

# OAI Examination Measures

## Osteoarthritis Initiative: A Knee Health Study

Examination Measures and Frequency												
Measurement	Screening Visit	Enrollment Visit	Follow-up Visit									
			12 -mo	18- mo <sup>1</sup>	24 - mo	30- mo <sup>1</sup>	36 - mo	48 - mo	60- mo	72- mo	84- mo	96- mo
<b>Blood collection, fasting<sup>2, 12</sup></b>												
- Blood draw for serum		X	X	X	X	X	X	X		X		
- Blood draw for plasma and buffy coat		X	X	X	X	X	X	X		X		
- Blood draw for RNA			X					X				
- Blood draw for lymphocyte extraction and cryopreservation								X		X <sup>14</sup>		
<b>Urine collection</b>												
- Fasting second AM void		X	X	X	X	X	X	X		X		
- Pregnancy test for premenopausal women	X	X	X	X	X	X	X	X		X		X
<b>Height, standing</b>	X				X			X				X
<b>Weight</b>	X		X		X		X	X		X		X
<b>Knee size screen for MRI knee coil</b>	X		X <sup>3</sup>	<sup>3</sup>	<sup>3</sup>	<sup>3</sup>	<sup>3</sup>	<sup>3</sup>		X <sup>3</sup>		X <sup>3</sup>
<b>Body size screen for MRI bore</b>	X		X	X	X	X	X					
<b>Abdominal circumference<sup>4</sup></b>		X			X			X				X
<b>Hand examination (DIP bony enlargements)<sup>4</sup></b>	X											
<b>Hallux valgus</b>												X
<b>Knee examination<sup>4</sup></b>												
- Alignment (by goniometer)		X	X		X		X					
- Anserine bursa tenderness		X	X				X	X				
- Effusion		X			X			X				

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- Flexion contracture and hyperextension		X										
- Tibiofemoral joint line tenderness		X	X		X		X	X				
- Knee flexion pain/tenderness		X										
- Patellar tenderness		X	X		X		X	X				
- Patellar quadriceps tenderness/tendinitis		X										
- Patello-femoral crepitus		X	X		X		X	X				
- Medial-lateral laxity					X		X					
- Knee pain location (knee pain map)					X							X
<b>Thrust, walk<sup>4</sup></b>			X		X		X					
<b>Blood pressure, seated</b>			X		X		X	X		X		X
<b>Resting heart rate<sup>4</sup></b>		X			X			X		X		X
<b>Performance Measures / Physical Activity</b>												
- 20-meter timed walk	X	X	X		X		X	X		X		X
- 400-meter timed walk <sup>4</sup>		X			X			X				X
- Chair stands, timed		X	X		X		X	X		X		X
- Isometric quadriceps and hamstring strength <sup>4</sup>		X	X <sup>5</sup>		X		X <sup>5</sup>	X				
- Accelerometry <sup>13</sup>								X <sup>13</sup>		X <sup>17</sup>		

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<b>MRI</b>												
- Knee, right and left			X	X <sup>6</sup> (Unilat)	X	X <sup>6</sup> (Unilat)	X <sup>7</sup>	X		X		X
- Thigh, right and left <sup>4</sup>		X	X <sup>5</sup>		X		X <sup>5</sup>	X				X
<b>X-ray</b>	X											
- Knee: bilateral PA fixed flexion view	X		X		X		X	X		X		X
- Knee: unilateral fluoroscopic-guided view (one or both knees) <sup>8</sup>		<sup>8</sup>	<sup>8</sup>		X <sup>8</sup>							
- Knee: unilateral lateral view (both knees) <sup>9</sup>		<sup>9</sup> X	<sup>5</sup>				X <sup>9</sup>	<sup>5</sup>				
- Hip: AP pelvis view	X		X <sup>5</sup>				X	X				X
- Hand: dominant PA hand		X X	X <sup>5</sup>					X				
- Bilateral full limb for mechanical alignment <sup>10</sup>	X		X <sup>10</sup>		X <sup>5</sup>		X <sup>5</sup>	<sup>5</sup>				
- Spine	X						X					
<b>DXA</b>												
- Knee (bilateral)						X <sup>11</sup>	<sup>11</sup>	<sup>11</sup>		X <sup>15</sup>		X <sup>18</sup>
- Hip						X <sup>11</sup> X	<sup>11</sup> X	<sup>11</sup>		X <sup>15</sup>		X <sup>16</sup>
- Body composition						X	X			X <sup>16</sup>		

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## *Osteoarthritis Initiative: A Knee Health Study*

<sup>1</sup>This visit obtained in a subset of progression cohort participants at either the 18-month or 30-month follow-up visit

<sup>2</sup>Most participants will have AM blood draws after an overnight fast; a small percent will have PM blood draws after a minimum 2 hour fast. AM vs PM blood draws will be consistent for the same participant across visits.

<sup>3</sup>Optional

<sup>4</sup>The majority of the Reference (Non-exposed) controls had a streamlined clinic visit which did not include the following exams: abdominal circumference, hand examination, knee examination, walk thrust, resting heart rate, 400-meter timed walk, isometric strength, and thigh MRI.

<sup>5</sup>To be obtained if participant eligible and a valid measurement was not obtained at the previous visit.

<sup>6</sup>Obtained in the knee that had the extended set of sequences at baseline, usually the right knee. 30-month visit may include trabecular sequences.

<sup>7</sup>Shorter MRI protocol is an option. Shorter protocol is defined as a scan of one knee (usually right) that had the extended set of sequences at previous visit. If both knees scanned, MRI may include trabecular sequences.

<sup>8</sup>Obtained in a subset of Progression subcohort participants at 2 clinical centers.

<sup>9</sup>Obtained in Reference (Non-exposed) controls.

<sup>10</sup>Obtained in the Progression and Incidence subcohort participants.

<sup>11</sup>BMD of bilateral knees and unilateral hip obtained in a subset of Progression subcohort participants at 1) either the 30-month or 36-month follow-up visit and 2) a follow-up measure at the 48-month follow-up visit.

<sup>12</sup>Selected assays for retention purposes only at clinic's discretion.

<sup>13</sup>Funded by D. Dunlop/P.Semanik ancillary study.

<sup>14</sup>To be obtained if not obtained at the 48-month follow-up visit.

<sup>15</sup>BMD of bilateral knees and unilateral hip obtained in the incidence and non-exposed control cohort, and those progression cohort participants enrolled in the McAlindon bone ancillary study who did not have an MRI with trabecular sequences at the 48-month follow-up visit.

<sup>16</sup>Body composition and hip DXA only if clinic wants to for retention purposes (not funded)

<sup>17</sup>Participants who completed the accelerometry measurement at the 48-month follow-up visit will be asked to do the accelerometry measurement again at the 72-month follow-up visit

<sup>18</sup>To be obtained in the incidence cohort participants who had knee DXA at the 72-month follow-up visit