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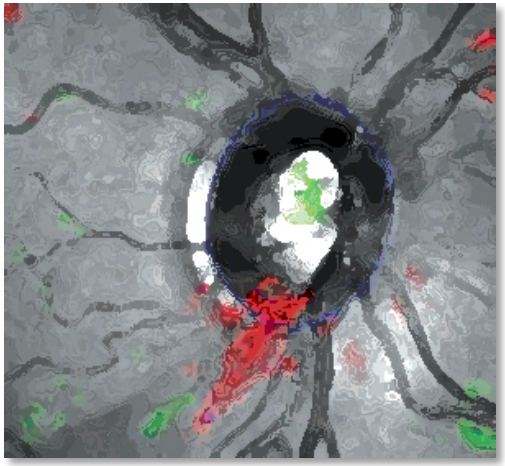

Behandlungsbeginn beim Glaukom

Wann? Womit?
Oder doch noch warten?

Clemens A. Strohmaier

Universitätsklinik für Augenheilkunde und Optometrie
Kepler Universitätsklinikum
Vorstand: Univ.-Prof. Dr. Matthias Bolz

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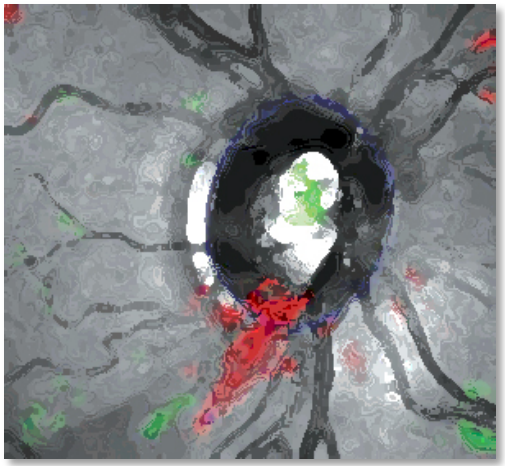

Behandlungsbeginn ~~beim Glaukom~~ bei verschiedenen Glaukomformen: Wann? Womit? Oder doch noch warten?

Clemens A. Strohmaier

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Häufige Glaukomformen und ihre Therapie

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- OHT
- POWG
- NDG
- WBG

Was wir von der OHTS wissen

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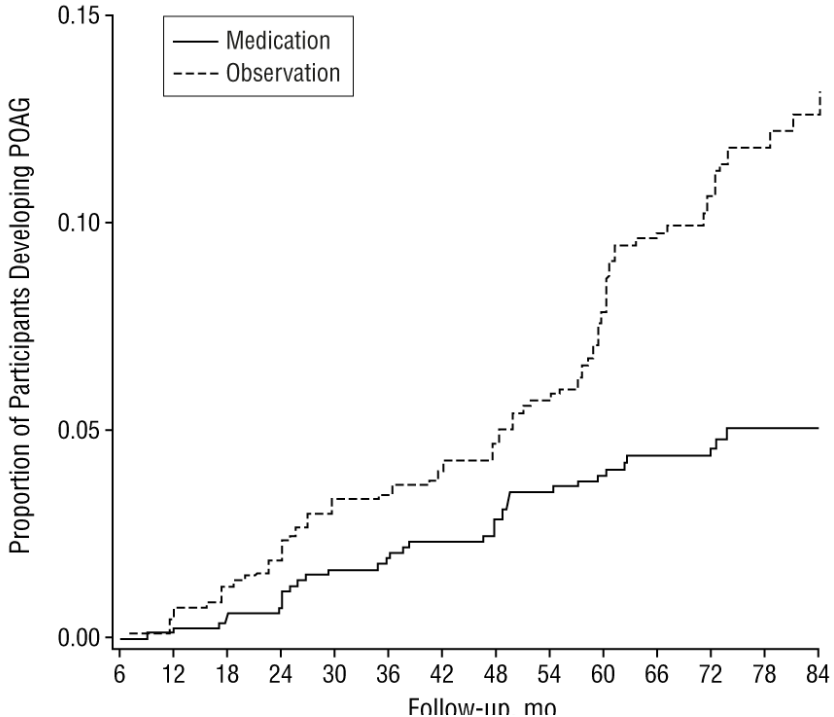
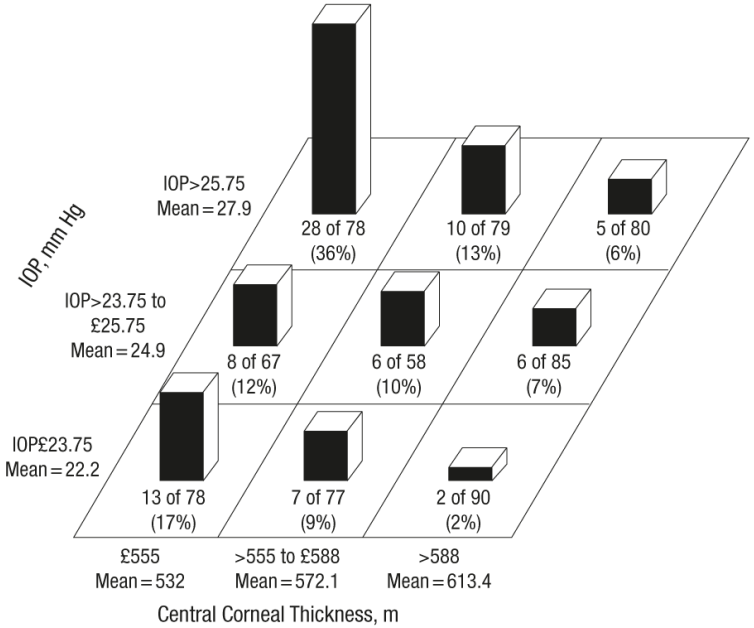
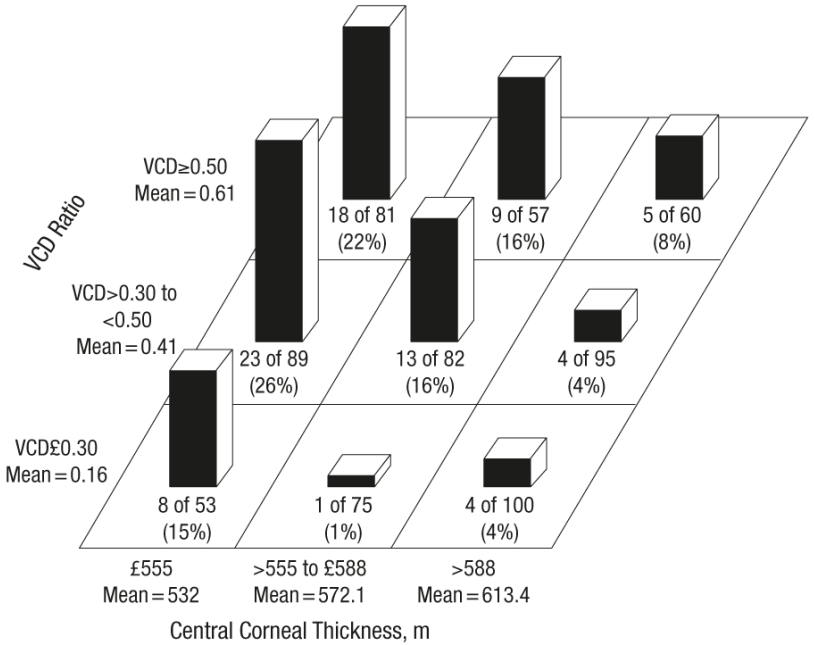


Kass M, JAMA Ophthalmology 2002

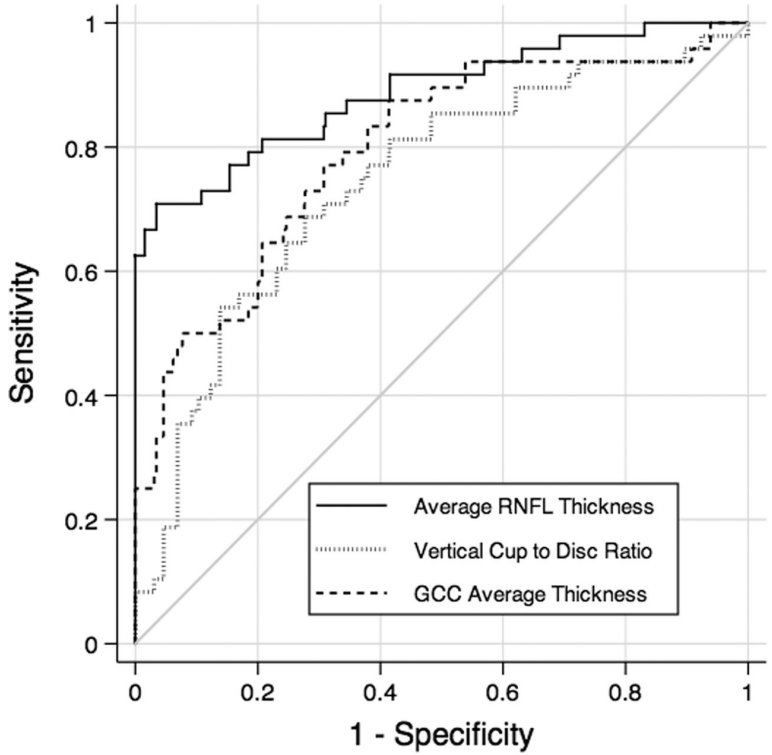
Was wir von der OHTS wissen





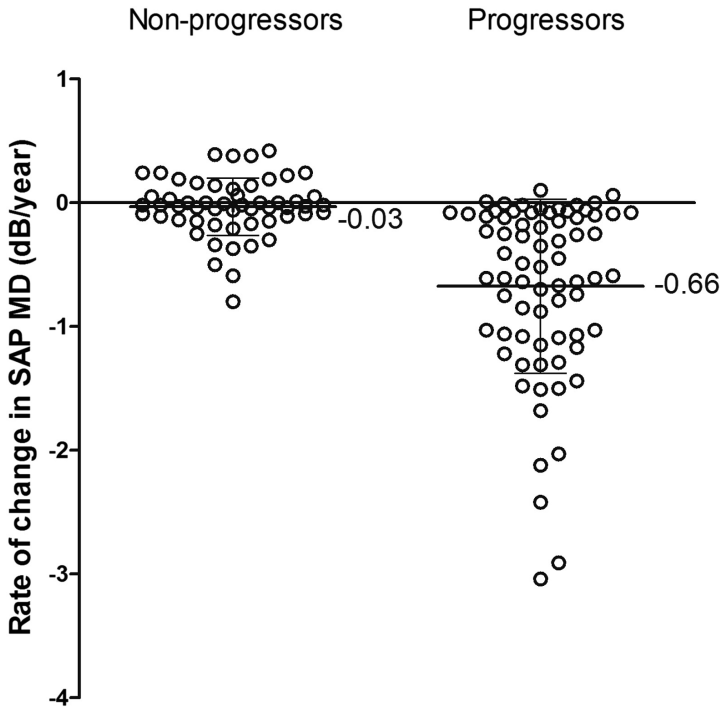
Gordon M, JAMA Ophthalmology 2002

Detektion von präperimetrischen Glaukomen



Lisboa R, IOVS 2013

Wenn es doch zur Progression kommt…



Kim KE, Am J Ophthalm 2015

First-line Therapie bei OHT und POWG
LiGHT Trial

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	Eye drops group	SLT group
Treatment intensity		
Total number of SLT treatments at 36 months	6*	770
Number of SLT treatments per eye		
One	6 (1·0%)	453 (74·1%)
Two	0 (0%)	157 (25·7%)
Three†	0 (0%)	1 (0·2%)
Number of medications per eye at target IOP at 36 months‡		
No medication	16 (3·0%)	419 (78·2%)
One	346 (64·6%)	64 (12·0%)
Two	99 (18·5%)	21 (3·9%)
Three	35 (6·5%)	4 (0·8%)
Four	3 (0·6%)	1 (0·2%)
Eyes not at target at 36 months	37 (7·0%)	27 (5·0%)

Gazzard G, Lancet 2019

Management der OHT

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- Risikofaktoren: Fam. Anamnese et. al.
- Baseline OCT/GF (PSD)
- Klinische US (IOD, CDR, VK Tiefe)
- CCT

Pat. mit 25mmHg IOD und GF Defekt - Therapie?

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a. Betablocker
b. CA Hemmer
c. Prostaglandin Analogon
d. Alpha2 Agonist
e. SLT?

f. Alle notwendigen US für Diagnose

Gonioskopie

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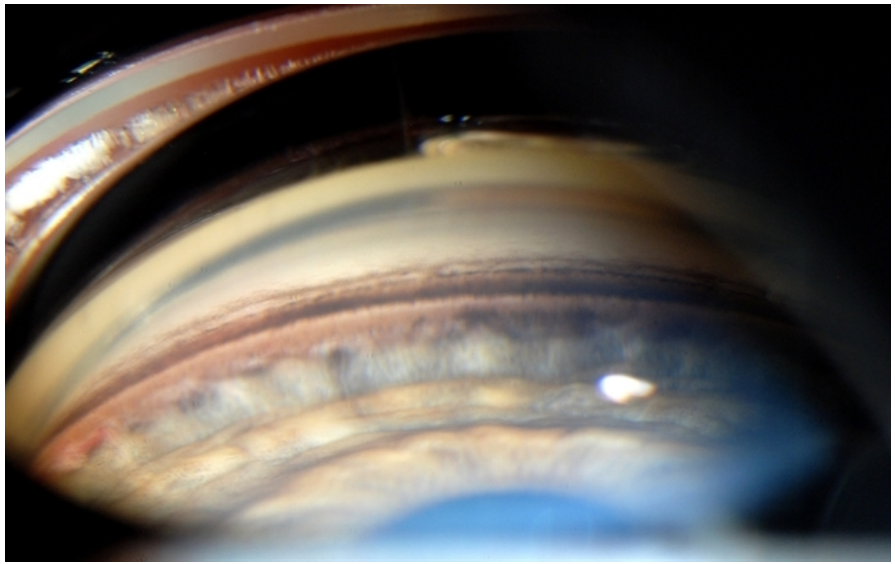

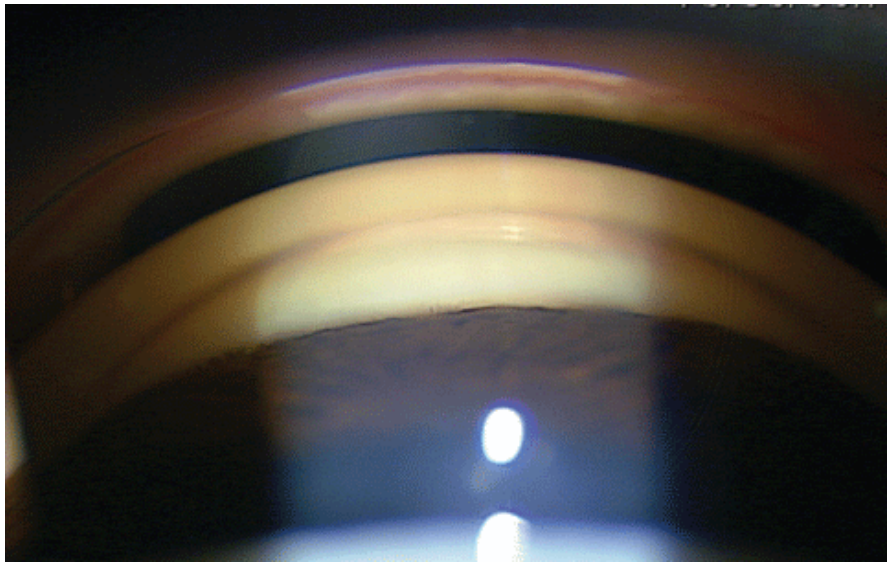

Quelle: American Retina Society Image Bank

Häufige Glaukomformen und ihre Therapie

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- OHT
- POWG
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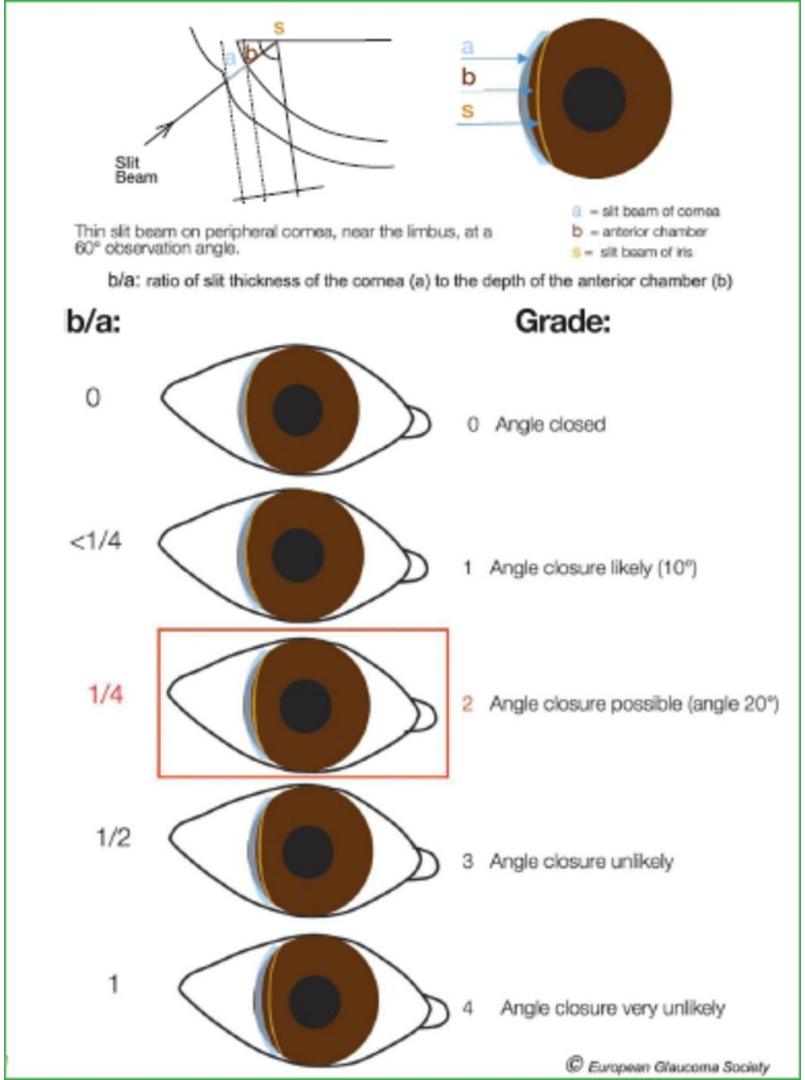
- NDG



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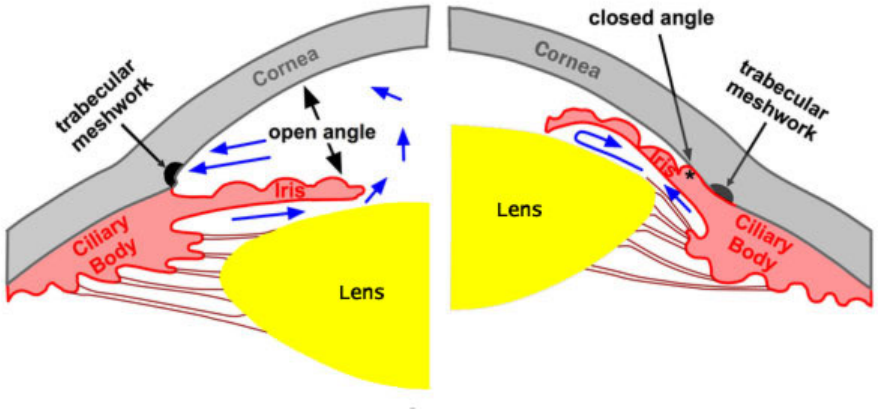
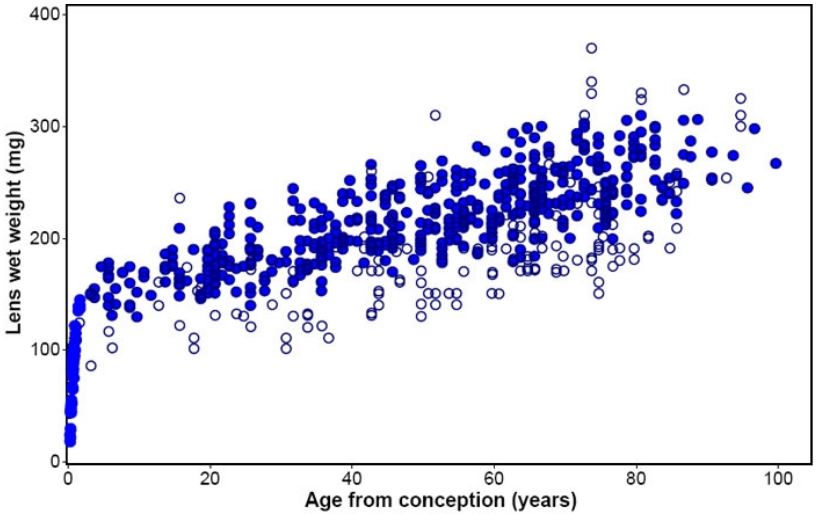
- Van Herick Test
  - Einfach durchführbar
  - Ca. 10% Fehldiagnosen

Thompson A, Ophthalmology Glaucoma 2018

Winkelblock(glaukom)





Augusteyn RC. Growth of the human eye lens. *Molecular Vision*. 2007;13:252-257

Kepler Universitäts Klinikum

Effectiveness of early lens extraction for the treatment of primary angle-closure glaucoma (EAGLE): a randomised controlled trial

Azuara-Blanca A et. al., Lancet 2016

Eagle Trial - Ergebnisse

Kepler Universitäts Klinikum

	CLE	Standard		
Intraocular pressure (mm Hg)				
Baseline	208, 29·5 (8·2)	211, 30·3 (8·1)	..	..
6 months	195, 15·7 (4·3)	202, 19·2 (5·2)	..	..
12 months	192, 15·9 (3·2)	195, 18·4 (4·3)	..	..
24 months	186, 17·0 (3·9)	183, 18·8 (4·6)	..	..
36 months	182, 16·6 (3·5)	184, 17·9 (4·1)	..	..
Baseline vs 36 months	..	..	−1·18 (−1·99 to −0·38)	0·004
Medications (eye drops)				
Baseline	204, 1·0 (1·0)	209, 1·0 (1·0)	..	..
6 months	192, 0·4 (0·7)	200, 1·0 (0·9)	..	..
12 months	186, 0·3 (0·6)	193, 1·1 (0·9)	..	..
24 months	177, 0·4 (0·8)	180, 1·2 (1·0)	..	..
36 months	178, 0·4 (0·8)	181, 1·3 (1·0)	..	..
36 months vs baseline	..	..	0·338 (0·264 to 0·432)	<0·0001

Phakoemulsifikation zur IOD Senkung

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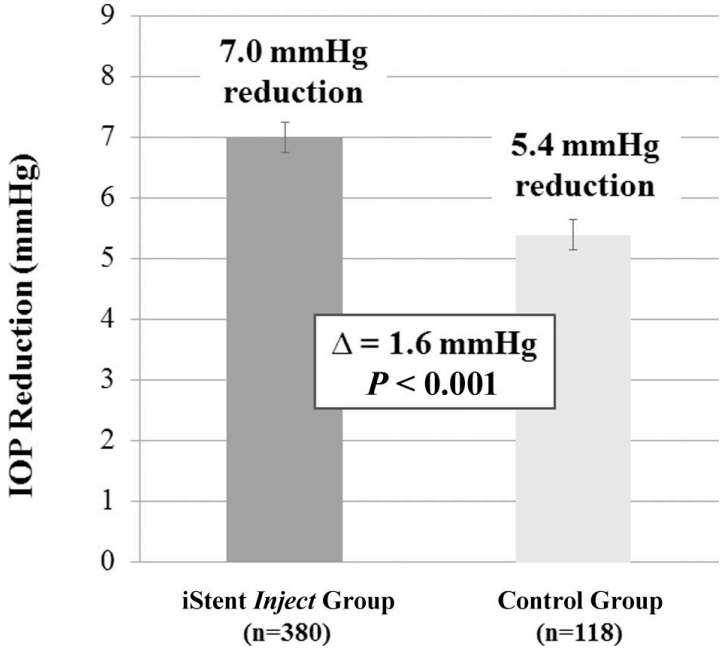


Samuelson TW et. al., Ophthalmology 2019

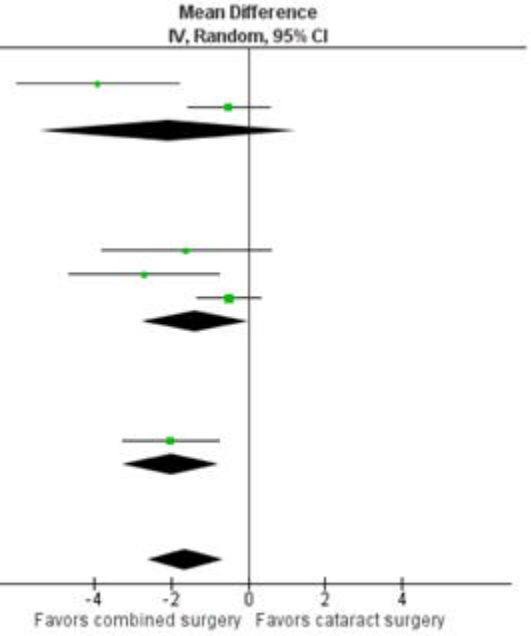
Phakoemulsifikation zur IOD Senkung

Kepler Universitäts Klinikum

Study or Subgroup	Combined surgery Mean	SD	Total	Cataract surgery alone Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI
1.1.1 Trabeculectomy and cataract surgery versus cataract surgery alone								
Anders 1997	-7.6	5.5	42	-3.7	4.2	41	12.2%	-3.90 [-6.00, -1.80]
Storr-Paulsen 1998	-6.3	1.4	10	-5.8	1	10	20.8%	-0.50 [-1.57, 0.57]
Subtotal (95% CI)			52			51	33.0%	**-2.07 [-5.40, 1.25]**
Heterogeneity: Tau² = 5.06; Chi² = 7.99, df = 1 (P = 0.005); I² = 87%								
Test for overall effect: Z = 1.22 (P = 0.22)								
1.1.2 iStent and cataract surgery versus cataract surgery alone								
Fea 2010 (1)	-3.2	3	12	-1.6	3.2	21	11.7%	-1.60 [-3.78, 0.58]
Fernández-Barrientos 2010	-6.6	3	17	-3.9	2.7	16	13.3%	-2.70 [-4.65, -0.75]
Samuelson 2011	-1.5	3	106	-1	3.3	112	22.9%	-0.50 [-1.34, 0.34]
Subtotal (95% CI)			135			149	47.9%	**-1.37 [-2.76, 0.03]**
Heterogeneity: Tau² = 0.86; Chi² = 4.56, df = 2 (P = 0.10); I² = 56%								
Test for overall effect: Z = 1.92 (P = 0.05)								
1.1.3 Trabeculotomy and cataract surgery versus cataract surgery alone								
Gimbel 1995	-6.2	3.1	51	-4.2	3.3	51	19.1%	-2.00 [-3.24, -0.76]
Subtotal (95% CI)			51			51	19.1%	**-2.00 [-3.24, -0.76]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 3.15 (P = 0.002)								
Total (95% CI)			238			251	100.0%	**-1.62 [-2.61, -0.64]**
Heterogeneity: Tau² = 0.92; Chi² = 14.69, df = 5 (P = 0.01); I² = 66%								
Test for overall effect: Z = 3.22 (P = 0.001)								
Test for subgroup differences: Chi² = 0.48, df = 2 (P = 0.79), I² = 0%								

Footnotes

(1) follow-up at 15 months after surgery



Zhang ML, Cochrane Reviews 2014

Häufige Glaukomformen und ihre Therapie

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IOD 11mmHg

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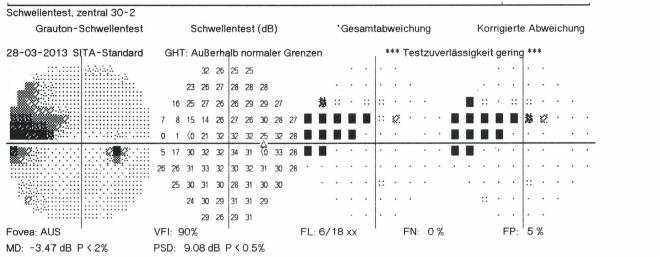

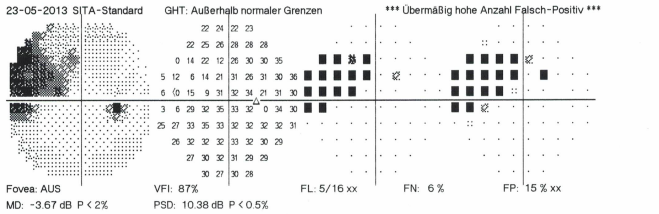

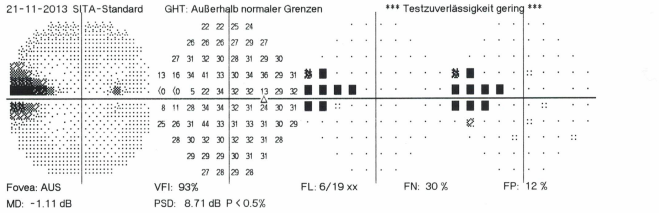

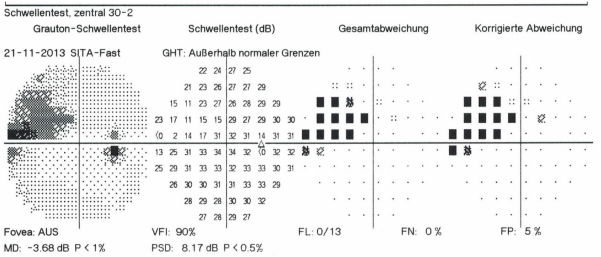

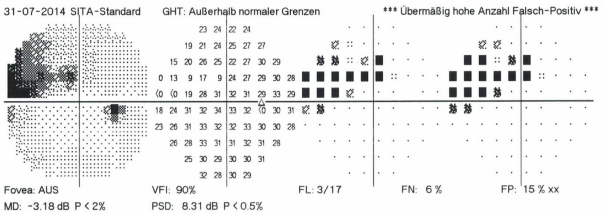

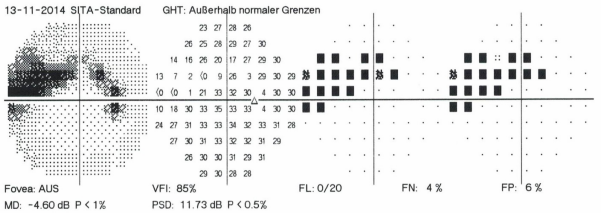

Sonderfall NDG

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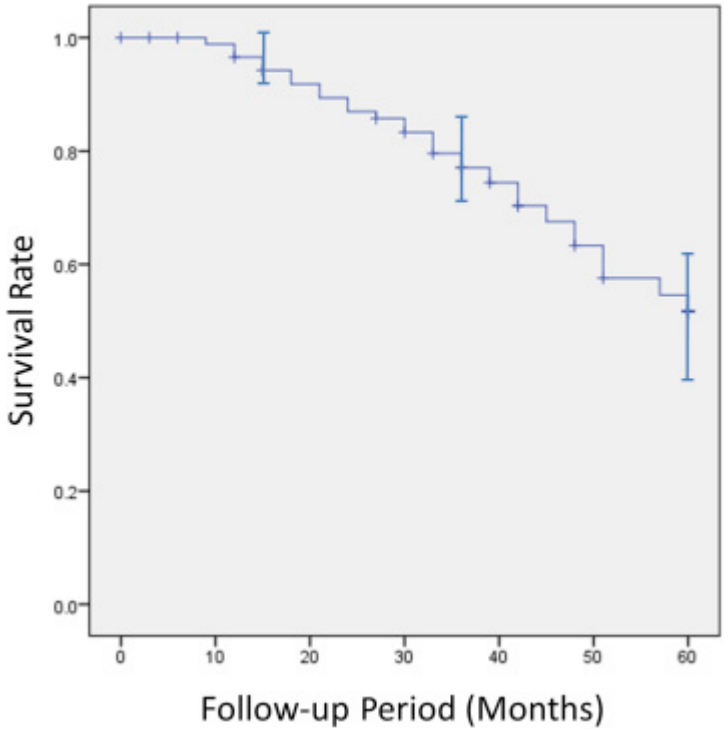
IOD 12.3 mmHg

66% Progression in 5a (unbehandelt)

wie behandeln?



Sakarta R, Ophthalmology 2019

Fistulierende OP bei niedrigem IOD

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Variable	Before surgery [#1]	After surgery [#2]	*P*-value [#3]
Follow-up duration (years)	4.3 ± 1.7	5.0 ± 1.3	-
IOP (mmHg)	13.9 ± 0.9	8.1 ± 2.9	< 0.001*
Rate of IOP reduction (%)	-	41.7 ± 20.5	-
Number of IOP-lowering eye drops (n)	3.0 ± 0.4	0.8 ± 1.5	< 0.0001*
Number of VF examinations (times)			
30–2 VF test (n = 13)	7.6 ± 3.5	6.9 ± 2.2	-
10–2 VF test (n = 6)	7.8 ± 1.7	6.7 ± 1.6	-
MD value (dB)			
30–2 VF test (n = 13)	-18.86 ± 4.16	-20.11 ± 4.25	0.2901
10–2 VF test (n = 6)	-28.81 ± 3.20	-28.43 ± 2.36	0.2242
MD slope (dB/year)			
30–2 VF test (n = 13)	-0.91 ± 0.57	-0.32 ± 0.57	0.0334*
10–2 VF test (n = 6)	-0.97 ± 0.70	-0.09 ± 0.37	0.0709
logMAR VA	0.23 ± 0.45	0.17 ± 0.27	0.4845
Decimal VA	0.78 ± 0.40	0.79 ± 0.40	0.8974

Naito T, PLoS One 2017

Operatives Angebot Glaukomambulanz KUK

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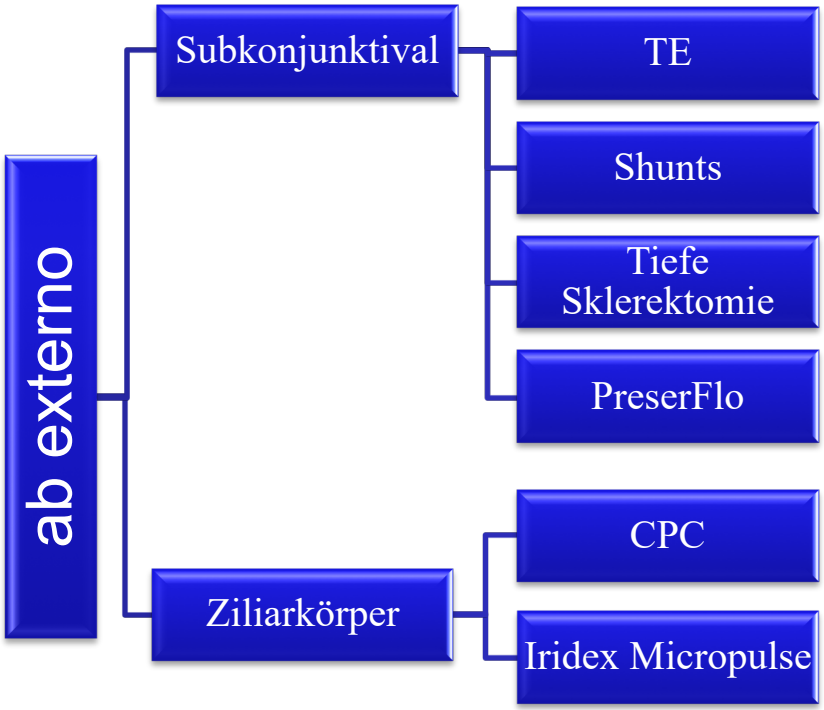

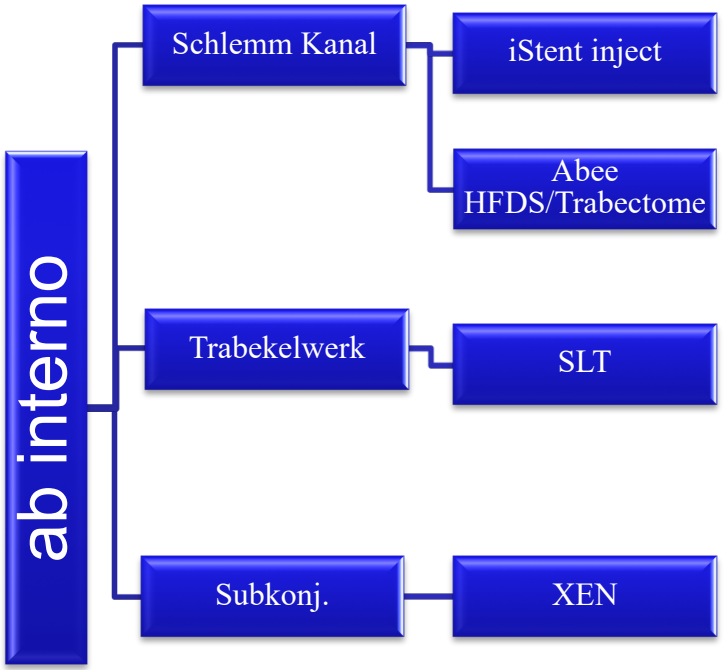

Die schonendere Alternative

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Spinat als Glaukomtherapeutikum?

Kepler Universitäts Klinikum

Regelmäßige Aufnahme von Nitraten in Form von grünem Gemüse (>80mg/d – 240mg/d, 1.6 Mio Personenjahre Follow up, 100K Personen, 1483 Glaukome)

1. reduziert das POWG Risiko um 20-30%
2. reduziert das Risiko früher parazentraler Gesichtsfeld Defekte um 40-50%
3. reduziert das Risiko einer vaskulären Dysregulation

Nurse's Health Study, Health Professional Flollow up Study

Kang et al. Jama Ophthalmol. 2016 134(3):294-303

Spinat als Glaukomtherapeutikum?

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Vielen Dank für Ihre Aufmerksamkeit!