

Taperloc Complete Hip System

Surgical Technique



BIOMET

One Surgeon. One Patient.

Over 1 million times per year, Biomet helps one surgeon provide personalized care to one patient.

The science and art of medical care is to provide the right solution for each individual patient. This requires clinical mastery, a human connection between the surgeon and the patient, and the right tools for each situation.

At Biomet, we strive to view our work through the eyes of one surgeon and one patient. We treat every solution we provide as if it's meant for a family member.

Our approach to innovation creates real solutions that assist each surgeon in the delivery of durable personalized care to each patient, whether that solution requires a minimally invasive surgical technique, advanced biomaterials or a patient-matched implant.

When one surgeon connects with one patient to provide personalized care, the promise of medicine is fulfilled.

Taperloc Complete Hip System



Figure 1

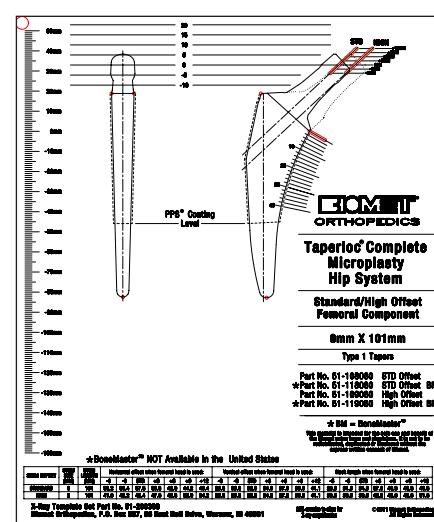
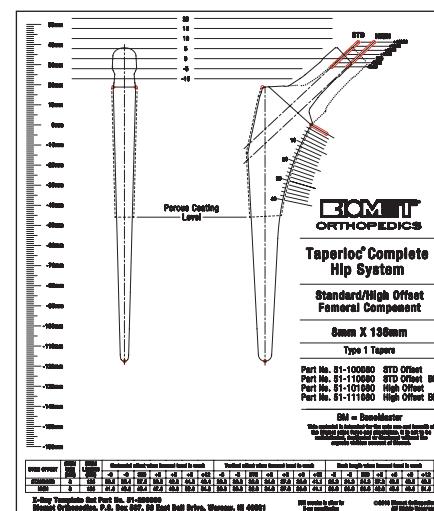


Figure 2

Patient Positioning and Surgical Approach

The goal of the surgical approach is to establish adequate visualization of the anatomy to evaluate stability and leg length. A number of surgical approaches to the hip can be utilized based on the degree of surgical experience and preference such as the anterolateral approach shown (Figure 1).

Preoperative templates are provided for determining optimal component size, femoral neck resection level and appropriate neck length (Figure 2). Radiographs should include a full A/P (anterior/posterior) view of the pelvis, including the proximal one-half of both femurs and a lateral view of the proximal half of the affected femur.

This standard and reduced distal surgical technique is utilized by Jeffery McLaughlin, M.D. Biomet as the manufacturer of this device, does not practice medicine and does not recommend this device or technique. Each surgeon is responsible for determining the appropriate device and technique to utilize on each individual patient.

Taperloc Complete Hip System



Figure 3



Figure 4

Accessing the Femoral Canal

Using the surgeon's preferred technique, resect the femoral head. Access the femoral canal with the straight box or offset chisel to determine the orientation of the femoral canal and access the lateral section of the proximal femur. This helps to clear the femoral canal postero-laterally to accept the starter reamer without interference from the dense bone surrounding the trochanter. The design of the straight box or offset chisel provides for adequate visualization to allow enough lateralization of the femoral canal to avoid varus positioning of the component (Figure 3).

A single starter reamer on a T-handle may be used to initiate the opening into the distal femoral canal to a level appropriate to the size component templated on the preoperative X-rays (Figure 4).

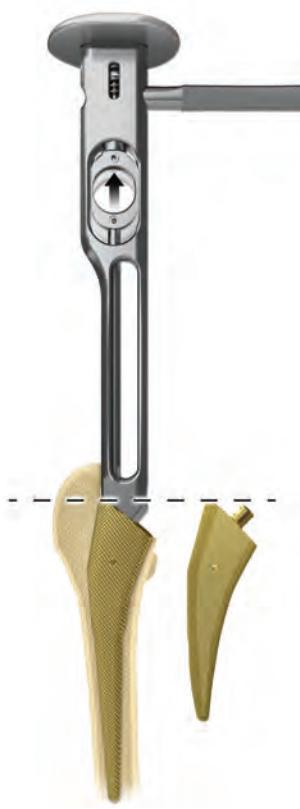


Figure 5

Femoral Canal Preparation

When preparing the proximal femur, use care with the insertion and removal of each broach to avoid rotation and to preserve the version of the femoral canal.

Select the smallest sized Taperloc Complete broach and attach it to the broach handle by pulling back on the trigger to engage the broach (Figure 5). Orientation of the broach should take into account the medial/lateral and anterior/posterior position of the medullary canal. Progressively increase the broach size to enlarge the canal until the broach engages the medial and lateral cortex and cannot be advanced deeper or until the templated implant size is reached.

Note: When impacting the broach handle, ensure that impaction occurs on the strike plate, as opposed to the threaded handle adaptor.

Note: When preparing for the Taperloc Complete Microplasty stem placement, be sure to use the appropriate broach as shown above (Figure 5). Insertion technique is the same for both Taperloc Complete broaches and stems

Note: If the final broach size is less than the templated size, carefully determine that the broach is achieving a tight proximal fit and is not in varus position.

Taperloc Complete Hip System



Figure 6



Figure 7

Trial Reduction

To perform a trial reduction with the fully seated broach, attach the appropriate Taperloc Complete magnetic neck trunnion onto the broach post. The gold trunnion indicates standard offset while the black trunnion represents high offset. The magnetic trunnions are sized to correspond to the final broach, and the stem size is clearly marked on the top of the trunnion (Figure 6).

Note: The Taperloc Complete full length and Microplasty stem options use the same neck trunnions.

Once the appropriate trunnion is in place, select the trial femoral head of desired diameter and neck length. Reduce the hip and evaluate the joint for soft tissue tension, anterior and posterior stability. If necessary, any additional adjustments to neck length and/or offset can be completed at this time (Figure 7).



Figure 8



Figure 9

Stem Insertion

Once the trial reduction is considered stable, remove the broach from the femoral canal and attach the implant to the blunt-tip femoral inserter, aligning the tab on the tip of the inserter to the indentation on the implant (Figure 8). The femoral inserter handle assists in controlling rotation of the implant and enables the implant to be inserted into the femoral canal with the proper amount of anteversion.

Take care to orient the implant parallel to the prepared envelope, matching the appropriate amount of anteversion determined during the broaching step. The stem should slide distally into the canal without excessive resistance until the implant engages the lateral and medial walls.

Gently tap the stem inserter to seat the prosthesis until there is an audible change in pitch to verify that the implant is fully seated.

Note: The Taperloc Complete stem is designed to achieve a tight press-fit in the femoral canal and thus should sit flush or slightly proud relative to the broach.

Final Reduction

If desired, another trial reduction can be accomplished prior to selecting the final head size and impacting the modular head onto the femoral implant. Provisional heads in seven neck lengths allow an additional trial reduction using the actual implant to ensure proper leg length and stability. After fully seating the femoral component, impact the appropriate modular head onto the clean, dry taper (Figure 9).

Note: All Biomet Type I modular heads are compatible with Taperloc Compete hip stems except the Zirconia ceramic modular heads.

*12/14 Taperloc Complete stems are not available in the United States

Taperloc Complete Hip System

Implants: Type 1 Taper – PPS Coating

Product	Standard Offset Part Number	High Offset Part Number	Description	Size
	51-100040		Taperloc Complete Full Profile Stem	4
	51-100050	51-101050	Taperloc Complete Full Profile Stem	5
	51-100060	51-101060	Taperloc Complete Full Profile Stem	6
	51-100070	51-101070	Taperloc Complete Full Profile Stem	7
	51-100080	51-101080	Taperloc Complete Full Profile Stem	8
	51-100090	51-101090	Taperloc Complete Full Profile Stem	9
	51-100100	51-101100	Taperloc Complete Full Profile Stem	10
	51-100110	51-101110	Taperloc Complete Full Profile Stem	11
	51-100120	51-101120	Taperloc Complete Full Profile Stem	12
	51-100130	51-101130	Taperloc Complete Full Profile Stem	13
	51-100140	51-101140	Taperloc Complete Full Profile Stem	14
	51-100150	51-101150	Taperloc Complete Full Profile Stem	15
	51-100160	51-101160	Taperloc Complete Full Profile Stem	16
	51-100170	51-101170	Taperloc Complete Full Profile Stem	17
	51-100180	51-101180	Taperloc Complete Full Profile Stem	18
	51-103090	51-104090	Taperloc Complete Reduced Distal Stem	9
	51-103100	51-104100	Taperloc Complete Reduced Distal Stem	10
	51-103110	51-104110	Taperloc Complete Reduced Distal Stem	11
	51-103120	51-104120	Taperloc Complete Reduced Distal Stem	12
	51-103130	51-104130	Taperloc Complete Reduced Distal Stem	13
	51-103140	51-104140	Taperloc Complete Reduced Distal Stem	14
	51-103150	51-104150	Taperloc Complete Reduced Distal Stem	15
	51-103160	51-104160	Taperloc Complete Reduced Distal Stem	16
	51-103170	51-104170	Taperloc Complete Reduced Distal Stem	17
	51-103180	51-104180	Taperloc Complete Reduced Distal Stem	18
	51-103200	51-104200	Taperloc Complete Reduced Distal Stem	20*
	51-103220	51-104220	Taperloc Complete Reduced Distal Stem	22*
	51-103240	51-104240	Taperloc Complete Reduced Distal Stem	24*

* Only available as a macro set. Separate ordering is required.

Product	Standard Offset Part Number	High Offset Part Number	Description	Size
	51-108040		Taperloc Complete Microplasty Stem	4
	51-108050	51-109050	Taperloc Complete Microplasty Stem	5
	51-108060	51-109060	Taperloc Complete Microplasty Stem	6
	51-108070	51-109070	Taperloc Complete Microplasty Stem	7
	51-108080	51-109080	Taperloc Complete Microplasty Stem	8
	51-106090	51-107090	Taperloc Complete Microplasty Stem	9
	51-106100	51-107100	Taperloc Complete Microplasty Stem	10
	51-106110	51-107110	Taperloc Complete Microplasty Stem	11
	51-106120	51-107120	Taperloc Complete Microplasty Stem	12
	51-106130	51-107130	Taperloc Complete Microplasty Stem	13
	51-106140	51-107140	Taperloc Complete Microplasty Stem	14
	51-106150	51-107150	Taperloc Complete Microplasty Stem	15
	51-106160	51-107160	Taperloc Complete Microplasty Stem	16
	51-106170	51-107170	Taperloc Complete Microplasty Stem	17
	51-106180	51-107180	Taperloc Complete Microplasty Stem	18
	51-106200	51-107200	Taperloc Complete Microplasty Stem	20*
	51-106220	51-107220	Taperloc Complete Microplasty Stem	22*
	51-106240	51-107240	Taperloc Complete Microplasty Stem	24*

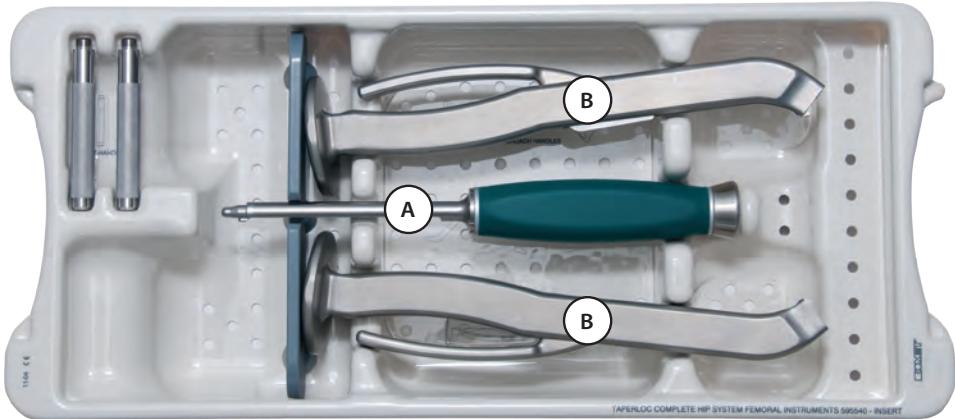
* Only available as a macro set. Separate ordering is required.

Taperloc Complete Hip System

Product	123° Neck Angle Part Number	Description	Size
	51-102040	Taperloc Complete XR 123° Full Profile Stem	4
	51-102050	Taperloc Complete XR 123° Full Profile Stem	5
	51-102060	Taperloc Complete XR 123° Full Profile Stem	6
	51-102070	Taperloc Complete XR 123° Full Profile Stem	7
	51-102080	Taperloc Complete XR 123° Full Profile Stem	8
	51-105090	Taperloc Complete XR 123° Reduced Distal Stem	9
	51-105100	Taperloc Complete XR 123° Reduced Distal Stem	10
	51-105110	Taperloc Complete XR 123° Reduced Distal Stem	11
	51-105120	Taperloc Complete XR 123° Reduced Distal Stem	12
	51-105130	Taperloc Complete XR 123° Reduced Distal Stem	13
	51-105140	Taperloc Complete XR 123° Reduced Distal Stem	14
	51-105150	Taperloc Complete XR 123° Reduced Distal Stem	15
	51-105160	Taperloc Complete XR 123° Reduced Distal Stem	16
	51-105170	Taperloc Complete XR 123° Reduced Distal Stem	17
	51-105180	Taperloc Complete XR 123° Reduced Distal Stem	18
	51-149040	Taperloc Complete Microplasty XR 123° Stem	4
	51-149050	Taperloc Complete Microplasty XR 123° Stem	5
	51-149060	Taperloc Complete Microplasty XR 123° Stem	6
	51-149070	Taperloc Complete Microplasty XR 123° Stem	7
	51-149080	Taperloc Complete Microplasty XR 123° Stem	8
	51-145090	Taperloc Complete Microplasty XR 123° Stem	9
	51-145100	Taperloc Complete Microplasty XR 123° Stem	10
	51-145110	Taperloc Complete Microplasty XR 123° Stem	11
	51-145120	Taperloc Complete Microplasty XR 123° Stem	12
	51-145130	Taperloc Complete Microplasty XR 123° Stem	13
	51-145140	Taperloc Complete Microplasty XR 123° Stem	14
	51-145150	Taperloc Complete Microplasty XR 123° Stem	15
	51-145160	Taperloc Complete Microplasty XR 123° Stem	16
	51-145170	Taperloc Complete Microplasty XR 123° Stem	17
	51-145180	Taperloc Complete Microplasty XR 123° Stem	18

595540 Empty Taperloc Complete Hip Instrument Case

595542 Empty Taperloc Microplasty Complete Hip Instrument Case

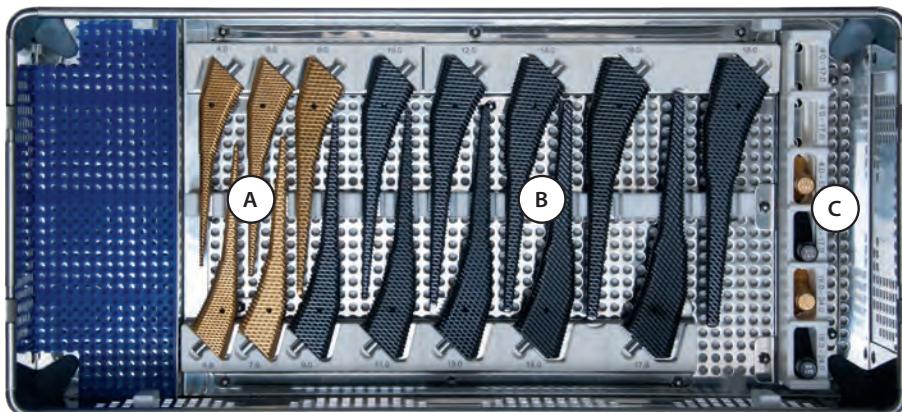


Product	Label	Part Number	Description	Size
	A	51-222222	Taperloc Complete Straight Stem Inserter	–
		51-222223*	Taperloc Complete Angled Stem Inserter	–
		51-222224*	Taperloc Complete Offset Stem Inserter	–
		51-222225	Taperloc Complete Threaded Stem Inserter	–
	B	31-555500*	Exact Straight Broach Handle	–
		31-555501*	Exact Offset Broach Handle	–
		31-555408	Straight Clamping Broach Handle	–

*Optional Instruments. Not included in the standard instrument set. Made to order.

Taperloc Complete Hip System

595540 Empty Taperloc Complete Hip Instrument Case



595542 Empty Taperloc Complete Microplasty Hip Instrument Case



Note: The bottom tray of the Taperloc Complete instrument case accommodates both full length and Microplasty broaches.

Taperloc Complete Instrument Cases (empty)

Part Number	Description
595540	Taperloc Complete Full Length Instrument Case
595542	Taperloc Complete Microplasty Instrument Case
595541	Taperloc Complete Macro Case (20, 22, 24 mm broaches and neck trials)

Product	Label	Part Number	Description	Size
	A	51-201040	Taperloc Complete Full Profile Broach	4
		51-201050	Taperloc Complete Full Profile Broach	5
		51-201060	Taperloc Complete Full Profile Broach	6
		51-201070	Taperloc Complete Full Profile Broach	7
		51-201080	Taperloc Complete Full Profile Broach	8
		51-201090	Taperloc Complete Full Profile Broach	9
		51-201100	Taperloc Complete Full Profile Broach	10
		51-201110	Taperloc Complete Full Profile Broach	11
		51-201120	Taperloc Complete Full Profile Broach	12
		51-201130	Taperloc Complete Full Profile Broach	13
		51-201140	Taperloc Complete Full Profile Broach	14
		51-201150	Taperloc Complete Full Profile Broach	15
		51-201160	Taperloc Complete Full Profile Broach	16
		51-201170	Taperloc Complete Full Profile Broach	17
		51-201180	Taperloc Complete Full Profile Broach	18
	B	51-203090	Taperloc Complete Reduced Distal Broach	9
		51-203100	Taperloc Complete Reduced Distal Broach	10
		51-203110	Taperloc Complete Reduced Distal Broach	11
		51-203120	Taperloc Complete Reduced Distal Broach	12
		51-203130	Taperloc Complete Reduced Distal Broach	13
		51-203140	Taperloc Complete Reduced Distal Broach	14
		51-203150	Taperloc Complete Reduced Distal Broach	15
		51-203160	Taperloc Complete Reduced Distal Broach	16
		51-203170	Taperloc Complete Reduced Distal Broach	17
		51-203180	Taperloc Complete Reduced Distal Broach	18
		51-203200	Taperloc Complete Reduced Distal Broach	20*
		51-203220	Taperloc Complete Reduced Distal Broach	22*
		51-203240	Taperloc Complete Reduced Distal Broach	24*
	C	51-200000	Taperloc Complete Standard Offset Trunnion	4–17 mm
		51-200001	Taperloc Complete Standard Offset Trunnion	18–24 mm
		51-201000	Taperloc Complete High Offset Trunnion	5–17 mm
		51-201001	Taperloc Complete High Offset Trunnion	18–24 mm
		51-202000	Taperloc Complete 123° Trunnion	4–18 mm

*Available through Biomet loaner department.

Taperloc Complete Hip System

Product	Label	Part Number	Description	Size
	D	51-208040 51-208050 51-208060 51-208070 51-208080	Taperloc Complete Microplasty Standard Broach Taperloc Complete Microplasty Standard Broach Taperloc Complete Microplasty Standard Broach Taperloc Complete Microplasty Standard Broach Taperloc Complete Microplasty Standard Broach	4 5 6 7 8
	E	51-206090 51-206100 51-206110 51-206120 51-206130 51-206140 51-206150 51-206160 51-206170 51-206180 *51-206200 *51-206220 *51-206240	Taperloc Complete Microplasty Reduced Distal Broach Taperloc Complete Microplasty Reduced Distal Broach	9 10 11 12 13 14 15 16 17 18 20 22 24

* Only available as a macro set. Separate ordering is required.

595100 Empty Exact General Case One (Optional Case)

Product	Part Number	Description	Size
	31-112102	Impact Initial Canal Probe	-
	31-473192	Troch Reamer	-
	31-473190	Troch Router	-
	32-467600	Crowe Point Twist Drill	-
	466365	Pilot Tipped Twist Drill	-
	424313	Threaded Inserter Adaptor	-
	31-555500	Exact Broach Handle	-
	31-399999	Ergonomic head driver	-
	31-473794	Exact Modular Calcar Planer	42 mm
	31-400000	Exact Bone Plug Inserter	-
	31-400100	Exact I-M Plug Inserter	-
	406661 406662 406663	Exact Blades Exact Blades Exact Blades	38 mm 42 mm 46 mm
	31-473795 31-473796 31-473797	Exact Rasp Style Blade Exact Rasp Style Blade Exact Rasp Style Blade	38 mm 42 mm 46 mm
	31-473301 31-473302 31-473303 31-473304 31-473305 31-473306 31-473307	26 mm Modular Head Provisional 26 mm Modular Head Provisional	-6 mm -3 mm Standard +3 mm +6 mm +9 mm +12 mm

Taperloc Complete Hip System

Product	Part Number	Description	Size
	31-473526 31-473440 31-473525 31-473528 31-473527 31-473570 31-473529 31-473531	28 mm Modular Head Provisional 28 mm Modular Head Provisional	-6 mm -5 mm -3 mm Standard +3 mm +6 mm +9 mm +12 mm
	31-473532 31-473441 31-473533 31-473534 31-473535 31-473575 31-473545 31-473547	32 mm Modular Head Provisional 32 mm Modular Head Provisional	-6 mm -5 mm -3 mm Standard +3 mm +6 mm +9 mm +12 mm
	31-473620	Reamer T-Handle	-
	31-473191	Exact Threaded T-Handle	-
	31-473678	Gibbs Hollow Chisel	-

Additional Instrument Options

Product	Part Number	Description	Size
	51-222221	Initial Starter Rasp	-
	31-555605	Corkscrew Femoral Head Remover	-
	31-555588	Hollow Chisel Attachment for Broach Handle	-

Taperloc Complete Hip System

Offsets and Neck Lengths (cont.)

Taperloc Complete XR 123° Stem

Size	Taperloc Complete Stem Length (mm)	Taperloc Complete Microplasty Stem Length (mm)	Neck Angle	Neck Length (mm)	Horizontal Offset (mm)							Vertical Offset (mm)							Neck Length (mm)						
					-6	-3	STD	+3	+6	+9	+12	-6	-3	STD	+3	+6	+9	+12	-6	-3	STD	+3	+6	+9	+12
4	128	93	123°	32.3	32.8	35.3	37.8	40.3	42.8	45.3	47.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
5	130	95	123°	32.3	33.3	35.8	38.3	40.8	43.3	45.8	48.4	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
6	132	97.5	123°	32.3	33.8	36.3	38.8	41.3	43.8	46.3	48.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
7	134	99	123°	32.3	34.3	36.8	39.3	41.8	44.3	46.8	49.4	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
8	136	101	123°	32.3	34.8	37.3	39.8	42.3	44.8	47.3	49.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
9	137	102.5	123°	32.3	35.3	37.8	40.3	42.8	45.3	47.8	50.4	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
10	140	105	123°	32.3	35.8	38.3	40.8	43.3	45.8	48.3	50.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
11	142	107.5	123°	32.3	36.3	38.8	41.3	43.8	46.3	48.8	51.4	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
12	144	109	123°	32.3	36.8	39.3	41.8	44.3	46.8	49.3	51.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
13	146	111	123°	32.3	37.3	39.8	42.3	44.8	47.3	49.8	52.4	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
14	148	113	123°	32.3	37.8	40.3	42.8	45.3	47.8	50.3	52.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
15	150	115	123°	32.3	38.3	40.8	43.3	45.8	48.3	50.8	53.4	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
16	152	117	123°	32.3	38.8	41.3	43.8	46.3	48.8	51.3	53.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
17	154	119	123°	32.3	39.3	41.8	44.3	46.8	49.3	51.8	54.4	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3
18	156	121	123°	32.3	39.8	42.3	44.8	47.3	49.8	52.3	54.9	23.6	25.3	26.9	28.5	30.2	31.8	33.4	26.3	29.3	32.3	35.3	38.3	41.3	44.3

**Indications for Use and Contraindications for Use
for the Taperloc Complete System are as follows:**

INDICATIONS

1. Noninflammatory degenerative joint disease including osteoarthritis and avascular necrosis.
2. Rheumatoid arthritis.
3. Correction of functional deformity.
4. Treatment of non-union, femoral neck fracture, and trochanteric fractures of the proximal femur with head involvement, unmanageable by other techniques.
5. Revision procedures where other treatment or devices have failed.

Porous coated components are intended for uncemented biological fixation.

CONTRAINdications

Absolute contraindications include: infection, sepsis, and osteomyelitis.

Relative contraindications include: 1) uncooperative patient or patient with neurologic disorders who are incapable of following directions, 2) osteoporosis, 3) metabolic disorders which may impair bone formation, 4) osteomalacia, 5) distant foci of infections which may spread to the implant site, 6) rapid joint destruction, marked bone loss or bone resorption apparent on roentgenogram, and 7) vascular insufficiency, muscular atrophy, or neuromuscular disease.

**For product information, including Indications
for Use, Contraindications, Warnings, Precautions
and Possible Adverse Effects, see the Patient Risk
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