

Bindevevskomplikasjoner

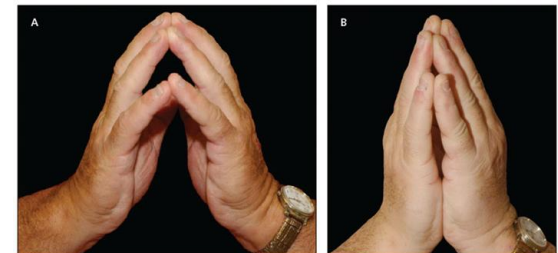
Tore Julsrud Berg

“Diabetisk hånd”

Limited Joint Mobility

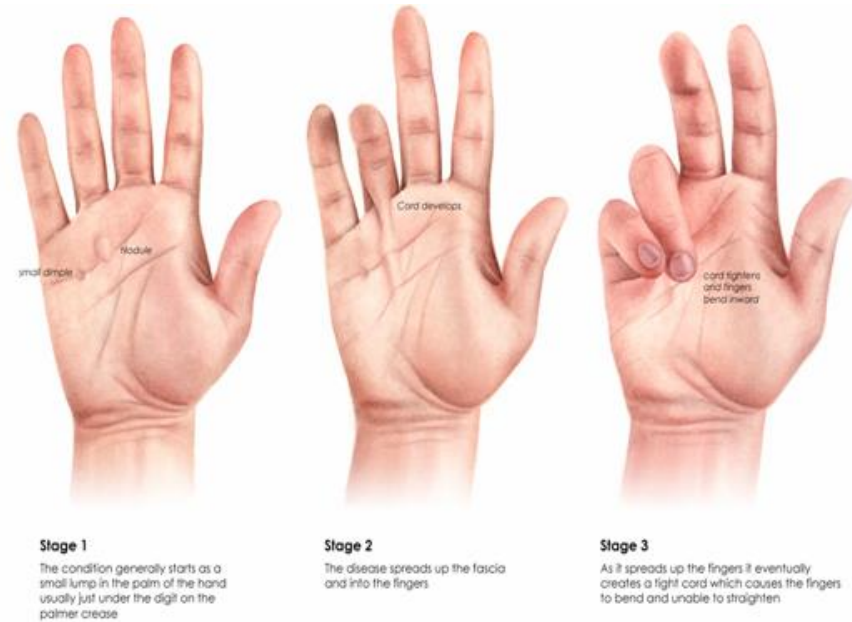
Nedsatt bevegelighet av ledd

- Særlig fingre, sjelden håndledd
- Begynner ofte i ring- og lillefinger uten smerte
- Behandling: (Steroid-injeksjoner, fysioterapi)
- **Sees bare ved diabetes**



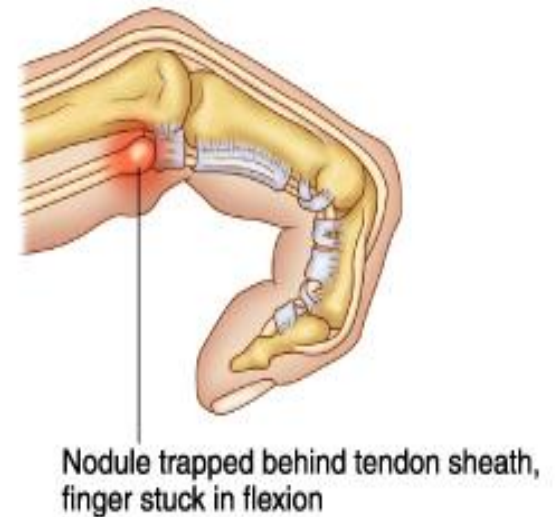
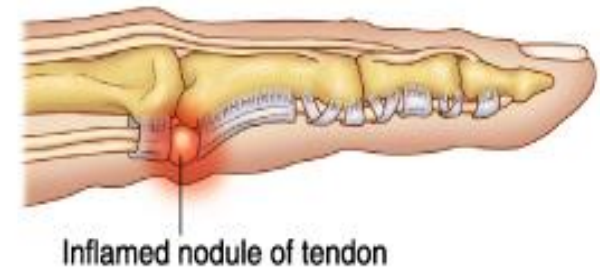
Dupuytren's kontraktur

- Knuter inne i hånda
- Ring- eller lillefinger (langfinger v diab)
- Menn 40-60 år
- Rammer 15-30% av diab., 4 x øket ved diabetes
- Alder, varighet, røyking?
- Behandling: Kirurgi: spalte palmaraponeurosen, "Xiapex" inj.



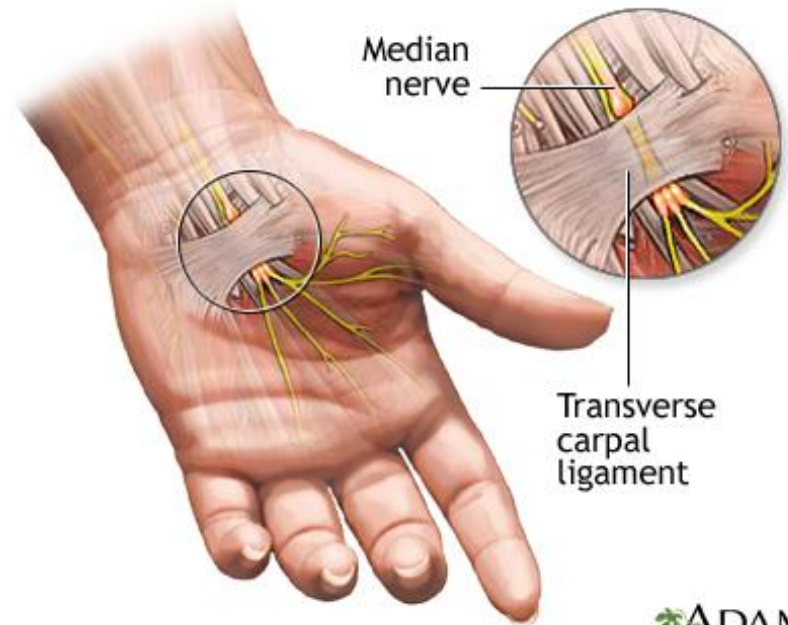
Triggerfinger stenoserende tendosynovitt

- For dårlig plass mellom sene-skjeden og bøyesenene
- Tommel-, lang- og ringfinger låser seg, smerter ytterst i håndflata
- Diabetesvarighet, type 1
- Behandling: NSAID, steroidinjeksjon, kirurgi



Carpal tunnel syndrom

- Inneklemming av nervus medianus
- Dovenhet, prikking, stikking i peke- og langfinger
- Særlig om natta
- Årsak: Øket væske i vevet?
- Rammer 7-16% av diab. Særlig kvinner
- Behandling: Ortose, kirurgisk spaltning av sene



"Frozen shoulder" adhesive capsulitt



Phase	Duration (mnds)	Characteristica
1	2-9	Increasing pain and stiffness
2	4-12	Pain disappears, stiffness remains
3	12-42	Stiffness resolves gradually

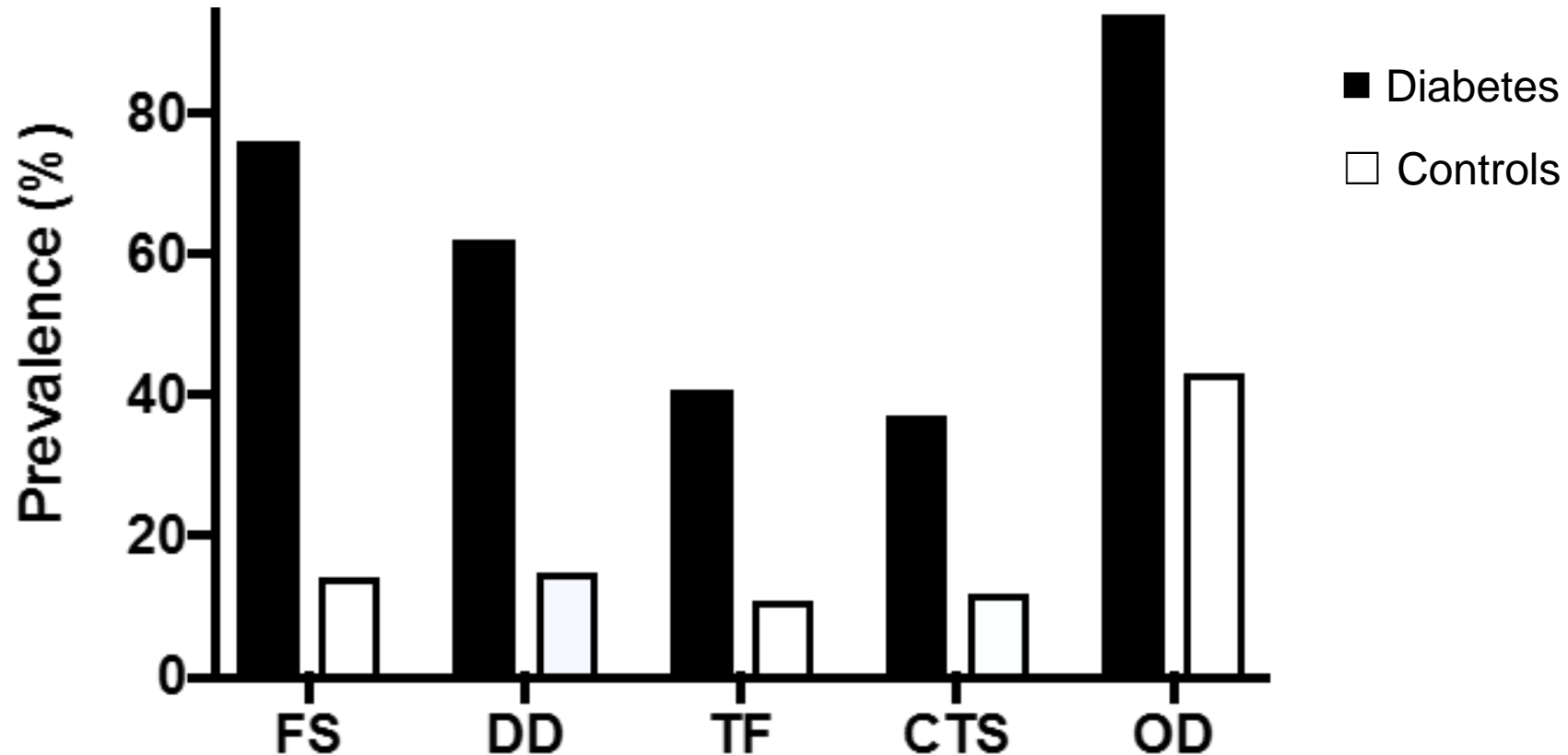
Rammer 10-20% av diab. mot 2-3% hos ikke-diab, ofte bilat.

Sammenheng med: Alder, diabetes varighet v type 2, autonom nevropati, retinopati

Behandling: Smertestillende, steroider: 50% har eff. etter 4 uker, operasjon? Ikke vist eff av fysioterapi el. manipulasjon (ref. NG Juel)

Lifetime prevalence shoulder/hand diagnoses

Dialong study, Juel NG, Holte KB et al.



FS – Frozen shoulder, DD – Dupuytren's contracture, TF – Trigger finger,
CTS – Carpal tunnel syndrome, OD – at least One Diagnosis

P < 0,001 between groups

Shoulder disability and pain QuickDASH

Dialong study. Juel NG, Arch Phys Med Rehab 2017

11 questions: Ability: work, play, sports, pain, (no difficulty-unable, Scores 0-4)

Disability	Control mean (SD)	Diabetes mean (SD)	Group difference (95 % CI)	p-value
QuickDASH	8.7 (12.0)	23.0 (19.9)	14.4 (9.6-19.2)	<0.001
QuickDASH women	10.6 (12.9)	31.0 (21.2)	20.4 (12.9-27.9)	<0.001
QuickDASH men	6.1 (10.3)	15.4 (15.1)	9.3 (3.2-15.4)	<0.001

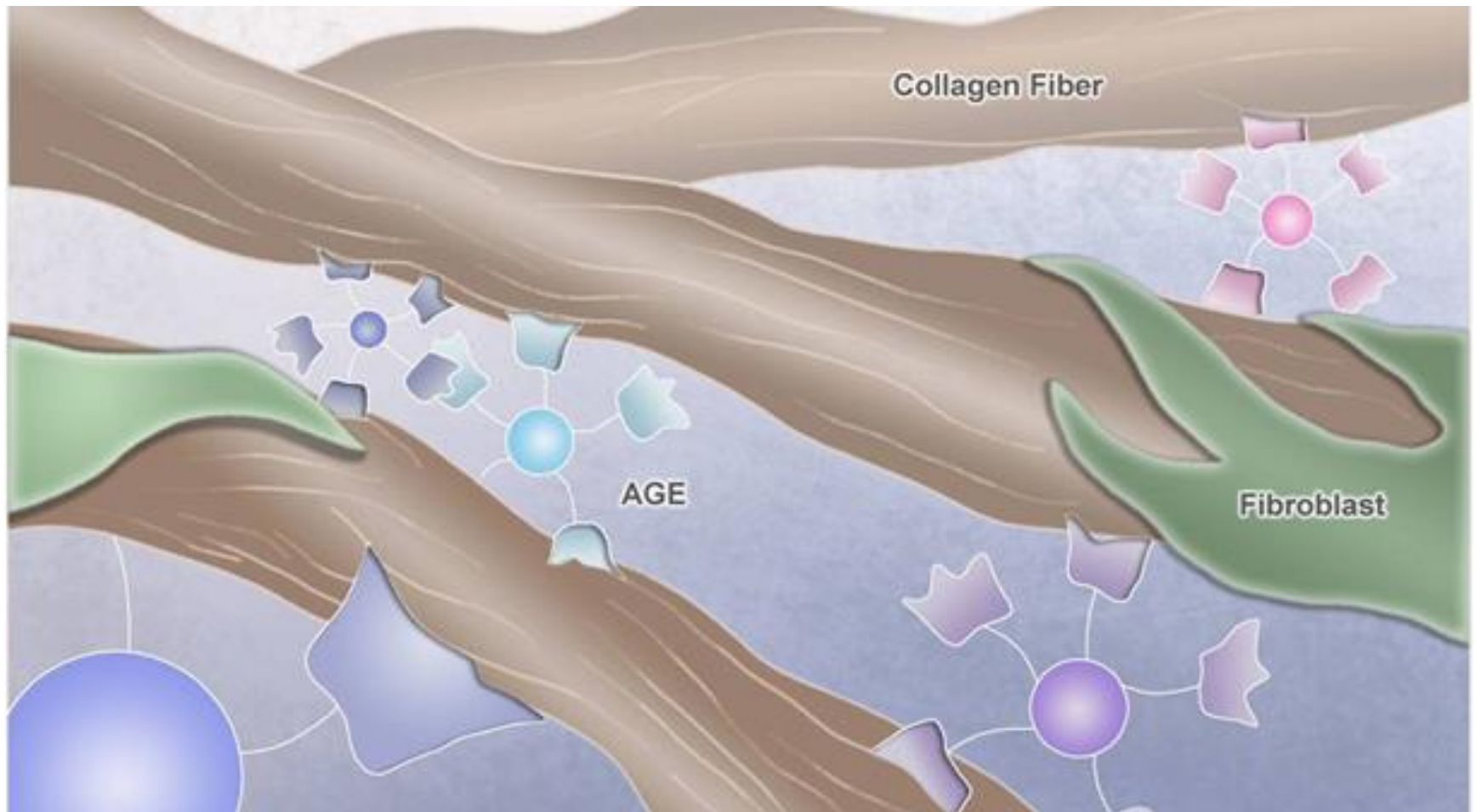
Normative, age adjusted values Norwegian population: 12.0, Finsen V, Tdnlf 2008

Estimated full duration HbA1c ass. with QuickDASH: OR 6.16 p<0.02

Ass. full dur. HbA1c and ability to put hand-behind-back: r=0.47, p<0.001

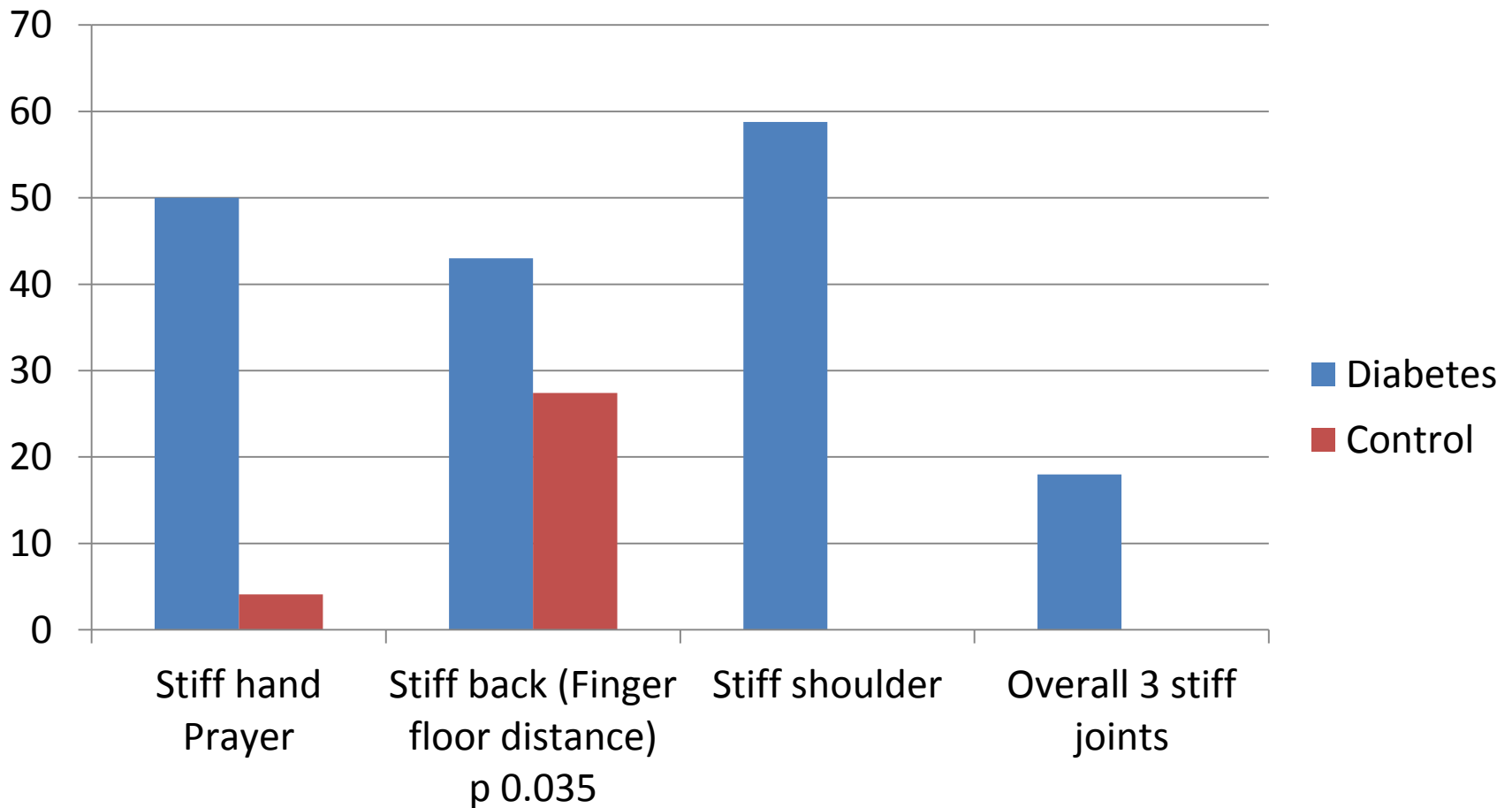
Radiological glenohumeral osteoarthritis: OR 3.4, bilat. OA 10.3, p<0.002, no ass. HbA1c

Advanced glycation endproducts, AGEs



Stiff tendons and joints?

FFD cutoff >2,0cm for women and >15,5cm for men equalling 75th perc. for controls



Advanced Glycation Endproducts (AGEs) in skin collagen

Dialong study

AGEs pmol/mg	Diabetes (n=100)	Controls (n=73)	
Glucosepane	6480,1 (1247,9)	3416,9 (598,0)	<0.001
Pentosidine	30,3 (10,3)	18,5 (5,9)	<0.001
LW-1	1058,3 (654,5)	474,4 (317,7)	<0.001
MetSox	61,4 (8,1)	58,4 (8,6)	0,018
Ornithine	2052,4 (1146,5)	1399,4 (369,5)	<0.001
CML	287,6 (59,9)	197,4 (42,3)	<0.001
Fructose lysine	5716,6 (944,5)	3408,1 (344,1)	<0.001
CEL	30,0 (7,3)	23,5 (5,9)	<0.001
O-Tyrosine	12,2 (6,6)	9,9 (5,7)	0.018
GH-1	18,5 (7,4)	15,4 (5,1)	0.002
MGH-1	445,1 (192,0)	301,0 (130,3)	<0.001
MOLD	1,27 (1,00)	1,22 (0,94)	0.745

Odd ratio back stiffness

Dialong study preliminary results

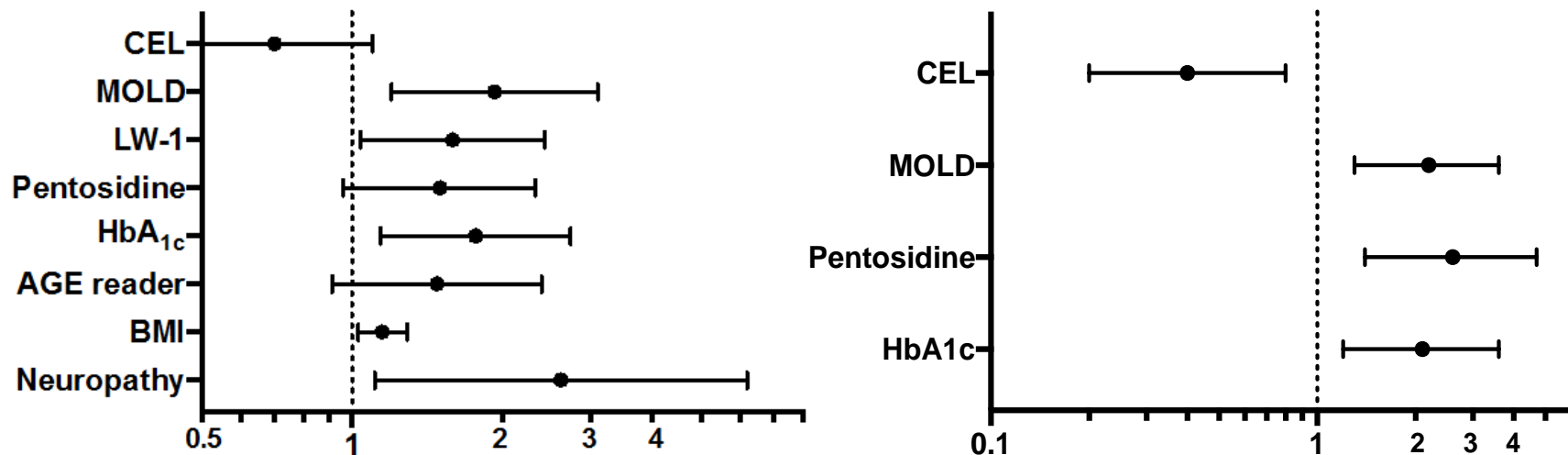


Figure 2a

Crude/adjusted log. regr. model

Full model (mult. regr.
stepwise backwards
elim.)

OR for a 1SD change

No association: Age, gender, diabetes duration, micro- or macrovascular complications

Dialong joints and tendons- study

Main results

Patients with type 1 diabetes > 45 years had more:

- Frozen shoulder, hand diagnoses and stiffness
- Shoulder and hand disability
- Not more hand arthrosis Magnusson K, PLOS ONE 2017 accepted
- Mean 30 years HbA1c associated with:
 - Having painful frozen shoulder
 - Having higher shoulder and hand pain and disability
- Back stiffness associated with:
 - Higher concentrations of certain AGEs (MOLD and Pentosidine) and less CEL
 - Mean 30 years HbA1c
- No associations: AGEs and hand or shoulder diagnosis

Konsekvenser for pasienter

preliminært

- Diabetes årskontroll
 - Undersøke for skulder- og hånddiagnoser
 - Spørreskjema om smerter og funksjon i hender og skuldre: Quick DASH
- Smertebehandle skulder/hender
- Redusere HbA1c (?)
- Vurdere steroidbehandling i skuldre

