	<p>The femoral component is predominately made of metal. A total femoral component curves up around the end of the femur. A partial (unicompartmental) femoral component will fit on either the lateral or medial side of the femur.</p> 
7	Resurfacing Trochlear	<p>This component replaces the femoral trochlear articular surface and is predominately used in conjunction with a patella component.</p> 
8	Bicompartmental femoral component	<p>This type of component is currently manufactured by one company. It is made of ceramicized metal and replaces the media femoral and trochlear articular surface of the knee. It is designed to be used with a unicompartmental tibial component which only replaces the medial tibial articular surface.</p> 
9	Modular knee stem	<p>A modular knee stem can be attached to the fixation side of either the femoral or tibial component. They are used most commonly in revision surgery when there is periarticular bone loss.</p> 
Fixation	See: Fixation	
Side	See: Side	
Size		
	Manufacturer defined size	Knee components are made with varying sizes. The attribute of component size usually relates to certain dimension attributes.
	Length (A/P)	Length of the component measured anteriorly to posteriorly.
	Length (M/L)	Length of the component measured medially to laterally.
	Diameter	Diameter stem (only for modular stems).
	Length	Length stem (only for modular stems).


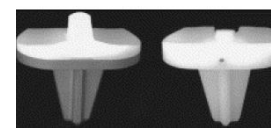
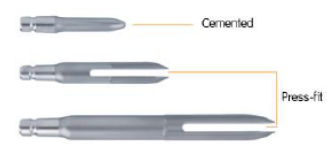
Material components (bone surface)		
	See: Material	Material refers to the materials that are used in making up the component.
Material component (bearing surface → articulates with inlay)		
	See: Material	Material refers to the materials that are used in articulation with inlay/ monoblock tibia.
Antioxidant (in case material is PE XL + antioxidant)		
	See: Antioxidant in case material is PE Cross-linked with Antioxidant	
Fixation surface		
	See: Fixation surface	
Surface treatment		
	See: Surface treatment	
Type prosthesis - refers to particular prosthetic features intended to substitute for the intrinsic stability of knee ligaments. Stability can be recorded for both femoral components and knee inserts, however, the stability of the insert is sufficient for determining stability of the procedure.		
	See: Type prosthesis	
Design – Component features which have not been addressed by the previous attributes. A design attribute can be specified for the articular surface (surface articulating with another component) or the fixation surface (surface articulating with bone).		
1	Symmetrical	Symmetrical medial and lateral articular surface.
2	Assymetrical	Asymmetrical medial and lateral articular surface e.g. medial pivot shift.
3	Pegged	Affixes to the bone with two or more pegs.
4	Stemmed	Affixes to bone with one stem which may or may not have the capacity to be extended with a modular stem.

Knee stem

Design		
21	Fluted	Ridged

22	Conical	Non-ridged
23	Straight	Straight
24	Curved	Matching with bone shape
25	Splined	Conical stem with raised ridges
26	Cylindrical	Cylindrical
27	Lateral	Lateral
28	Medial	Medial
99	Other	Other


Tibia component

Prosthesis kind		
2	Modular tibial baseplate	<p>A modular tibial baseplate is a flat metal platform which is placed on top of the tibia. A modular baseplate must be used in conjunction with a polyethylene insert. A partial (unicompartmental) modular tibial component will fit on either the lateral or medial side of the tibia.</p> 
10	Non-modular tibial baseplate (monoblock)	<p>A non-modular tibial component is a tibial component which can be used without a modular knee insert. The component can be made entirely of polyethylene or can be a metal tibial baseplate plus insert which is combined during manufacture. A partial (unicompartmental) non-modular tibial component will fit on either the lateral or medial side of the tibia.</p> 
09	Modular knee stem	<p>A modular knee stem can be attached to the fixation side of either the femoral or tibial component. They are used most commonly in revision surgery when there is periarticular bone loss.</p> 
Fixation	See: Fixation	
Side	See: Side	

Size		
	Manufacturer defined size	Knee components are made with varying sizes. The attribute of component size usually relates to certain dimension attributes.
	Length (A/P)	Length of the component measured anteriorly to posteriorly.
	Length (M/L)	Length of the component measured medially to laterally.
	Thickness	Thickness of the component measured from the thinnest part.
	Diameter	Diameter stem (only for modular stems).
	Length	Length stem (only for modular stems).
Material components (bone surface)		
	See: Material	Material refers to the materials that are used in making up the component.
Material component (bearing surface → articulates with inlay)		
	See: Material	Material refers to the materials that are used in articulation with inlay.
Antioxidant (in case material is PE XL + antioxidant)		
	See: Antioxidant in case material is PE Cross-linked with Antioxidant	
Fixation surface		
	See: Fixation surface	
Surface treatment		
	See: Surface treatment	
Type prosthesis - refers to particular prosthetic features intended to substitute for the intrinsic stability of knee ligaments. Stability can be recorded for both femoral components and knee inserts, however, the stability of the insert is sufficient for determining stability of the procedure.		
	See: Type prosthesis	
Design – Component features which have not been addressed by the previous attributes. A design attribute can be specified for the articular surface (surface articulating with another component) or the fixation surface (surface articulating with bone).		
1	Symmetrical	Symmetrical medial and lateral articular surface.

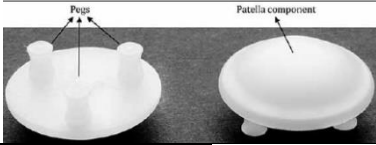

2	Assymetrical	Asymmetrical medial and lateral articular surface e.g. medial pivot shift.
3	Pegged	Affixes to the bone with two or more pegs.
4	Stemmed	Affixes to bone with one stem which may or may not have the capacity to be extended with a modular stem.
5	Augment	Augment block.
6	Holes	Holes in the component for fixation with screws.
7	Keeled	Bone fixation with keel.
<p>Mobility - Mobility refers to the intended movement of the component in the knee joint. Mobility can be recorded for both tibial components and knee inserts, however, the mobility of the insert is sufficient for determining mobility of the procedure.</p>		
1	Fixed	Component that is not intended to move relative to its interface component.
2	Mobile	Component that is intended to move relative to its interface component. Not further classified.
3	Rotating	Component that is intended to move relative to its interface component. Rotating: where the component moves in an inward and outward direction.
4	Sliding	Component that is intended to move relative to its interface component. Sliding: where the component moves in a forward and backward direction.
5	Rotating/sliding	Component that is intended to move relative to its interface component. Rotating/sliding: where the component moves in both an inward and outward as well as forward and backward direction.
0	Unknown	Unknown.

Inlay

Prosthesis kind		
4	Knee insert	The modular polyethylene insert which is used in conjunction with the modular tibial baseplate. The knee insert is affixed to the tibial baseplate and interfaces with the femoral component. 
Side	See: Side	
Size		
	Manufacturer defined size	Knee components are made with varying sizes. The attribute of component size usually relates to certain dimension attributes.
	Length (A/P)	Length of the component measured anteriorly to posteriorly.
	Length (M/L)	Length of the component measured medially to laterally.
	Thickness	Thickness of the component measured from the thinnest part.
Material components (bone surface)		
	See: Material	Material refers to the materials that are used in making up the component.
Antioxidant (in case material is PE XL + antioxidant)		
	See: Antioxidant in case material is PE Cross-linked with Antioxidant	
Type prosthesis - refers to particular prosthetic features intended to substitute for the intrinsic stability of knee ligaments. Stability can be recorded for both femoral components and knee inserts, however, the stability of the insert is sufficient for determining stability of the procedure.		
	See: Type prosthesis	
Design – Component features which have not been addressed by the previous attributes. A design attribute can be specified for the articular surface (surface articulating with another component) or the fixation surface (surface articulating with bone).		
8	High flex	
9	Domed	
10	Curved	
11	Lipped	

12	Congruent	
<p>Mobility - Mobility refers to the intended movement of the component in the knee joint. Mobility can be recorded for both tibial components and knee inserts, however, the mobility of the insert is sufficient for determining mobility of the procedure.</p>		
1	Fixed	Component that is not intended to move relative to its interface component.
2	Mobile	Component that is intended to move relative to its interface component. Not further classified.
3	Rotating	Component that is intended to move relative to its interface component. Rotating: where the component moves in an inward and outward direction.
4	Sliding	Component that is intended to move relative to its interface component. Sliding: where the component moves in a forward and backward direction.
5	Rotating/sliding	Component that is intended to move relative to its interface component. Rotating/sliding: where the component moves in both an inward and outward as well as forward and backward direction.
0	Unknown	Unknown.

Patella

Prosthesis kind		
5	Monoblock patella component	<p>The patella component is a round prosthesis made entirely of polyethylene.</p> 
6	Metal backed patella component	<p>The patella component is a round prosthesis made of polyethylene articular surface with a metal back.</p> 
Fixation	See: Fixation	
Size		
	Manufacturer defined size	Knee components are made with varying sizes. The attribute of component size usually relates to certain dimension attributes.
	Thickness	Thickness of the component measured from the thinnest part.
	Diameter	Diameter patella.
Material components (bone surface)		
	See: Material	Material refers to the materials that are used in making up the component.
Material component (bearing surface → articulates with inlay)		
	See: Material	Material refers to the materials that are used in articulation with inlay.
Antioxidant (in case material is PE XL + antioxidant)		
	See: Antioxidant in case material is PE Cross-linked with Antioxidant	
Fixation surface		
	See: Fixation surface	
Surface treatment		

	See: Surface treatment	
Type prosthesis		
1	Fixed patella	Fixed patella.
2	Rotating patella	Rotating patella.
3	Patellofemoral	Patella for patellofemoral knee prosthesis.
Design – Component features which have not been addressed by the previous attributes. A design attribute can be specified for the articular surface (surface articulating with another component) or the fixation surface (surface articulating with bone).		
14	Bi-convex (saddle)	Bi-concave
15	Dome	Dome shaped
16	Flat	Flat patella
17	Oval	Oval shaped patella
18	Oval/dome	Oval shaped /dome shaped
19	Resurfacing	Resurfacing shaped
20	Resurfacing/oval	Resurfacing/oval shaped
Design patella		
1	One peg	Affixes to bone with one peg.
2	More than two pegs	Affixes to bone with two or more pegs.
3	Unknown	Unknown.
Component setting – refers to the setting of the patella component		
1	Onlay	This is the standard technique where the patella is cut and the component is cemented on top.
2	Inset	Resect into the patella and the component is placed inside the bone.
3	Other	Other.
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	Left knee.
2	Right	Right knee.
3	LM/RL	Left medial/right lateral.
4	RM/LL	Right medial/Left lateral.
5	LL	Left lateral.
6	LM	Left medial.
7	RL	Right lateral.
8	RM	Right medial.
9	Femoral universal	Femoral stem/ universal.
10	Femoral Left	Femoral stem/ left.
11	Femoral Right	Femoral stem/ right.
12	Tibial	Tibial stem.
13	Universal Left/Right	Universal component (both sides).

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	

Antioxidant in case material is PE Cross-linked with Antioxidant

Antioxidant		
1	Vitamin E	
2	Covernox	
13	Other	

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)	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	
10	BoneMaster	BoneMaster™ is an electrochemical method of depositing hydroxyapatite [HA: Ca ₁₀ (PO ₄) ₆ (OH) ₂] coating on metallic orthopaedic 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 macrotecture and microtexture topographies to provide a favourable 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.

Type prosthesis

Refers to particular prosthetic features intended to substitute for the intrinsic stability of knee ligaments. Stability can be recorded for both femoral components and knee inserts, however, the stability of the insert is sufficient for determining stability of the procedure.

Type prosthesis -		
1	Minimally stabilised (CR)	Retaining of medial cruciate ligament. - A component that has a flat or dished tibial articulation regardless of congruency.
2	Posterior stabilized (PS)	Both cruciate ligaments removed - a component intended to provide additional posterior stability to restrict movement in valgus, varus and rotation. The additional posterior stability can be provided by a peg and box design or a cam and groove design. The cam and groove design is used less frequently.
3	Bicruciate retaining	Both cruciate ligaments retained.
6	Unicondylar	Unicondylar knee prosthesis.
7	Hinged	A component that only allows for flexion and extension through a fixed axis and provides collateral as well as posterior ligament stability.
8	Patellofemoral-uni combination	Bicompartmental femoral component.
10	Tumour prosthesis	Tumour prosthesis.
11	CR and PS	Only for tibial components. Femoral component is either CR or PS.
12	Fully stabilised	A component that provides collateral as well as posterior ligament stability, restricting the rotation and varus/valgus movement. The additional stability is provided by a large peg and box design.
13	Medial pivot	The medial pivot knee design involves a CR femoral component and a highly congruent polyethylene liner. The medial compartment acts as ball and socket and pivot centre, while the lateral compartment is less concave to allow the lateral femoral condyle to roll posteriorly during flexion. In addition, the anterior lip on the polyethylene liner functionally acts to replace the PCL by limiting excessive posterior translation of the tibia.