medially and 2 knees showed worsening BMLs laterally. 10 (7%) knees showed incident BMLs medially and 8 (6%) knees in the lateral FT compartment. Deep layer T2 showed prolongation in the LT in knees with incident LT cartilage lesions (n=8, 34.5 vs. 32.7 ms, p=0.02) and for MF in knees with MF cartilage lesion worsening (n=9, 47.6 vs. 41.4 ms, p=0.01) and MF BML incidence (n=6, 45.4 vs. 41.6 ms, p=0.000). Superficial T2 showed prolongation in the MT only in those knees with MT cartilage lesion worsening (n=2, 47.3 vs. 43.4 ms, p=0.03). No additional associations were seen for the superficial layer.

Conclusion: For knees without ROA, BL deep layer T2 prolongation was seen for those who developed incident cartilage damage in the LT, and those with worsening cartilage damage and incident BMLs in the MF, respectively. Superficial T2 showed prolongation only in the MT for those with MT cartilage lesion worsening. In summary and contrary to our hypothesis the deep cartilage layer seems to be more relevant for cartilage damage development or worsening in the same FT plate than the superficial layer.

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Osteoarthritis: clinical

OP0184

RISK OF COMORBIDITIES FOLLOWING INCIDENT CLINICIAN-DIAGNOSED KNEE OR HIP OSTEOARTHRITIS: A REGISTRY-BASED COHORT STUDY

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Background: Osteoarthritis (OA) is associated with increased comorbidity, but knowledge of the temporal relationships between OA and comorbidities is limited.

Objectives: To estimate the risk of consulting for comorbidities in people with incident clinician-diagnosed knee or hip OA.

Methods: Using the Swedish Population Register, we identified all residents aged 35 years or above in the Skåne region, Sweden (total pop. 1.23 million) in the year 2009. We used the Skåne Health Care Register (SHR), a comprehensive register based on physicians' International Classification of Disease (ICD) 10, to identify persons who had at least one diagnosis of knee or hip OA – the exposures of interest – and 18 other diagnoses (Figure 1) – the outcomes of interest – between 1 January 2010 and 31 December 2017. To minimize potential confounding due to propensity to seek care, persons had to have at least one health-care visit with any diagnosis registered between 1 January 1998 and 31 December 2009 to be included. We excluded persons with a knee or hip OA diagnosis before 1 January 2010, and for each analysis, persons with a previous diagnosis of the outcome diagnosis of interest. People were followed from 1 January 2010 until relocation outside of the region, death, outcome diagnosis, or 31 December 2017, whichever came first. We calculated hazard ratios (HR) of each outcome diagnosis using Cox proportional hazard models with incident knee and hip OA as time-varying exposure. Time from start of follow-up to the date of an OA diagnosis was treated as unexposed, while time from an OA diagnosis to the outcome diagnosis was treated as exposed. Models were adjusted for residential area, if born in Sweden, annual income, years of education, marital status, sex, and age (all retrieved from Statistics Sweden), and baseline conditions (i.e. the other outcome diseases of interest, and alcohol-related disorders) as registered in SHR before 1 January 2010.

Results: We included 548,681 persons in the Skåne population having at least one health-care visit during 1998 to 2009 and no doctor-diagnosed knee or hip OA. Of these, 36,465 persons consulted for knee OA and 14,477 for hip OA during the follow-up period (Table 1). Persons with clinician-diagnosed incident knee or hip OA have 8-61% higher hazard of depression, cardiovascular diseases, back pain, and osteoporosis than persons without an OA diagnosis (Fig. 1). Both knee and hip OA persons have increased risk of diabetes, however the 95% confidence interval excluded 1 only for knee OA (Fig. 1). Also, only knee OA patients have an increased risk of fracture to the forearm. For the rest of the diagnoses, we found either no increased risk for knee or hip OA persons, or estimates with

wide confidence intervals, excluding any clear interpretations of the direction or size of the effects.

Table 1. Demographics of the study cohort at start of follow-up (Jan. 1, 2010).

	No OA (n=497,739)	Incident knee OA (n=36,465)	Incident hip OA (n=14,477)
Age, yrs (SD)	57.3 (14.6)	62.2 (12.2)	65.3 (11.7)
Women, n (%)	254,593 (51)	21,553 (59)	8,306 (57)
Married ^a , n (%)	350,172 (70)	27,955 (77)	10,937 (76)
Born in Sweden ^b , n (%)	422,713 (85)	31,292 (86)	12,949 (89)
Education ^c , n (%)			
<10 yrs	128,738 (26)	11,364 (31)	4,745 (33)
10-12 yrs	222,147 (45)	16,390 (45)	6,050 (42)
13-14 yrs	59,950 (12)	3,908 (11)	1,556 (11)
≥15 yrs	83,620 (17)	4,590 (13)	2,065 (14)
Income in 100,000 SEK ^d , mean (SD)	2.3 (3.0)	2.1 (2.4)	2.1 (2.6)

Missings: ^a29 ^b44, ^c3,558, ^d2

Conclusion: Incident clinician-diagnosed knee and hip OA are associated with increased risk of consultation for depression, cardiovascular disease, back pain, osteoporosis, and diabetes. Results support previous findings for cardiovascular diseases and diabetes, however suggesting that the risk of diabetes is mainly associated with knee OA.

Figure 1. Adjusted hazard ratios of consultation for diseases occurring in persons with incident doctor-diagnosed knee or hip OA compared to non-OA persons. *Only women included in analysis. **Only men included in analysis.

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OP0185

KNEE JOINT DISTRACTION IS MORE EFFICIENT IN RESTORING CARTILAGE THICKNESS THAN HIGH TIBIAL OSTECTOMY IN PATIENTS WITH SEVERE KNEE OSTEOARTHRITIS

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Background: Both high tibial osteotomy (HTO) and knee joint distraction (KJD) are joint preserving surgical techniques unloading the affected femorotibial