

Appendix 2. Reported risk factors listed chronological ^a

Study	Objective	Statistical analysis	Variables from multivariate model	Variables adjusted for	Significant risk factors	Non-significant risk factors
Ahn et al. 2012	Determine the incidence of knee OA in the 3 compartments of the knee joint separately, determine the factors associated with the onset of OA in the 3 compartments separately, evaluate clinical outcomes over a long-term follow-up period after ACL reconstruction with BPTB autograft.	Multiple logistic regression	<p>Dependent: medial, lateral and PF radiographic knee OA</p> <p>Independent: time from injury to reconstruction, age, BMI, MPTA, anatomical axis angle, femoral tunnel position high and low, shallow and deep, sagittal tibial tunnel position, coronal tibial tunnel position, medial partial meniscectomy, subtotal meniscectomy, KT-2000 arthrometer at follow-up (≥ 3 mm), Lachman test grade at follow-up</p>	N/A	<p>For the medial compartment: medial partial meniscectomy and sagittal tibial tunnel position</p> <p>For the lateral compartment: BMI at the time of surgery</p>	<p>All independent variables in the model except for those mentioned as significant risk factors.</p> <p>There were no significant risk factors of OA in the PF compartment</p>
Bourke et al. 2012	Report the outcome of 'isolated' ACL ruptures treated with anatomical endoscopic reconstruction using hamstring tendon autograft	Logistic regression	<p>Dependent: radiographic knee OA</p> <p>Independent: further surgery and tunnel placement</p>	N/A	Any further knee surgery	Non-ideal tunnel placement

Cantin et al. 2016	Assess the cartilage outcome after ACL reconstruction at a minimum 10 years of follow-up based on a multicenter study and to identify the prognostic factors of this cartilage outcome.	Univariate logistic regression. Multivariate logistic regression.	Dependent: Radiographic knee OA Independent: Age at surgery, BMI, type of sports, time from injury to surgery, chondropaty, meniscectomy.	N/A	Age over 34 years at the time of surgery, residual laxity, stage 3 and 4 intraoperative cartilage lesions, medial and lateral meniscectomy	Gender, activity level, tibial or femoral tunnel positioning, type of sport, type of graft, stage 4 lateral chondropathy.
Janssen et al. 2013	Analysis of long-term clinical and radiological outcomes after ACL reconstruction with special attention to knee osteoarthritis and its predictors.	Univariate logistic regression. Multivariate logistic regression	Dependent: Radiographic knee OA Independent: age, status of the medial meniscus, status of the cartilage and one-leg hop test.	N/A	Age > 30 years, ICRS grade 3 in any knee compartment at the time of ACL reconstruction, history of medial meniscectomy, patients who scored grade D on one-leg hop test	Gender, Time to ACL reconstruction, BMI, complications, preoperative Lysholm score, preoperative Tegner score, preoperative IKDC subjective grade, leg circumference, ROM, One-leg hop test A-B, IKDC grade A-D, ICRS grade 0-1, lateral meniscectomy prior to or during ACL reconstruction
Leys et al. 2012	Compared the results of isolated endoscopic ACL	Logistic regression (unclear if it	Dependent: osteoarthritic radiological change	N/A	PT graft	HT graft, tunnel positioning, graft inclination, further

	reconstruction utilizing a 4-strand hamstring tendon (HT) or patellar tendon (PT) autograft over a 15-year period with respect to reinjury, clinical outcomes, and the development of osteoarthritis	was univariate or multivariate)	Independent: PT or HT graft, tunnel positioning, graft inclination, further surgery.			surgery.
Oiestad et al. 2010	Identify risk factors for knee OA 10–15 years after ACL reconstruction	Binary logistic regression	Dependent: radiographic and symptomatic radiographic knee OA Independent: age, sex, additional injury, graft type, time from injury to surgery, BMI, KT-1000 manual maximum tests (difference), and knee function variables at 6 months, 1 year, and 2 years postoperatively (the Cincinnati knee score, the triple jump test, the stair hop test, and the muscle strength tests)	Age, sex, additional injury, and graft type	Radiographic OA: Increased age at surgery, additional injury Symptomatic OA: Impaired self-reported knee function 2 years postoperatively, loss of quadriceps strength between 2 and 10-15 years	Quadriceps muscle weakness measured in absolute values (joules) or absolute values normalized to BW (%BW), functional tests
Oiestad et al. 2013	Investigate the prevalence of patellofemoral OA and to explore the	Binary logistic regression	Dependent: patellofemoral OA Independent: age, gender,	Gender, age, and BMI at the 12-year follow-up	Increased age, tibiofemoral OA, impaired knee function and more	Knee laxity, self-reported knee function, quadriceps

	association between radiographic patellofemoral OA and symptoms and function 12 years after ACL reconstruction		BMI, time from injury to surgery, KT-1000 results, VAS, the Cincinnati score, the KOOS scores, quadriceps strength, the triple jump test, and the stair hop test		symptoms, pain during activity and kneeling pain.	strength, hop test up to two years post-operatively
Pernin et al. 2010	Determine how the status of the medial meniscus and the medial compartment articular cartilage observed at the time of ACL reconstruction affects results more than 24 years after surgery	Univariate regression.. Multivariate regression.. Binary logistic regression with block-entry method.	Dependent: Medial compartment radiographic OA. Independent: Articular damage, age at surgery, medial meniscectomy, time from injury to surgery.	N/A	Medial meniscectomy and medial compartment articular damage at the time of initial surgery. Mean time between injury and ACL reconstruction, mean age at time of injury, mean age at time of surgery, medial chondral lesion at the time of surgery	Residual laxity, time from injury to surgery (sjekk tabell6).
Shelbourne et al. 2012	Determine how knee ROM deficits would correlate with the prevalence of arthritic changes observed on radiographs after ACL reconstruction	Univariate logistic regression. Multivariate logistic regression.	Dependent: Radiographic knee OA. Independent: early extension, abnormal; early flexion, abnormal; final follow-up extension, abnormal; final follow-up flexion, abnormal; medial	Subanalysis was performed based on the status of the medial and lateral meniscus at the time of surgery or at the time of	Abnormal knee flexion at early follow-up, abnormal knee extension at final follow-up, abnormal knee flexion at final follow-up, partial medial	Lateral meniscus removed

			meniscus removed, lateral meniscus removed, articular cartilage, abnormal.	a subsequent arthroscopic procedure after ACL reconstruction.	meniscectomy, articular cartilage damage.	
Shelbourne et al. 2017	Determine the prevalence rate and factors that were associated with the development of OA 20 years after ACL reconstruction with patellar tendon autografts	Multivariate binary logistic regression.	Dependent: Radiographic knee OA Independent: Age at surgery, sex, type of injury (acute/chronic), medial and lateral meniscus status, articular cartilage damage, knee extension and flexion.	N/A	Medial meniscectomy, knee extension less than normal at the time of discharge from physical therapy, older age at surgery.	Sex, injury type, lateral meniscectomy, articular cartilage damage, flexion loss.
Streich et al. 2013	Evaluation of ACL reconstruction using a four-stranded single-bundle reconstruction with a semitendinosus tendon graft with extracortical fixation	Linear regression.. Multiple regression.	Dependent: radiological knee OA Independent: age, BMI, gender, functional outcome, time from injury to index operation, initial or secondary meniscal surgery, KT-1000 and pivot shift.		Positive pivot shift test at follow-up, higher BMI.	Age, gender, time from injury to initial surgery, primary and subsequent meniscal surgery, functional outcome or the KT-1000 arthrometer
Thompson et al. 2015	Report the 20-year outcomes of isolated ACL ruptures treated with endoscopic reconstruction using middle-third patellar	Logistic regression. Multivariate Cox regression	Dependent: Radiographic knee OA Independent: graft type, further surgery and tunnel placement	N/A	BPTB graft, graft angle of >17 degree	Not described

tendon autografts.

^a OA, osteoarthritis; ACL, anterior cruciate ligament; BPTB, bone-patella tendon-bone; PF, patellofemoral; BMI, bodymass index; MPTA, medial proximal tibial angle; N/A, not applicable; ICRS, Clinical cartilage injury evaluation system; IKDC, International Knee Documentation Committee; ROM, range of motion; HT, hamstringtendon; PT, patellartendon; BW, bodyweight; VAS, visual analogue scale; KOOS, knee injury and osteoarthritis outcome score