

The Swedish National Knee Ligament Register, SKLR 2005-2024

Still Unequal Treatment of ACL injured in Sweden. What have we learned from 20 years of ACL registration and what have the patients gained?

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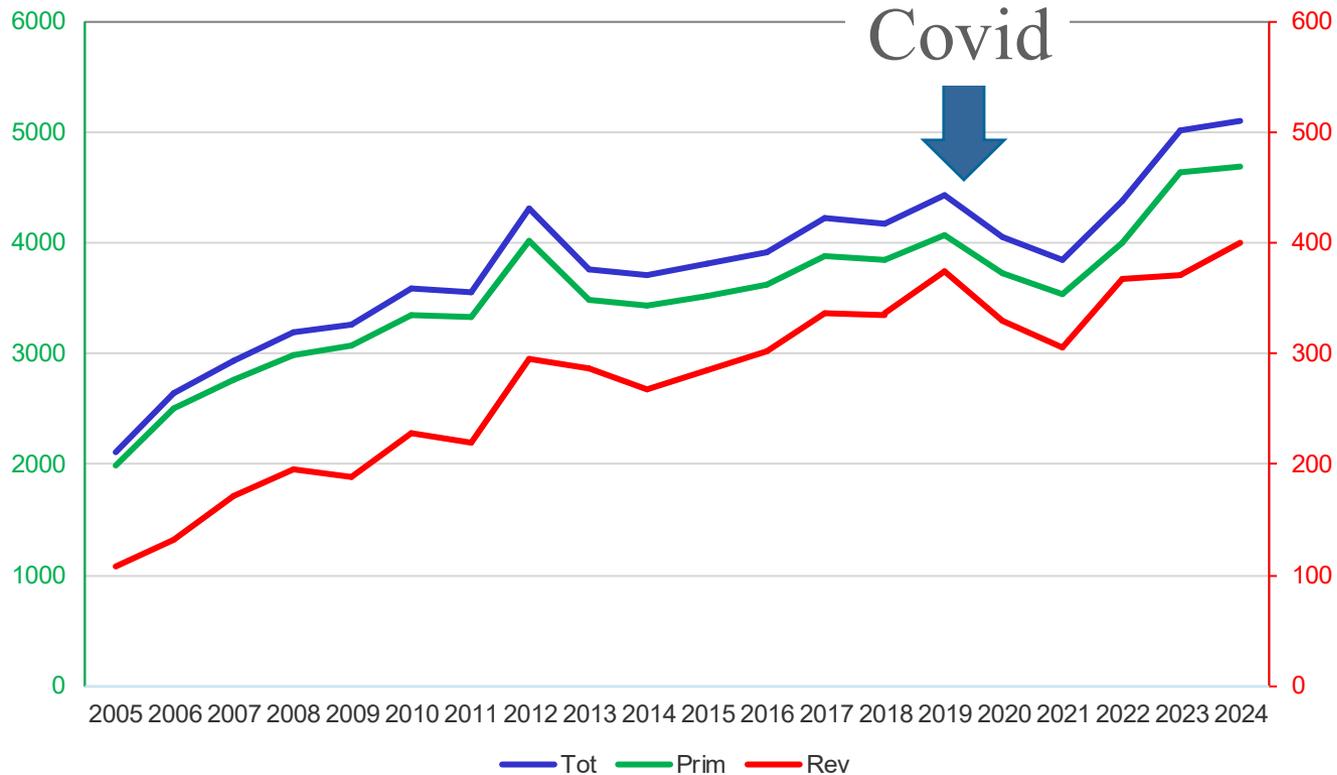


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Disclosure

- Consultant for Conmed and Arthrex
- Nothing related to this presentation

Increasing frequency of ACLR/y since start



Swedes 13-50y 2005 3,6 million ACL-R 55/100 000
 2024 4,0 million ACL-R 117/100 000

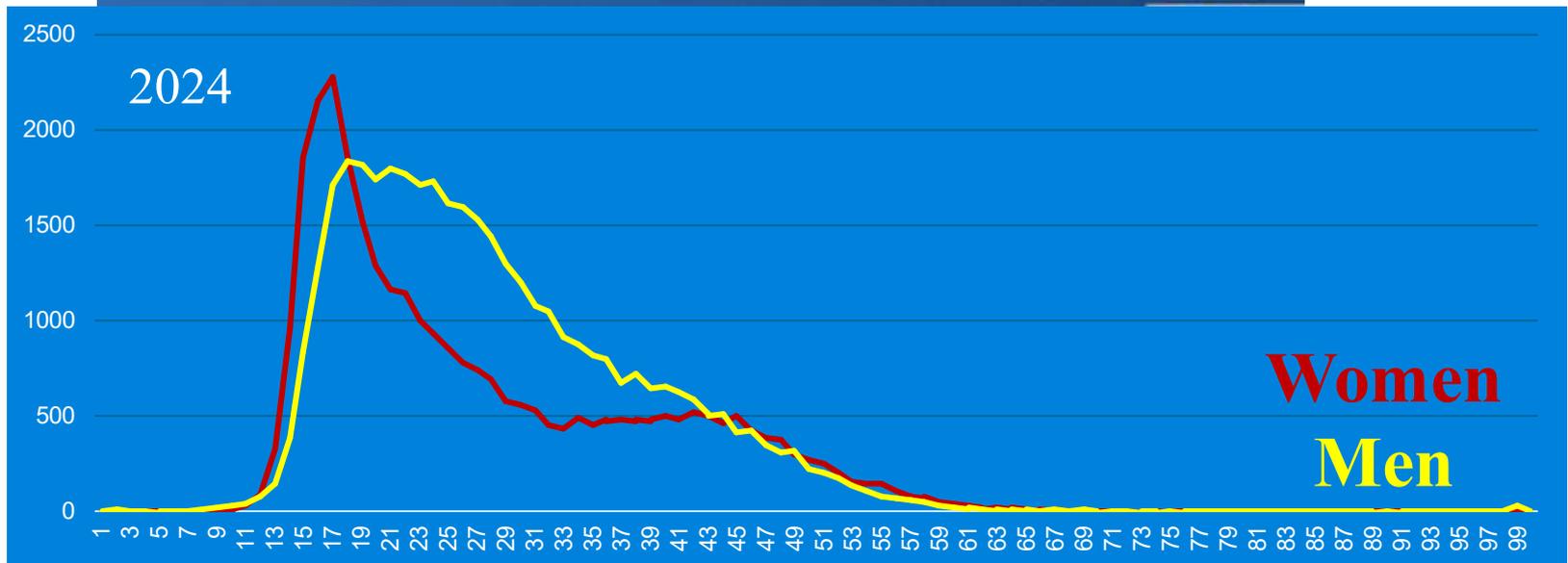
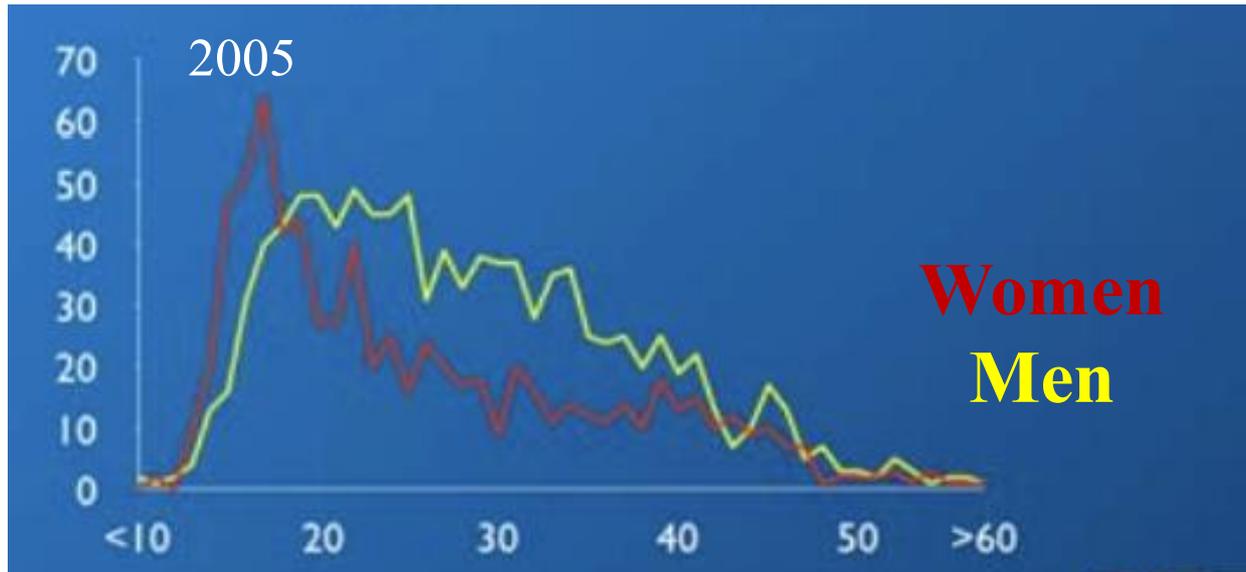


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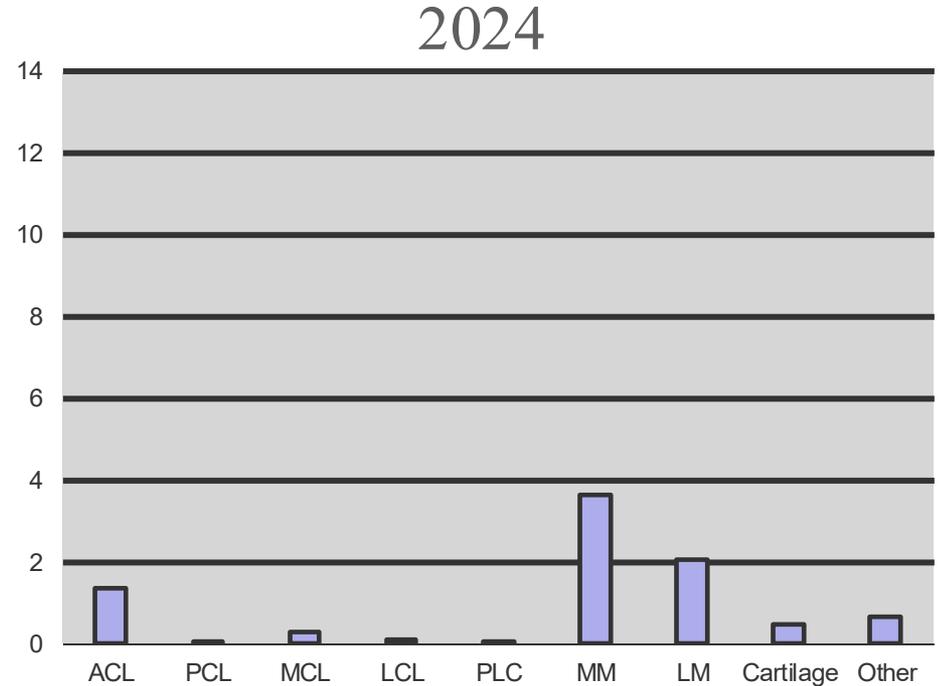
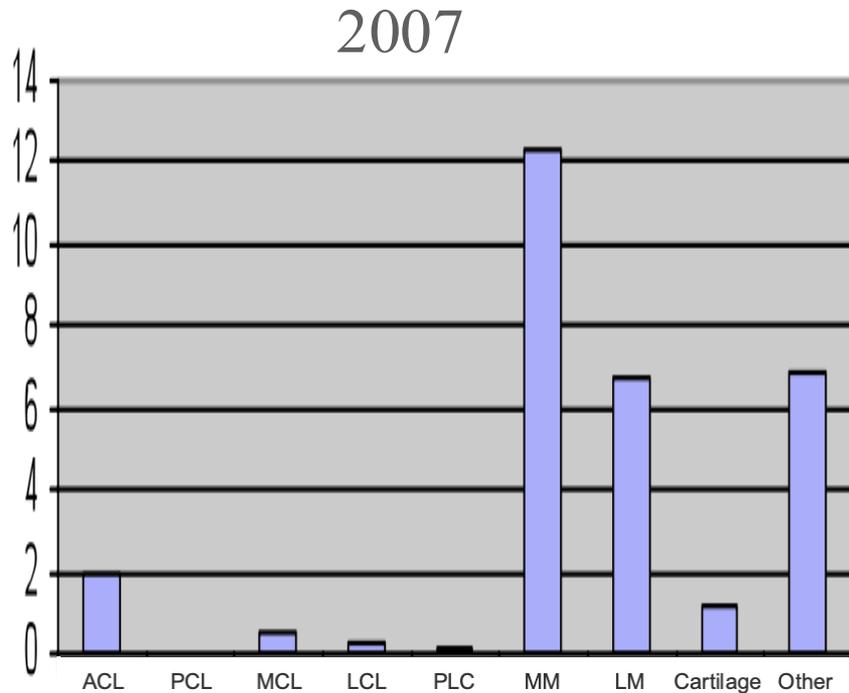
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Then and now- a lot is the same



Then and now- some things are better

Previous surgery before the ACL reconstruction



Tradition with diagnostic arthroscopy 2007?

Less time injury to surgery 2024?



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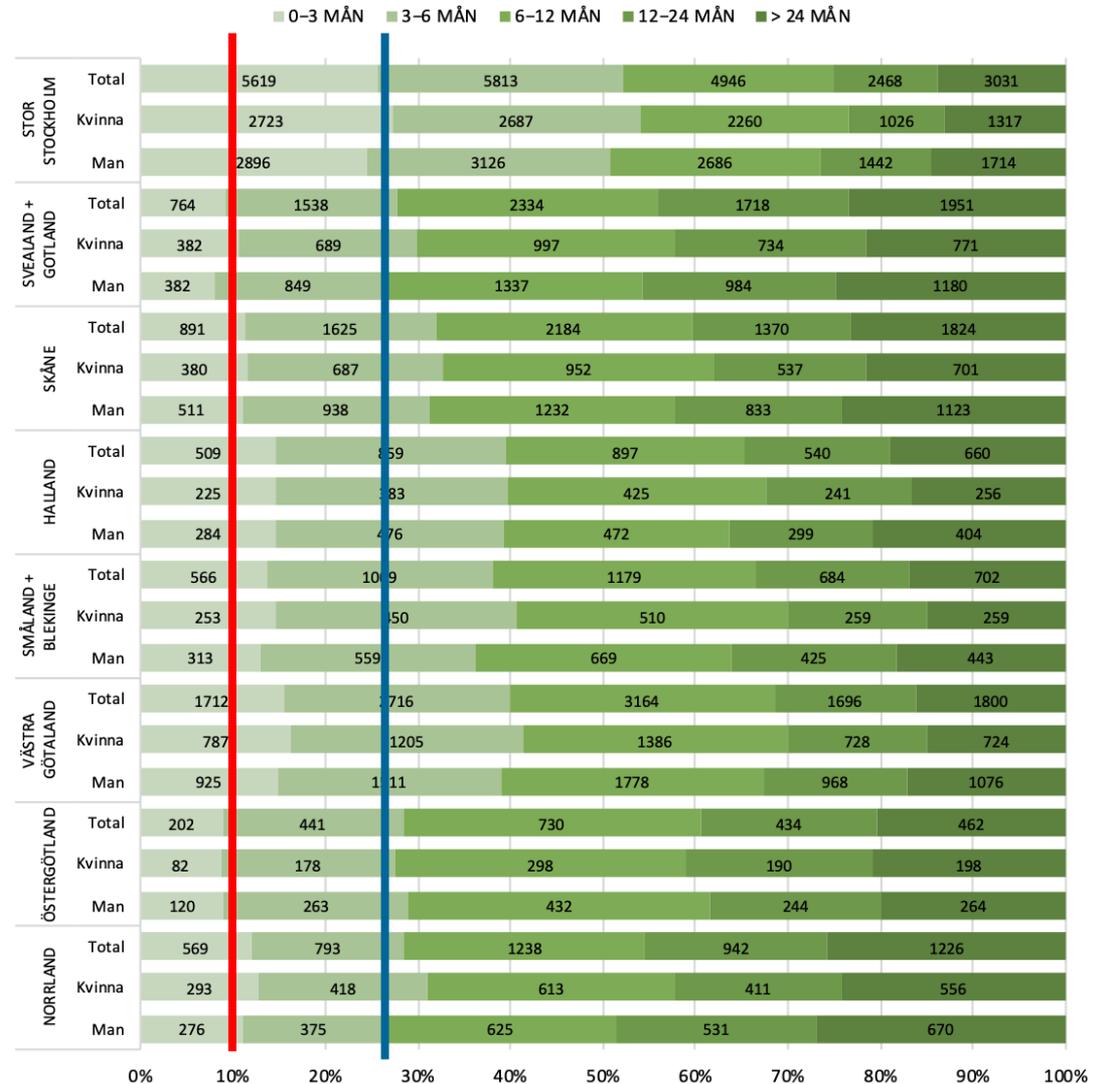


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Unequal Sweden part 1

Time from injury to surgery differs a lot

- 9 (red line) - 27% (blue line) ACL-R inside 3 months from injury
- Availability of surgery?
- Treatment tradition? Variation in time for rehabilitation before decision on surgical treatment



Double bundle

741 DB 2005-2022
Tried in studies and performed by a few surgeons.

Revision inside 2 years (05-22)

- DB 9 (1,3%)
- SB 1327 (2,3%)

Revision during observation period

- DB 48 (6,8%)
- SB 3525 (6,2%)



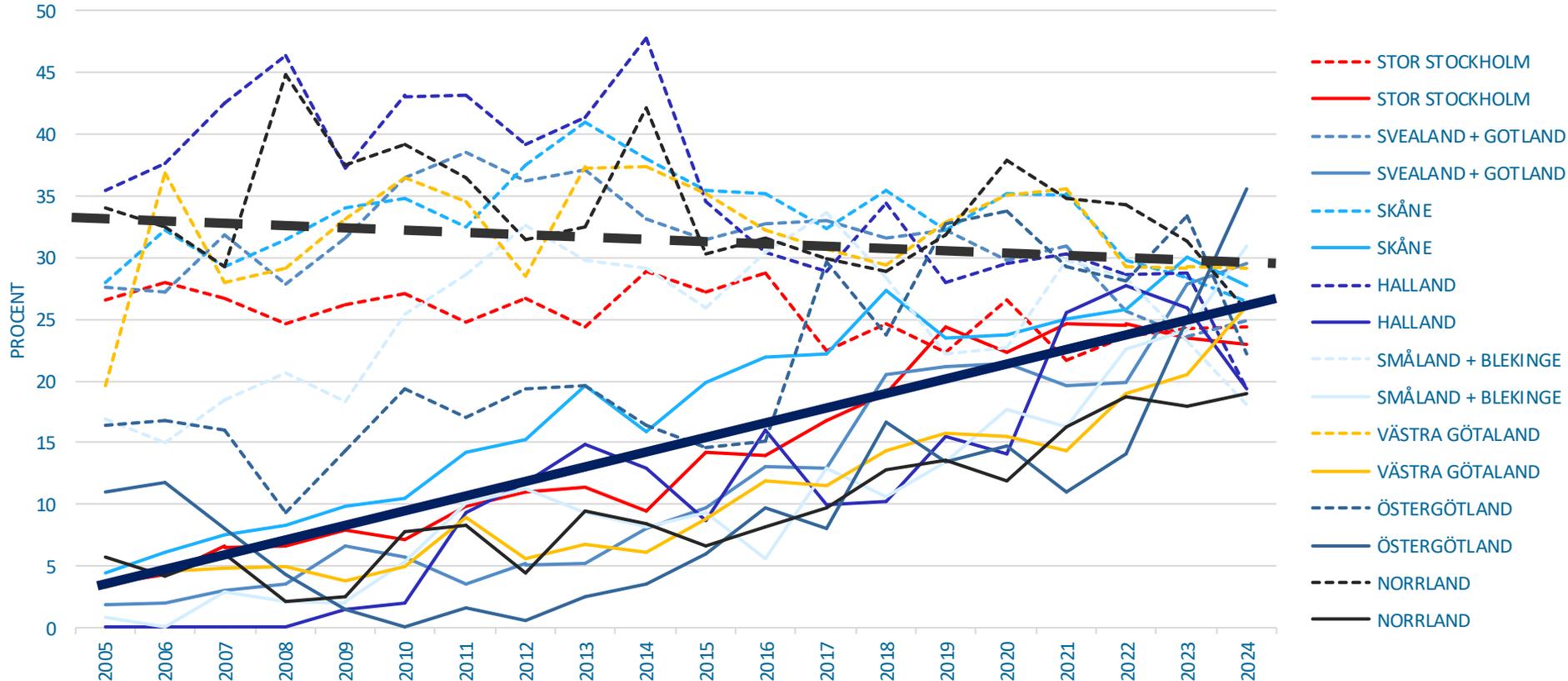
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Over time more menisci are being sutured in all regions

--- Dotted line resections
— Solid line sutured menisci

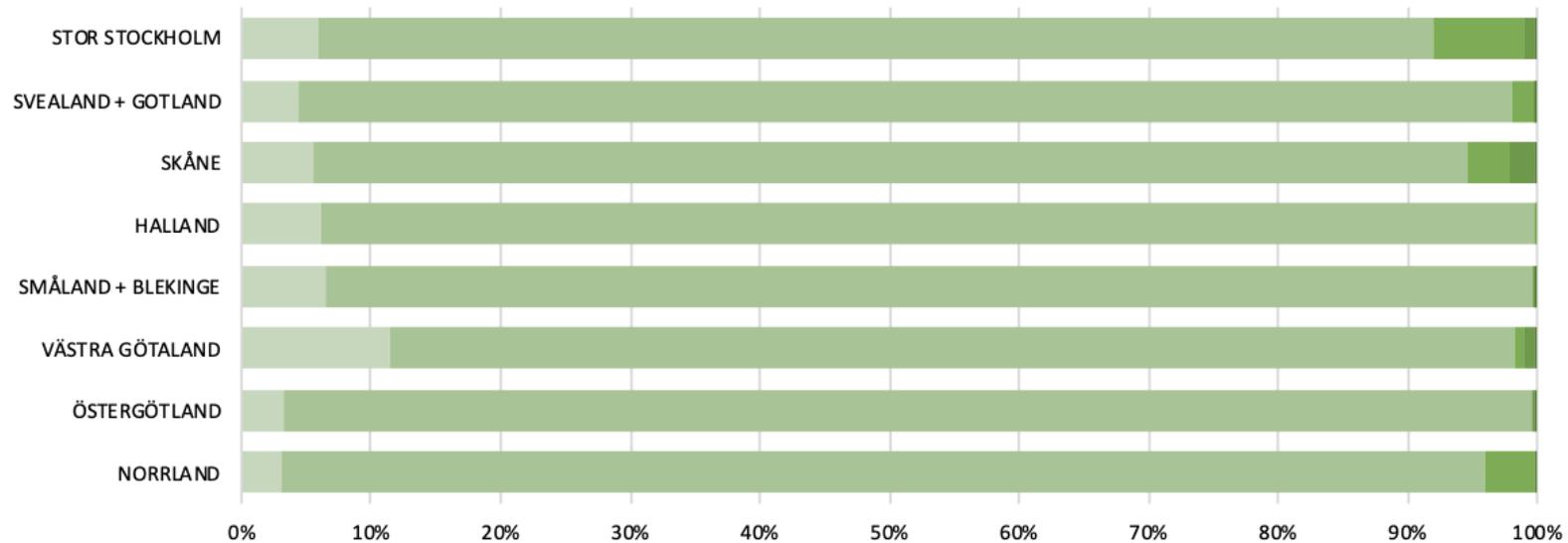


Small differences in graft choice on regional level

A country believing in Hamstring (■) since 2005

FIGUR 5.

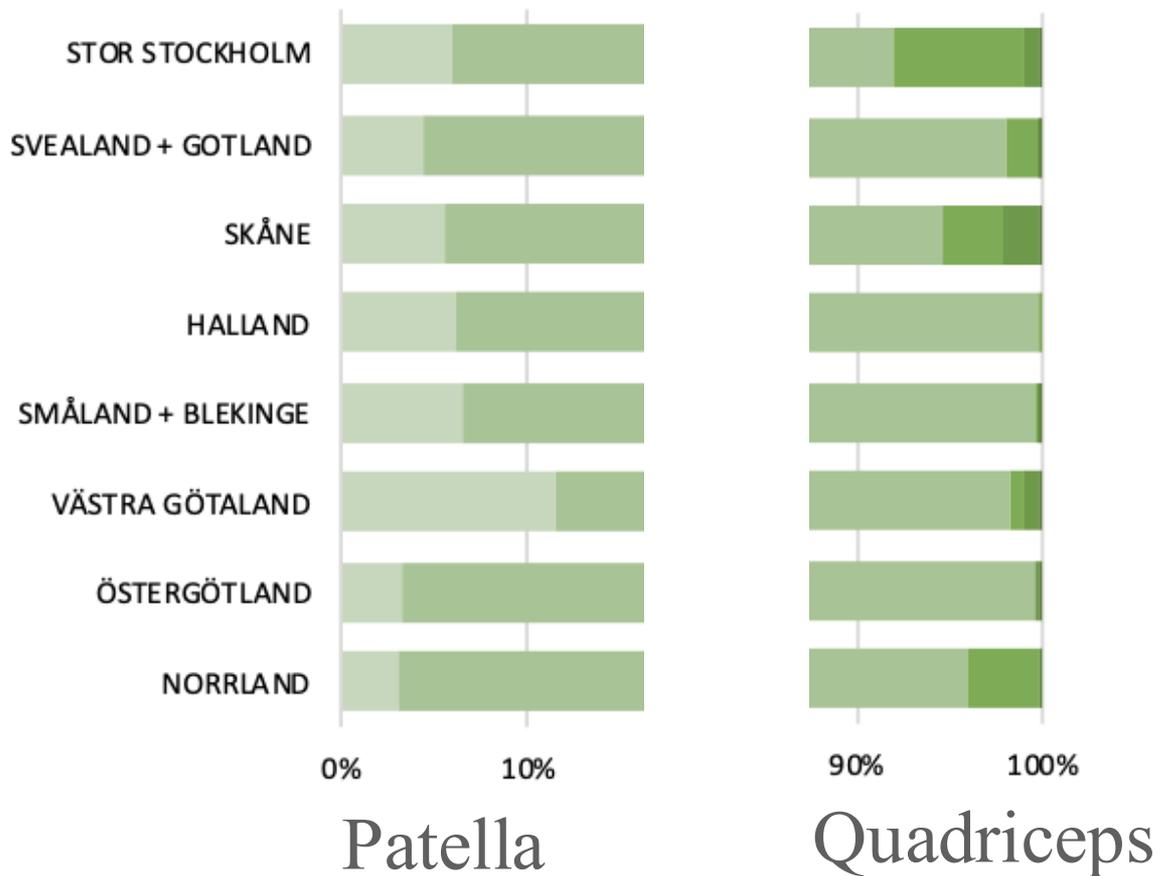
Graftval på primära ACLR under perioden 2005-2024 fördelat på region



	NORRLAND	ÖSTERGÖTLAND	VÄSTRA GÖTALAND	SMÅLAND + BLEKINGE	HALLAND	SKÅNE	SVEALAND + GOTLAND	STOR STOCKHOLM
Patellargraft	156	80	1364	290	227	466	393	1407
Hamstringsgraft	4731	2312	10449	4179	3536	7453	8243	20460
Quadricepsgraft	190	0	103	10	6	271	154	1665
Allograft	5	4	91	2	2	168	5	169
Annat	6	4	20	9	0	17	16	53

Small differences in graft choice on regional level

With clear variations on clinic level

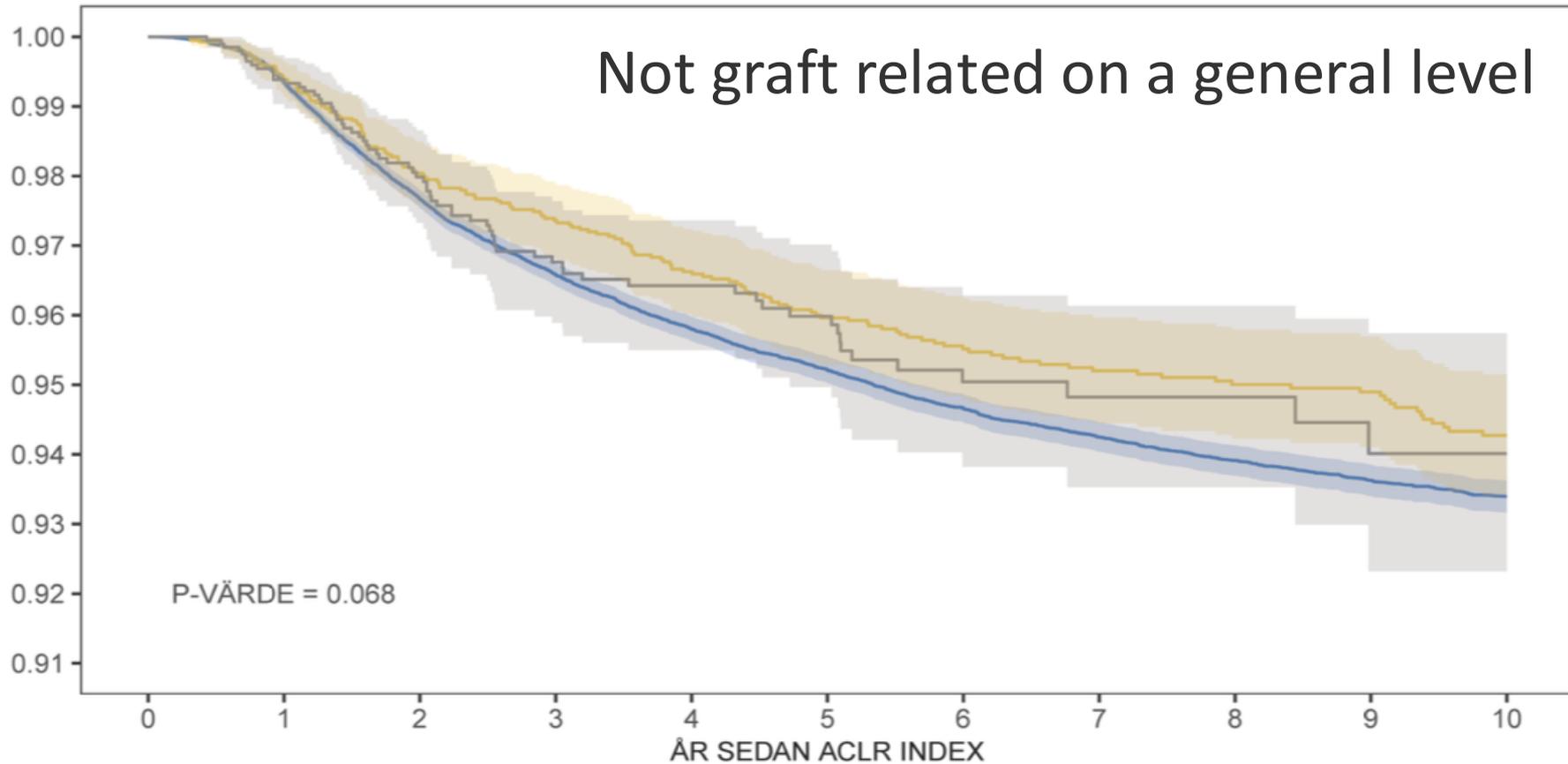


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Survival of an ACL-R



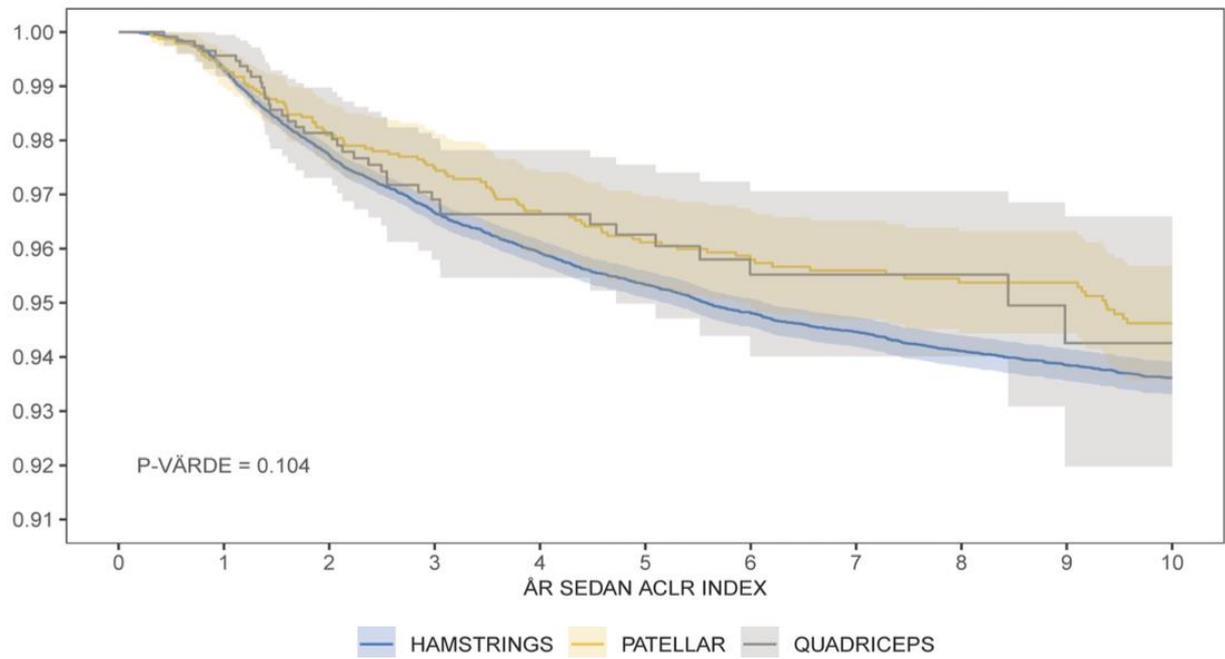
— HAMSTRINGS — PATELLAR — QUADRICEPS

ANTAL I RISK (REVISIONER, KUMULATIVT)

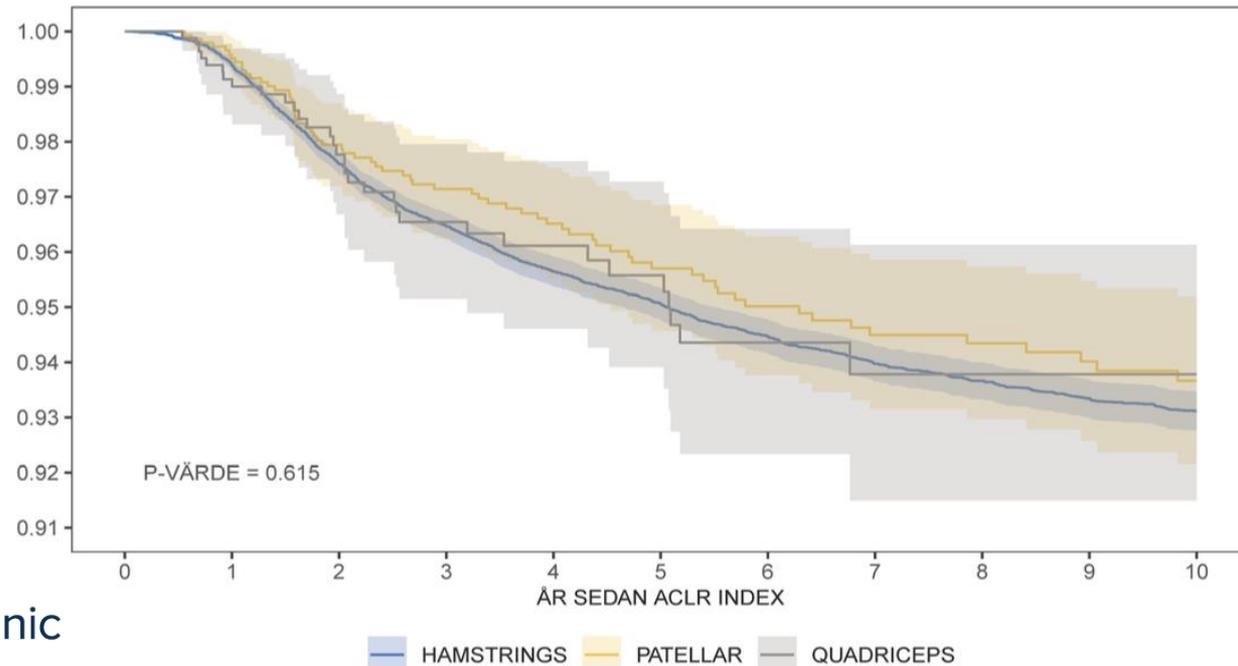
HAMSTRINGS	58146 (0)	54359 (370)	49981 (1254)	46367 (1793)	43332 (2158)	40284 (2417)	37006 (2642)	33893 (2796)	30744 (2911)	27845 (3000)	25011 (3066)
PATELLAR	3997 (0)	3625 (23)	3281 (70)	3039 (92)	2764 (114)	2489 (132)	2226 (143)	2056 (150)	1860 (154)	1718 (156)	1596 (167)
QUADRICEPS	2229 (0)	1837 (12)	1444 (35)	1206 (52)	983 (56)	787 (60)	565 (67)	399 (68)	303 (68)	210 (70)	164 (70)

Survival of an ACL-R

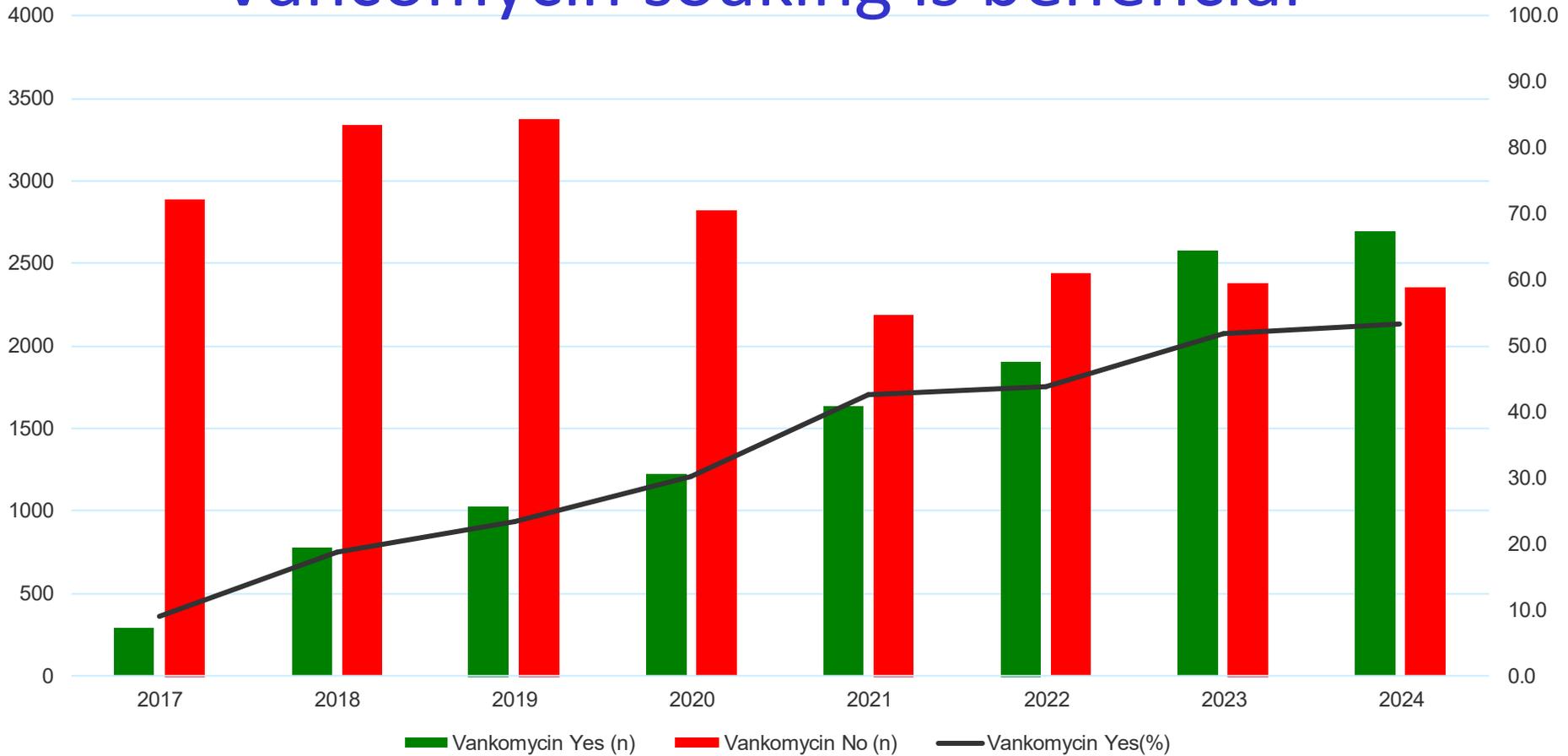
Males



Females



Vancomycin soaking is beneficial

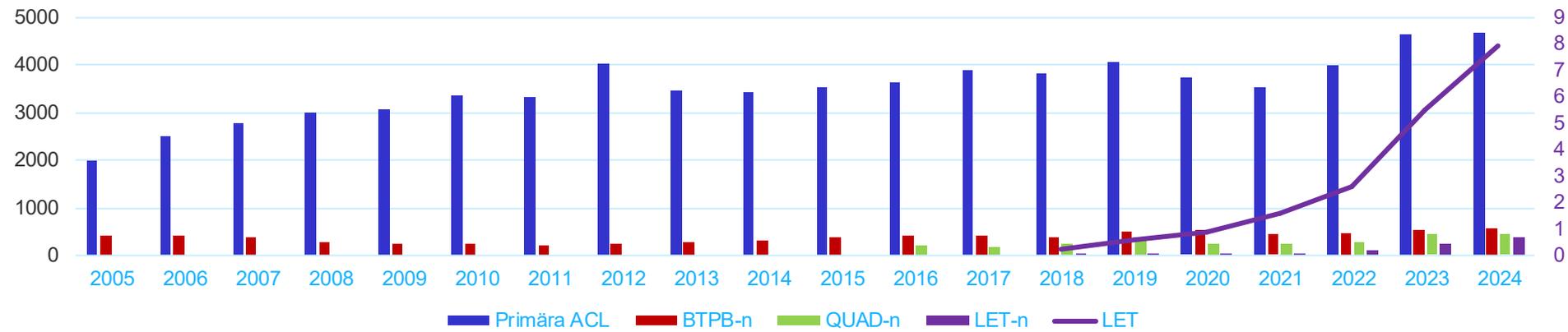


Revisions risk inside 5y for 20-30 yo ST4 ACLR

Vancomycin 3,6 %

No Vancomycin 3,8 %

LET (Lemaire, Ellison, Other)

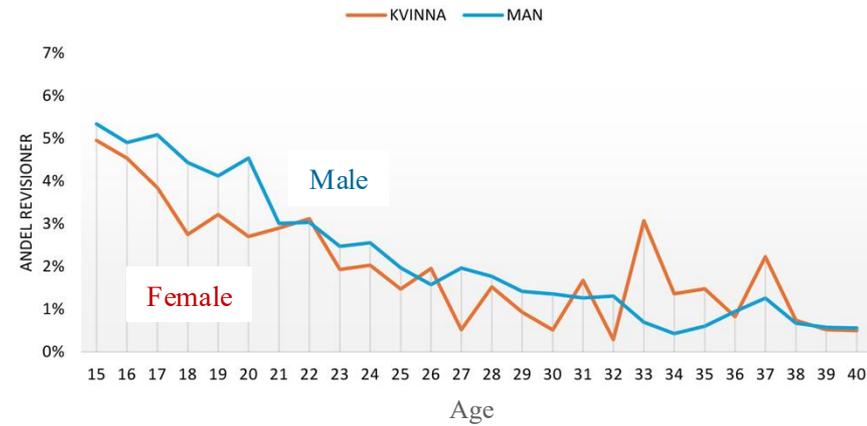


ACLR index	Revision inside 3 y			Risk ¹			Odds Ratio			
	No	Yes	Total	Risk	95% Cl _{Low}	95% Cl _{Upp}	Odds Ratio	95% Cl _{Low}	95% Cl _{Upp}	P-value
ACL-R	8793	603	9396	6.4%	5.9%	6.9%	0,6	0,3	1.2	0,05
ACL-R + LET	67	8	75	10.7%	3.7%	17.7%	1.7	0.8	3.6	0,05
Total	8860	611	9471							

Age only clear risk factor for revision

Gender

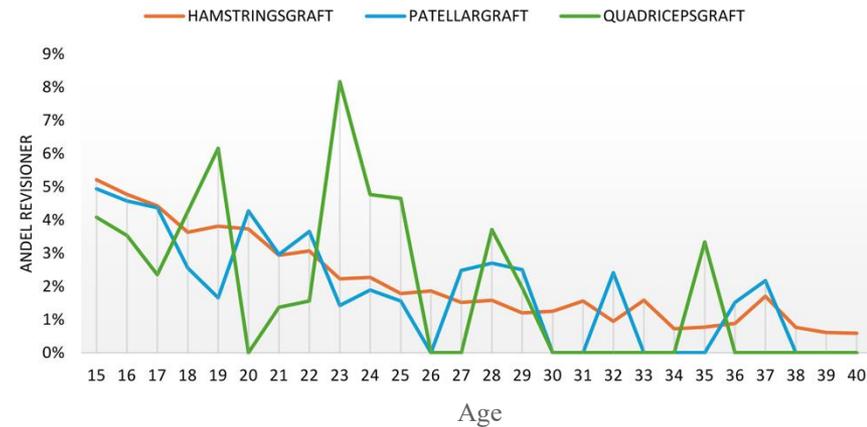
REVISION AV ACLR INDEX INOM 2 ÅR FÖRDELAT PÅ KÖN



Similar risk profiles

Graft

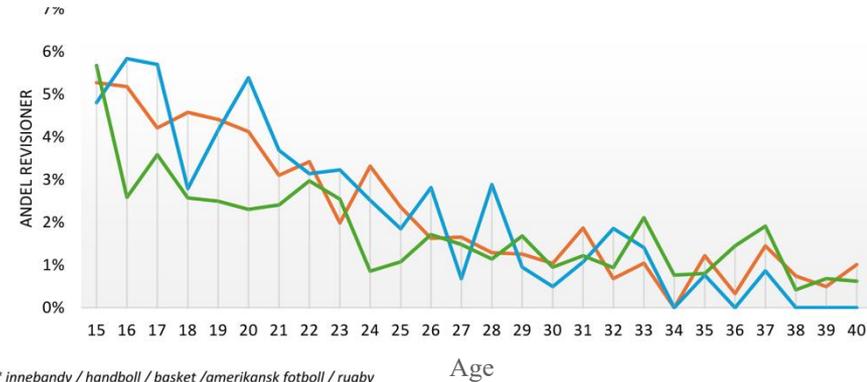
REVISION AV ACLR INDEX INOM 2 ÅR FÖRDELAT PÅ GRAFT



Sport

REVISION AV ACLR INDEX INOM 2 ÅR FÖRDELAT PÅ IDROTT

Football Other contact ball sports Other sports/exercise



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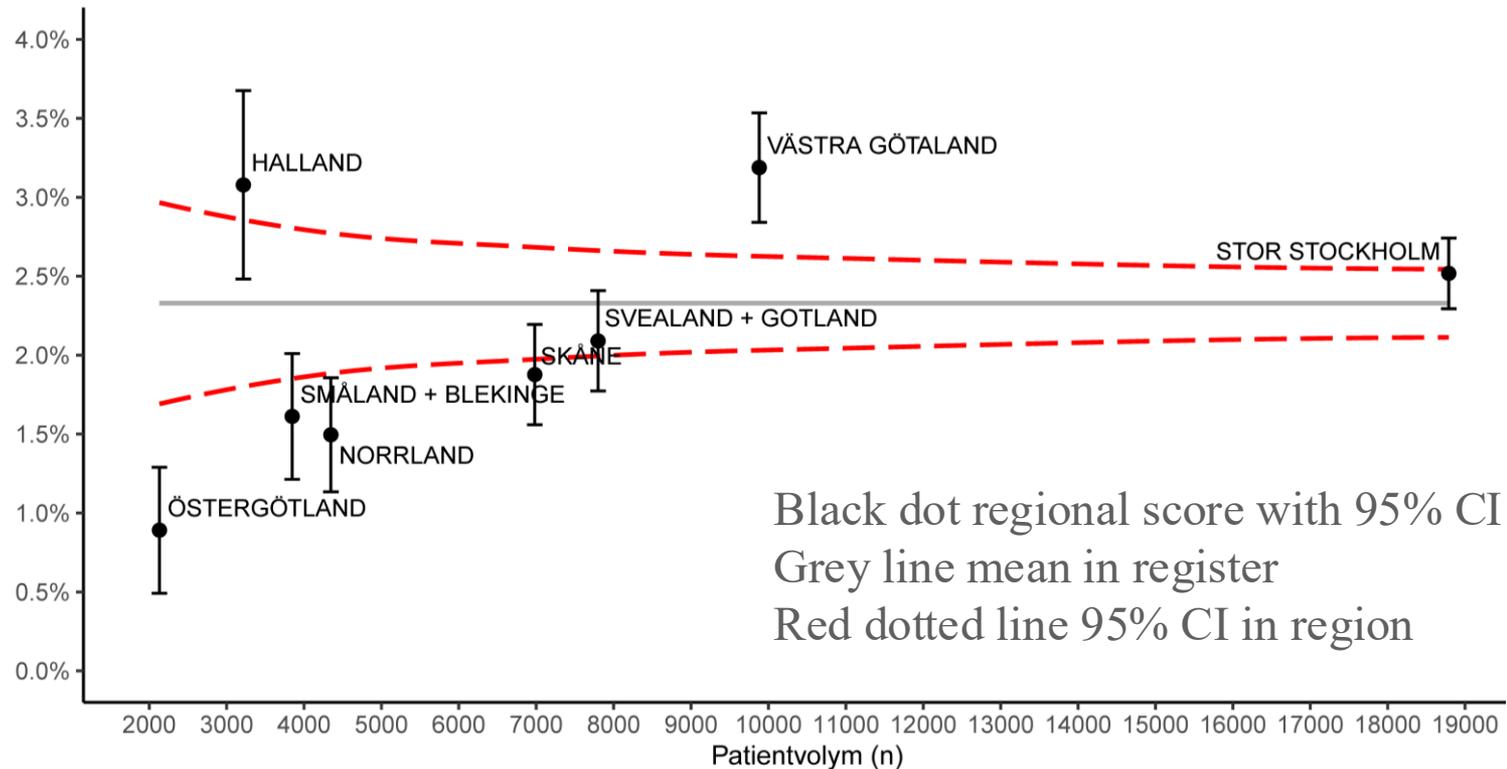
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* innebandy / handboll / basket / amerikansk fotboll / rugby

Unequal Sweden part 2

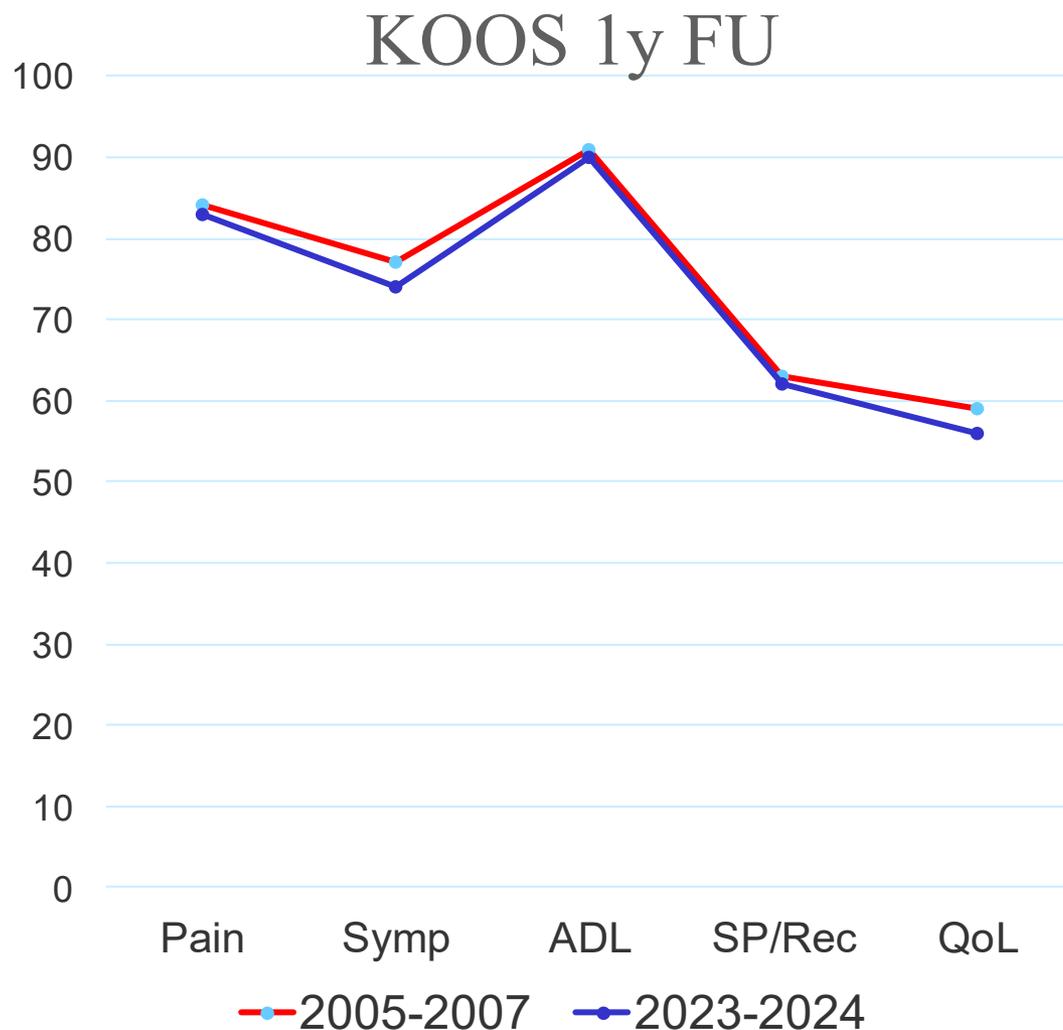
Large variations in revision frequency on a regional level 05-22

- 2y revision risk 0.9-3.2%
- Causation unclear



KOOS what does the patients think?

Not happier with the modern treatment

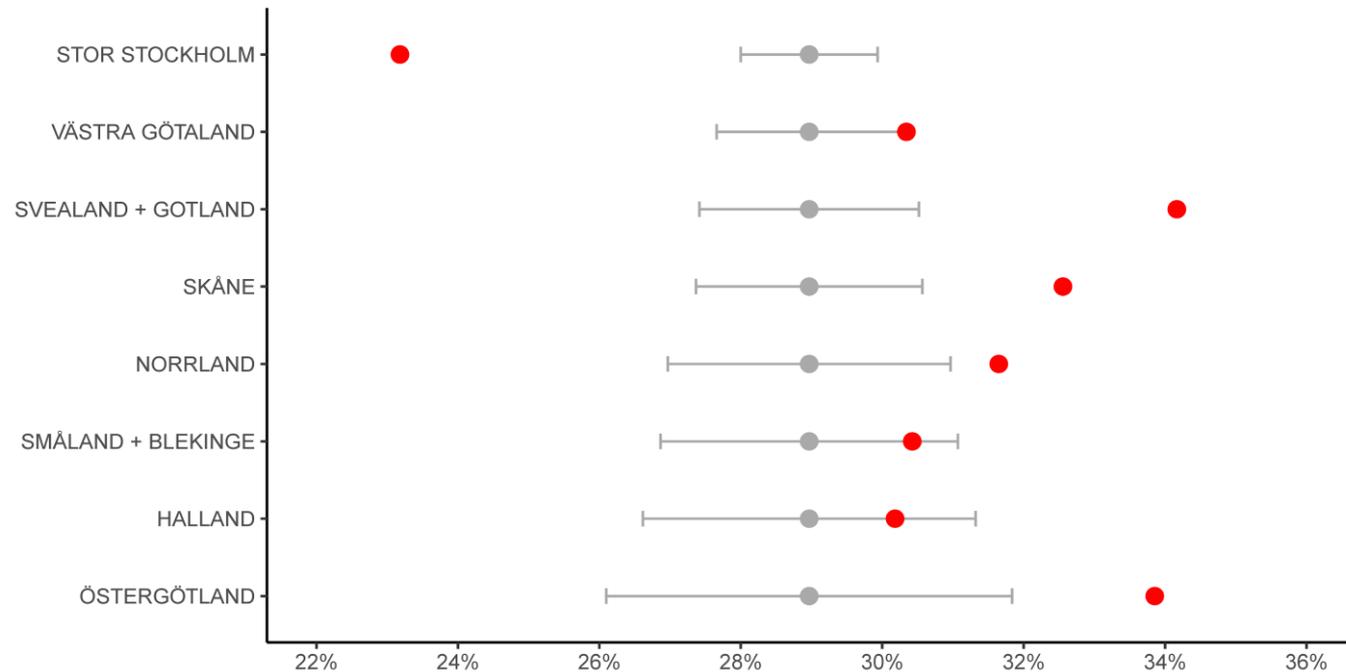


KOOS QoL < 44

Wide range of PROM reported failures (KOOS < 44) on a regional level

- mean 29%
- Lowest 23% highest 35% (red dot)
- Personality traits? Local culture differences? Quality of surgery?

KOOS knärelaterad livskvalitet 2 år postop fördelat på region (ACLR index under perioden 2005–2022)
Röd punkt = andel patienter som skattat <44 poäng



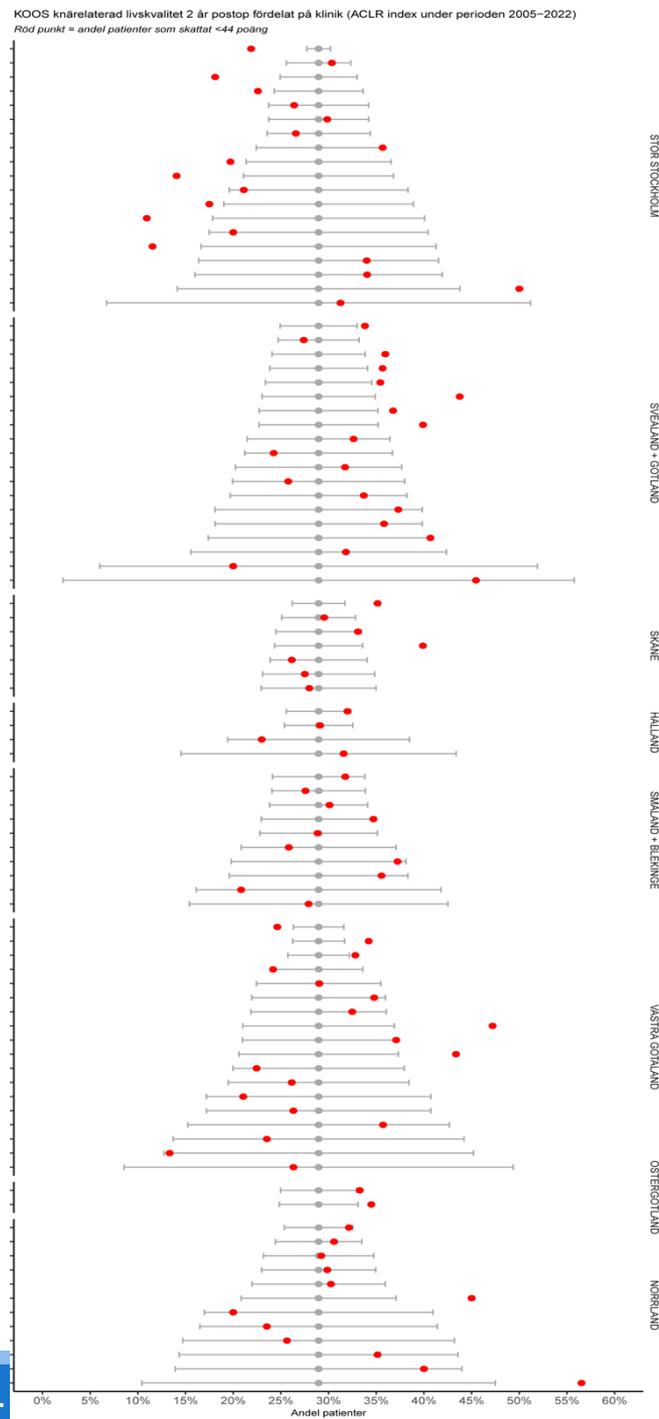
Red dot Regional score
Grey dot mean in register
Grey bar 95%CI

KOOS QoL < 44

Even wider range of PROM reported failures on a clinical level

- mean 29%
- Lowest 12% highest 57% both with wide 95% CI
- High volume centers 23-35% mirroring regional numbers
- Underlining the risk of generalizing complex large datasets

Red dot Clinic score
Grey dot mean in register
Grey bar 95%CI



What have we learned (my personal view)

- Placement and activity probably more important than graft
- Subjective failure is hard to assess with KOOS
- Large variations exist on surgeon level despite 20 years of conforming talks
- There is a real challenge for the register to find new variables to follow, that surgeons and patients think are important.

Thank you for the attention!

