Nouveautés Diagnostiques et thérapeutiques médicales dans le GPAO

JF ROULAND

Nouveautés Diagnostiques et thérapeutiques médicales ?

- « Une des premières choses de l'Homme, c'est sa fureur pour la nouveauté, deux grands mobiles font agir les hommes; la peur et la nouveauté »

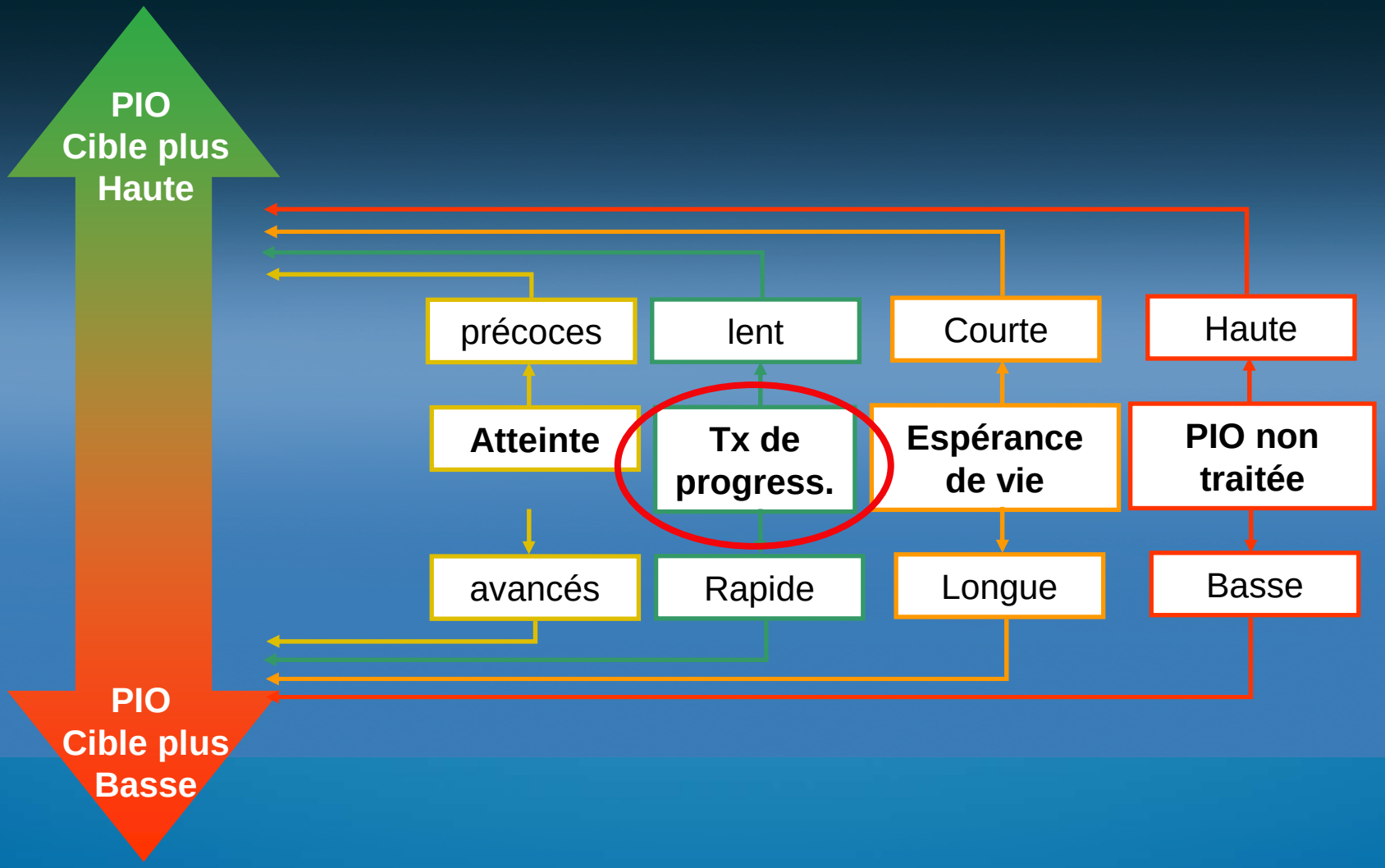
  Nicolas Machiavel « Le Prince »

- « L'avantage avec la nouveauté, c'est quelle ne reste jamais neuve. Il y a toujours une nouvelle nouveauté pour faire vieillir la précédente »

  Frédéric Beigbeder « 99francs »

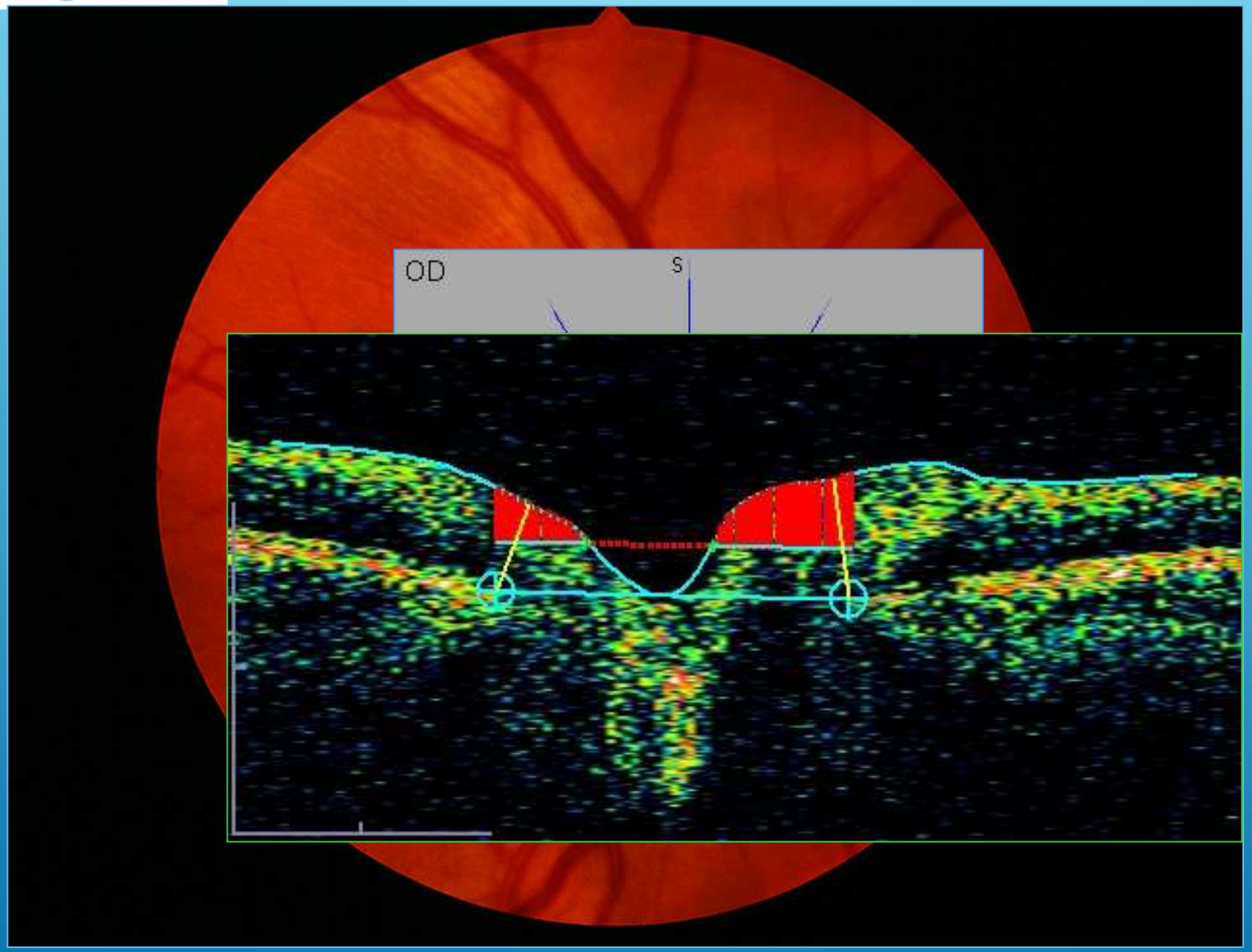
Nouveautés Diagnostiques:

- Explorations de la structure
- Explorations de la fonction
- Suivi de la Progression


PIO
Cible plus
Haute
PIO
Cible plus
Basse
précoces
lent
Courte
Haute
Atteinte
Tx de
progress.
Espérance
de vie
PIO non
traitée
avancés
Rapide
Longue
Basse

ANALYSE EN 11 POINTS (J Jonas)

1. Taille du disque optique
2. Forme du disque optique
3. Taille de l'anneau neuro-rétinien
4. Forme de l'anneau neuro-rétinien
5. Taille de l'excavation
6. Évaluation du rapport cup/disc
7. Position du tronc des vaisseaux
8. Hémorragies
9. Atrophie péri-papillaire
10. Modifications du diamètre des vaisseaux
11. Évaluation de la couche des fibres


OD
S

Confocal Scanning Laser (HRT)

FOCAL

Heidelberg Retina Tomograph
Initial Report

HEIDELBERG ENGINEERING

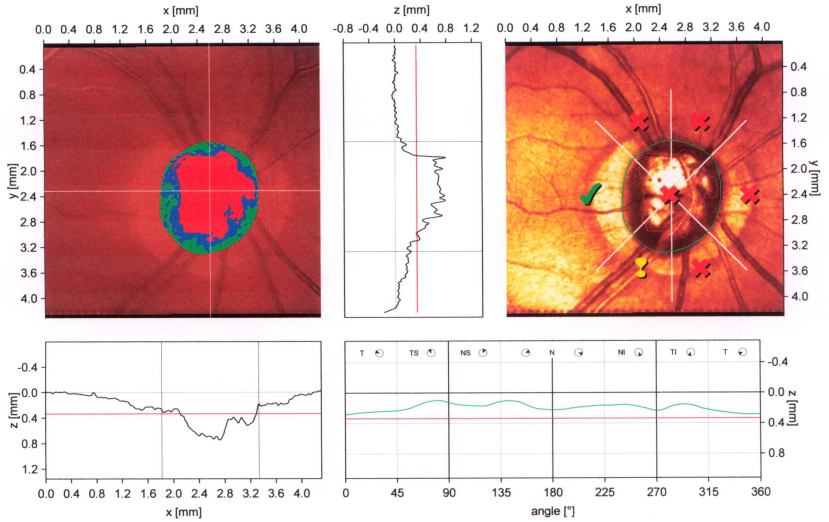
Patient: [redacted]

[redacted]/1938 Pat-ID: 0900672 Ethnicity: Caucasian

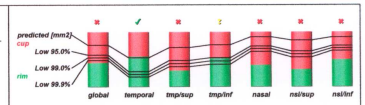
OD

Examination: **Date: 25/Mar/2009**

Scan: Focus: 1.00 dpt Depth: 3.00 mm Operator: JFR IOP: ---



Stereometric Analysis ONH		Normal Range
Disc Area	2.17 mm²	1.63 - 2.43
Cup Area	1.22 mm²	0.11 - 0.68
Rim Area	**0.95 mm²**	**1.31 - 1.96**
Cup Volume	0.24 mm³	-0.01 - 0.18
Rim Volume	**0.12 mm³**	**0.30 - 0.61**
Cup/Disc Area Ratio	0.56	0.07 - 0.30
Linear Cup/Disc Ratio	0.75	0.27 - 0.55
Mean Cup Depth	0.26 mm	0.10 - 0.27
Maximum Cup Depth	0.59 mm	0.32 - 0.76
Cup Shape Measure	**-0.06**	**-0.28 - -0.15**
Height Variation Contour	**0.19 mm**	**0.31 - 0.49**
Mean RNFL Thickness	**0.14 mm**	**0.20 - 0.32**
RNFL Cross Sectional Area	0.75 mm²	0.99 - 1.66
Reference Height	336 µm	
Topography Std Dev.	11 µm	
FSM	-1.38	
RB	-0.85	



Moorfields Classification: Outside normal limits (*)

(*) Moorfields regression classification (Ophthalmology 1998;105:1557-1563). Classification based on statistics. Diagnosis is physician's responsibility.

Comments:

Date: 25/Mar/2009 Signature:

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Service d'OPHTALMOLOGIE HURIEZ
Professeur J.F.Rouland
1, rue Michel Polonowski
59 037 LILLE CEDEX

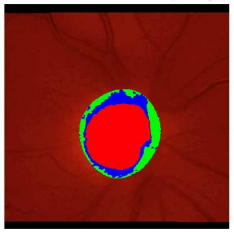
Heidelberg Retina Tomograph
OU Report

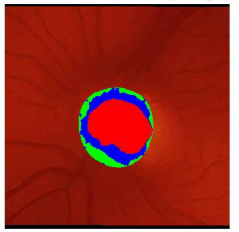
HEIDELBERG ENGINEERING

Patient: **DOB:** 1957 **Examination:** Jul/14/2003
Pat-ID: **Gender:** female **Ethnicity:** ---

Initial Report

OD		OS
Quality: Very good (SD 11 µm)		**Quality:** Very good (SD 12 µm)
Focus: 0.00 dpt		**Focus:** 0.00 dpt
Operator: dcp		**Operator:** dcp
Disc Size: 2.09 mm² (average)		**Disc Size:** 1.78 mm² (average)





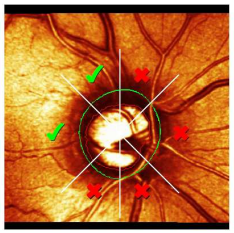
CUP

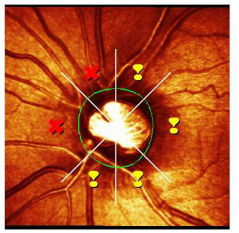
Linear Cup/Disc Ratio [ ]

OD		OS
0.77	Asymmetry 0.04 ✓	0.72
p = 0.02	p = 0.24	p = 0.02

Cup Shape Measure [ ]

OD		OS
-0.01 ✗	Asymmetry -0.06 ✓	0.06 ✗
p < 0.001	p = 0.18	p < 0.001





MRA: Outside normal limits

RIM

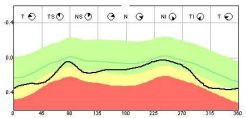
Rim Area [mm²]

OD		OS
0.86 ✗	Asymmetry 0.01 ✓	0.85 ✗
p < 0.001	p = 0.48	p < 0.001

Rim Volume [mm³]

OD		OS
0.19	Asymmetry -0.25	0.44 ✓
p = 0.007	p = 0.03	p > 0.5

MRA: Outside normal limits



RNFL Profile

RNFL

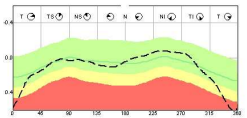
Height Variation Contour [mm]

OD		OS
0.34 ✓	Asymmetry -0.35 ✗	0.69 ✓
p = 0.45	p < 0.001	p > 0.5

Mean RNFL Thickness [mm]

OD		OS
0.23 ✓	Asymmetry -0.32 ✗	0.55 ✓
p > 0.5	p < 0.001	p > 0.5

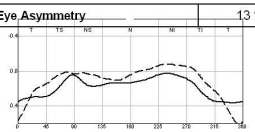
Inter-Eye Asymmetry	13 %



RNFL Profile

✓ Within normal limits p > 0.05
Borderline p < 0.05
✗ Outside normal limits p < 0.001

OD RNFL profile
OS RNFL profile
RNFL profile median



Combined RNFL Profile

Comments:

Signature:
Date: 10/3/2005

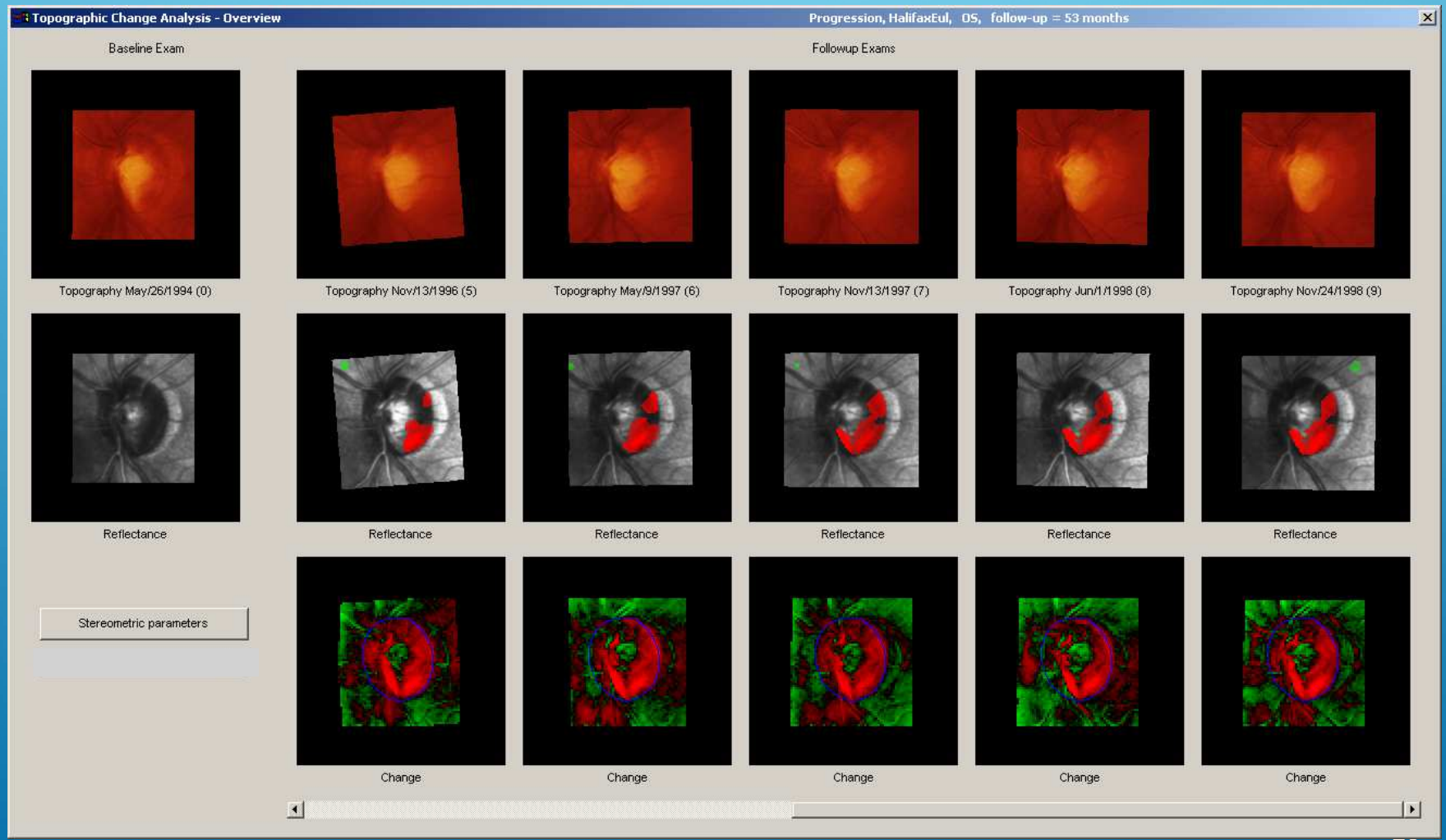
Software Version: 3.0.0.2/0
www.HeidelbergEngineering.com

HRT2
Moorfield Regression Analysis

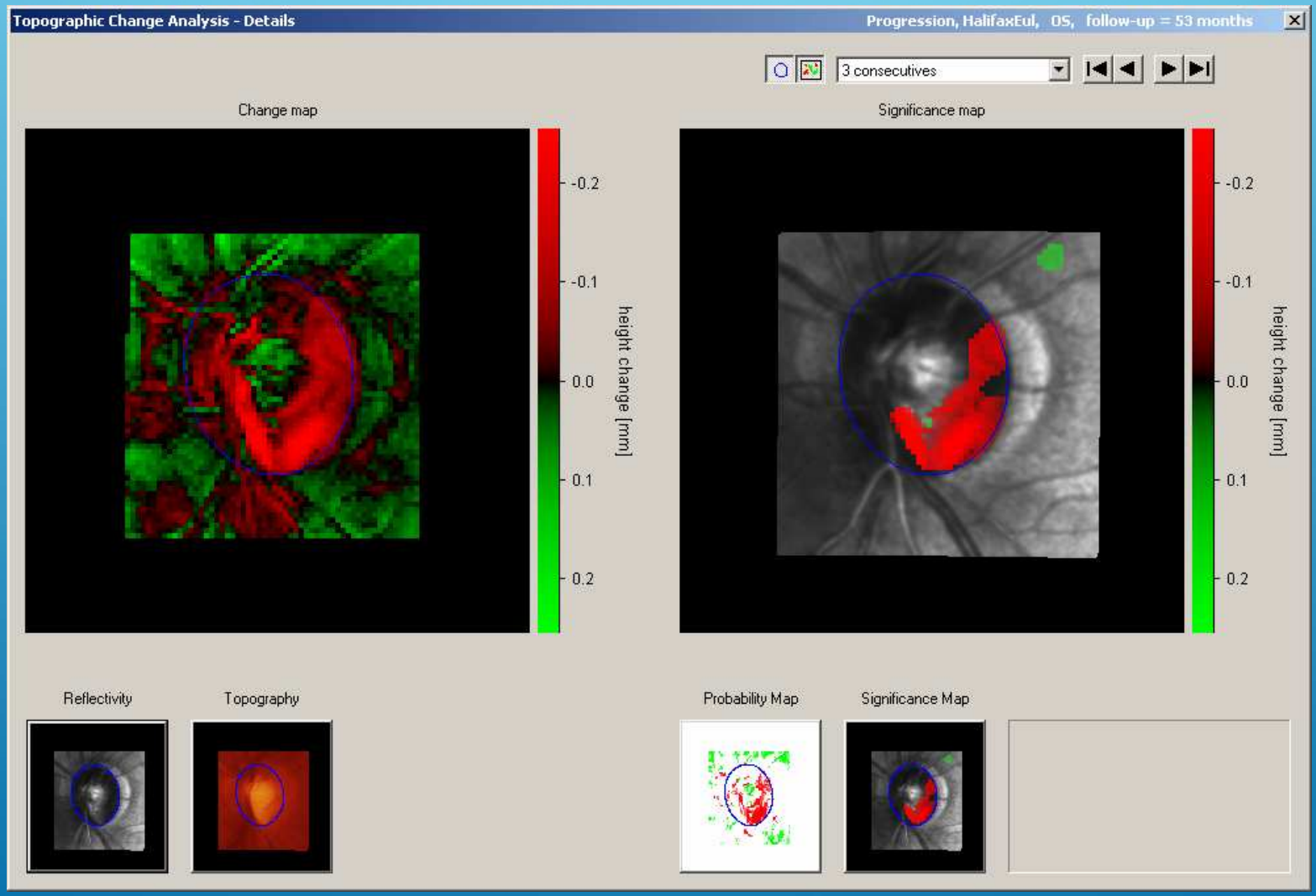
Rim Area	global	temporal	tmp/sup	tmp/inf	nasal	nsl/sup	nsl/inf
actual [mm²]	1.258	0.075	0.057	0.212	0.520	0.158	0.236
predicted [mm²]	1.603	0.264	0.189	0.225	0.477	0.229	0.217
low 95.0% CI lim. [mm²]	1.178	0.125	0.118	0.143	0.359	0.168	0.172
low 99.0% CI lim. [mm²]	1.062	0.099	0.101	0.123	0.328	0.152	0.159
low 99.9% CI lim. [mm²]	0.938	0.074	0.084	0.103	0.294	0.135	0.145
actual/disc area [%]	56.3	13.8	20.7	66.5	91.5	56.5	95.3
predicted [%]	71.8	48.7	68.5	70.5	84.0	82.0	87.8
low 95.0% CI lim. [%]	52.8	23.0	42.8	44.6	63.3	60.2	69.4
low 99.0% CI lim. [%]	47.6	18.2	36.6	38.4	57.8	54.5	64.4
low 99.9% CI lim. [%]	42.0	13.6	30.4	32.3	51.8	48.4	58.7

Moorfields regression classification: **outside normal limits.**

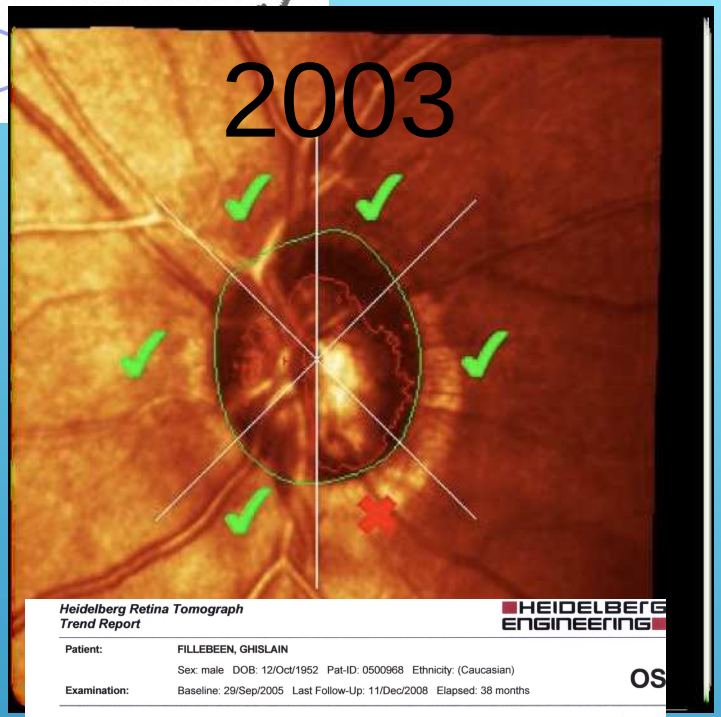
Progression: TCA
Topographic Change Analysis



Progression



2003



Heidelberg Retina Tomograph
Trend Report

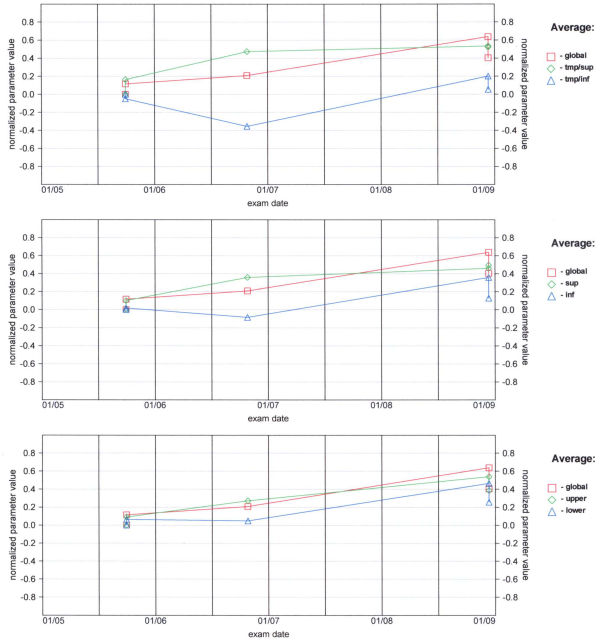
HEIDELBERG ENGINEERING

Patient: FILLEBEEN, GHISLAIN

Sex: male DOB: 12/Oct/1952 Pat-ID: 0500968 Ethnicity: (Caucasian)

Examination: Baseline: 29/Sep/2005 Last Follow-Up: 11/Dec/2008 Elapsed: 38 months

OS



2008

Heidelberg Retina Tomograph
Follow-Up Report

HEIDELBERG ENGINEERING

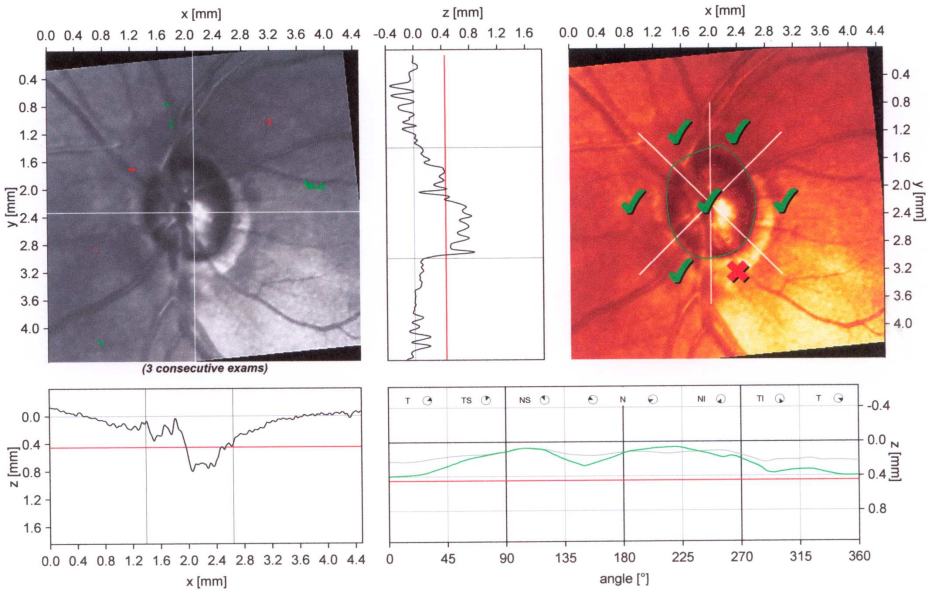
Patient: [redacted]

-ID: 0500968 Ethnicity: (Caucasian)

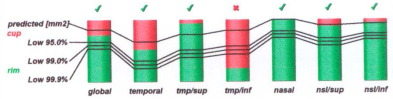
OS

Examination: Baseline: 29/Sep/2005 **Follow-Up: 11/Dec/2008** Time elapsed: 38 months

Scan: Focus: -1.00 dpt Depth: 3.75 mm Operator: JFR IOP: ---



Stereometric Analysis ONH		Change	Normal
Disc Area	1.66	0.00 mm²	1.63 - 2.43
Cup Area	0.41	-0.40 mm²	0.11 - 0.68
Rim Area	**1.25**	**0.40 mm²**	**1.31 - 1.96**
Cup Volume	0.07	-0.13 mm³	-0.01 - 0.18
Rim Volume	**0.32**	**0.19 mm³**	**0.30 - 0.61**
Cup/Disc Area Ratio	0.25	-0.24	0.07 - 0.30
Linear Cup/Disc Ratio	0.50	-0.20	0.27 - 0.55
Mean Cup Depth	0.20	-0.06 mm	0.10 - 0.27
Maximum Cup Depth	0.56	-0.06 mm	0.32 - 0.76
Cup Shape Measure	**-0.16**	**-0.05**	**-0.28 - -0.15**
Height Variation Contour	**0.34**	**0.17 mm**	**0.31 - 0.49**
Mean RNFL Thickness	**0.23**	**0.11 mm**	**0.20 - 0.32**
RNFL Cross Sectional Area	1.05	0.52 mm²	0.99 - 1.66
Reference Height	450	176 µm	
Topography Std Dev.	23 µm		
FSM	0.69		
RB	0.29		



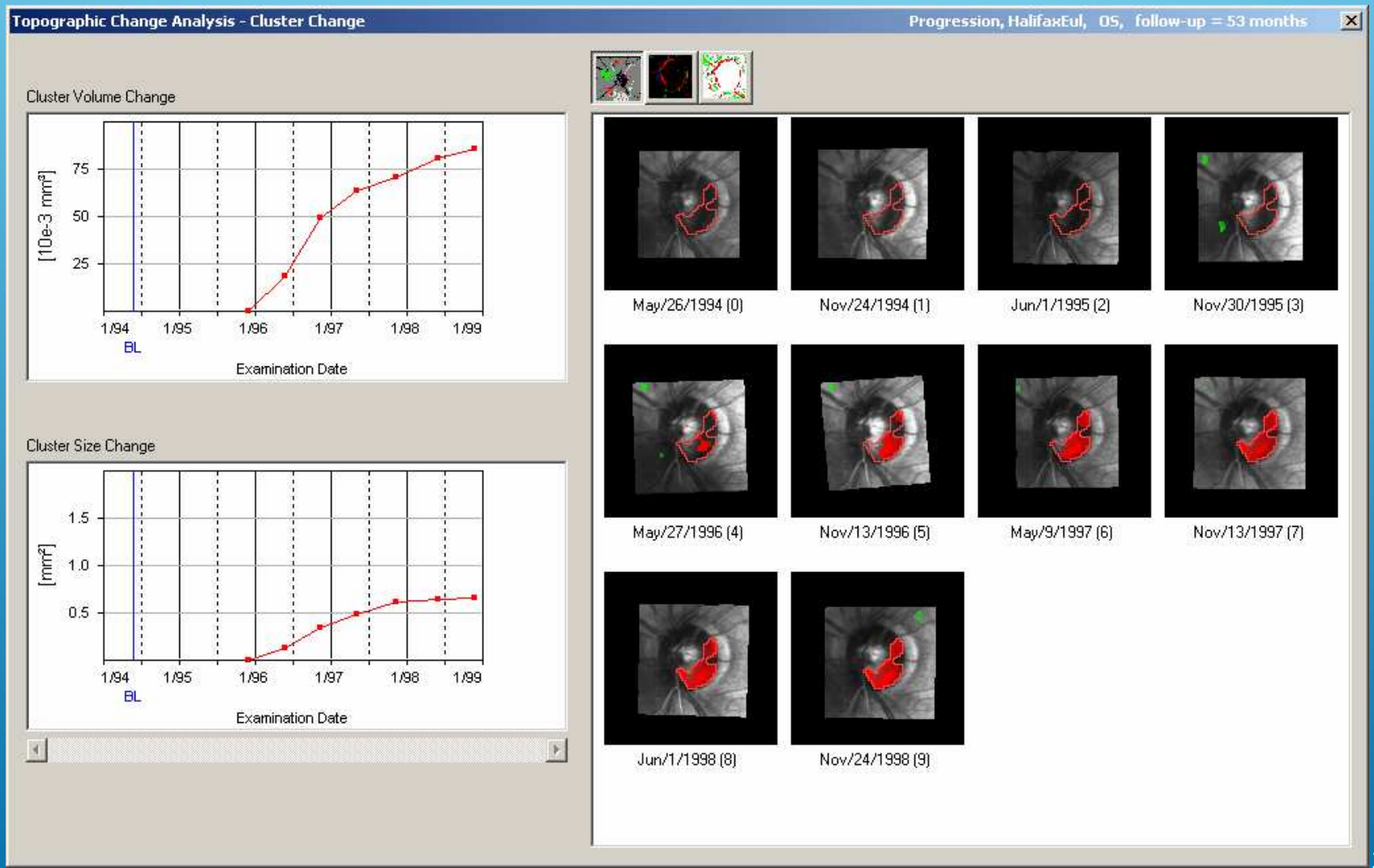
Moorfields Classification: Outside normal limits (*)

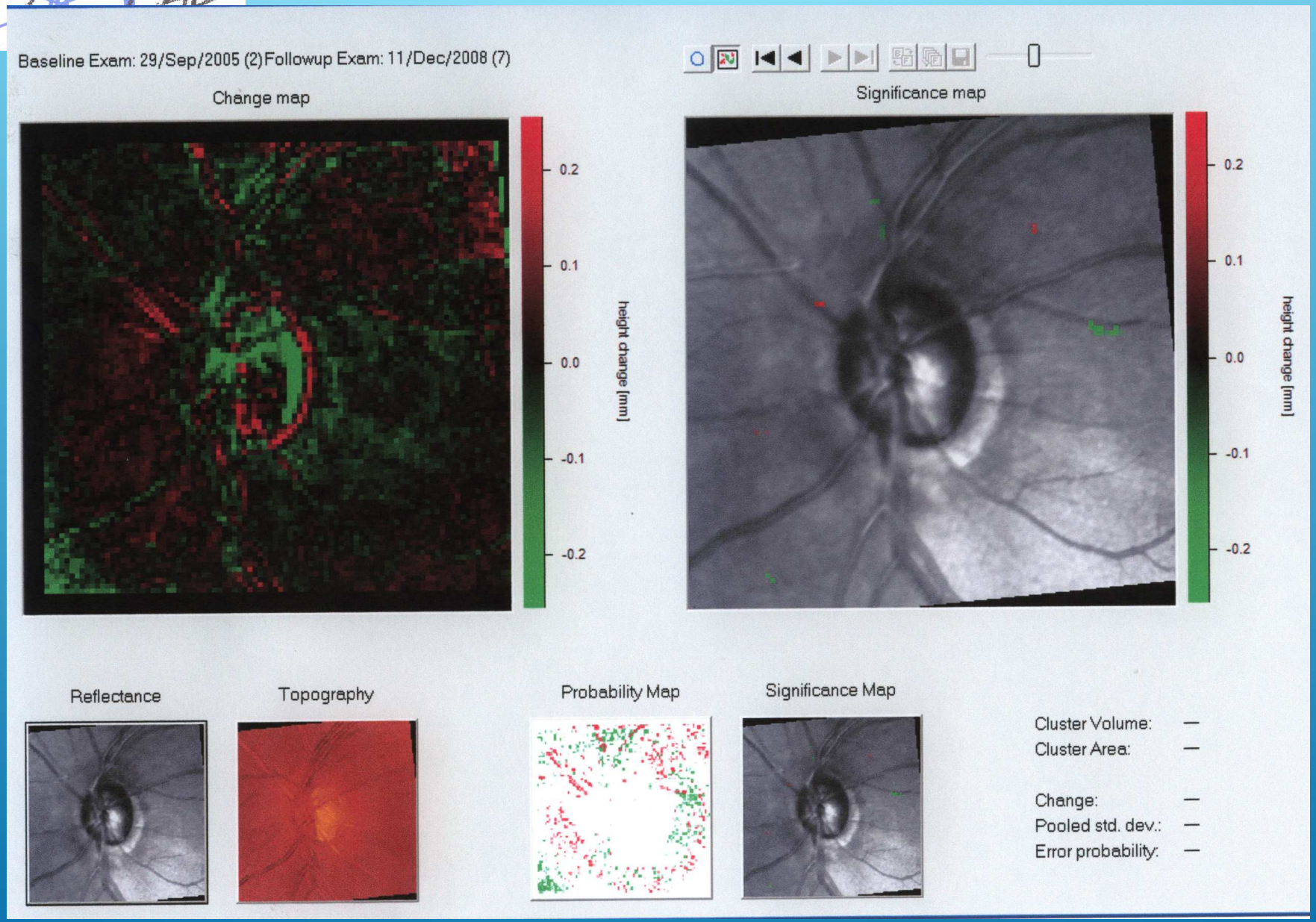
(*) Moorfields regression classification (Ophthalmology 1998;105:1557-1563). Classification based on statistics. Diagnosis is physician's responsibility.

Comments:

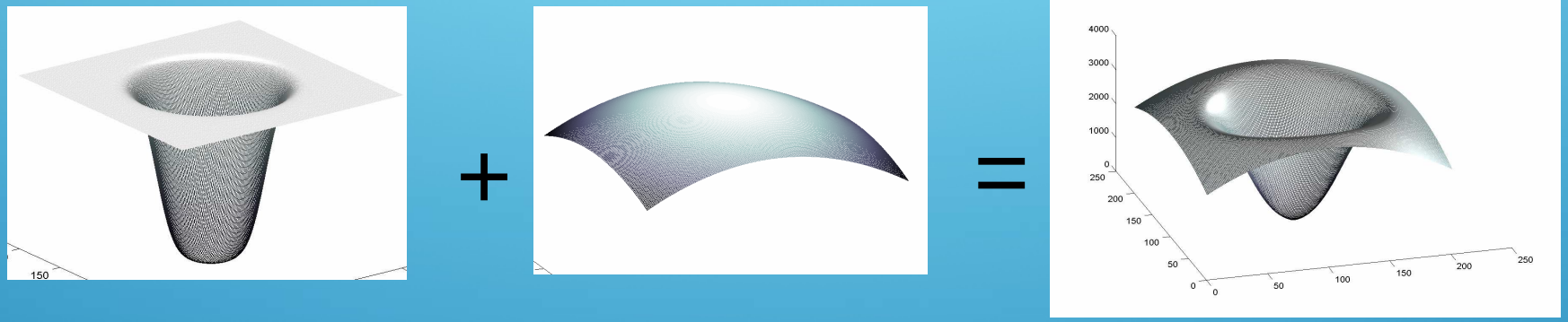
Date: 11/Dec/2008 Signature:

Progression




Baseline Exam: 29/Sep/2005 (2)Followup Exam: 11/Dec/2008 (7)
Change map
0.2
0.1
0.0
-0.1
-0.2
height change [mm]
Significance map
0.2
0.1
0.0
-0.1
-0.2
height change [mm]
Reflectance
Topography
Probability Map
Significance Map
Cluster Volume: —
Cluster Area: —
Change: —
Pooled std. dev.: —
Error probability: —

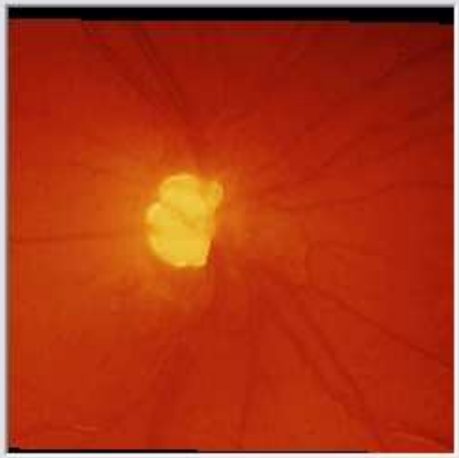
GPS
Glaucoma Probability Score

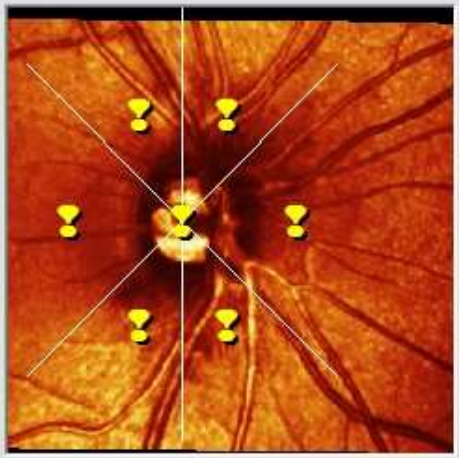


- Informations combinées NO + couches fibres
- Probabilité d'anomalie de la papille
- Comparaison bases données
- Approche plus globale que le MRA

Progression Print Export Data View Options

Contour Line | Stereometric Parameters | Moorfields Classification | GPS Classification | Interactive Measurements





3D QC

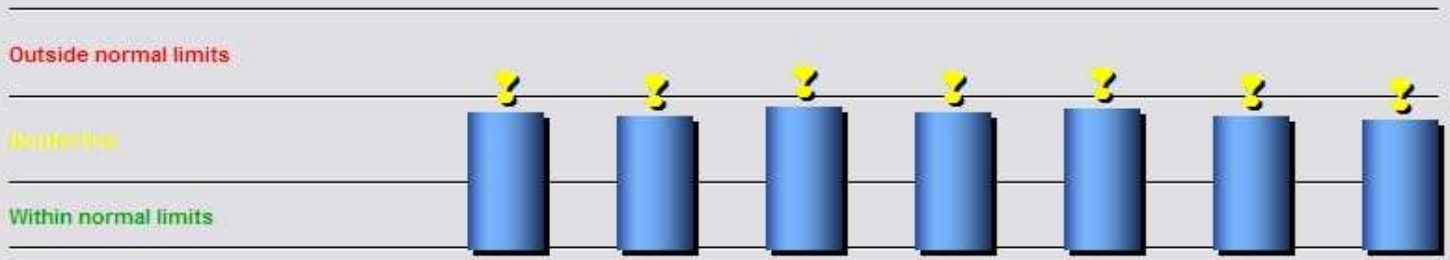
Glaucoma Probability Score Classification:

Borderline

GPS
Indicateur de probabilité

5 paramètres

Parameter	global	temporal	tmp/sup	tmp/inf	nasal	nsl/sup	nsl/inf
Glaucoma probability	0.57	0.56	0.60	0.57	0.59	0.56	0.54
Rim steepness	-0.63	-0.72	-0.72	-0.77	-0.28	-0.60	-0.76
Cup size [mm²]	0.50	0.13	0.08	0.08	0.09	0.08	0.05
Cup depth [mm]	0.90	-	-	-	-	-	-
Horizontal RNFL curvature	-0.06	-	-	-	-	-	-
Vertical RNFL curvature	-0.19	-	-	-	-	-	-



Heidelberg Retina Tomograph
Follow-Up Report

HEIDELBERG ENGINEERING

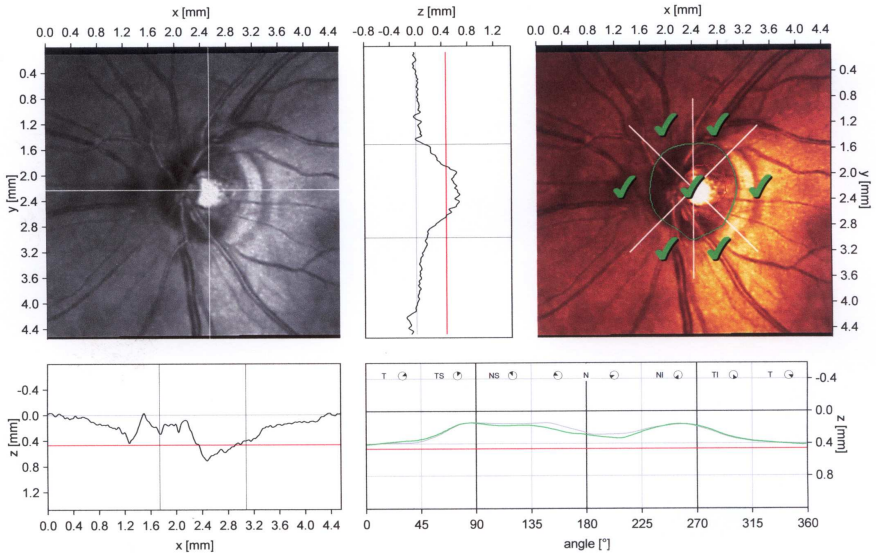
Patient: [redacted]

May/1957 Pat-ID: 0601010 Ethnicity: (Caucasian)

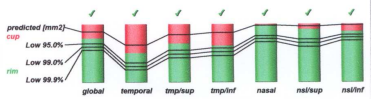
OS

Examination: Baseline: 09/Nov/2006 **Follow-Up: 09/Nov/2006** Time elapsed: 0 months

Scan: Focus: -4.00 dpt Depth: 2.75 mm Operator: JFR IOP: ---



Stereometric Analysis ONH		Change	Normal
Disc Area	1.56	0.00 mm²	1.63 - 2.43
Cup Area	0.38	-0.05 mm²	0.11 - 0.68
Rim Area	**1.18**	**0.04 mm²**	**1.31 - 1.96**
Cup Volume	0.04	0.00 mm³	-0.01 - 0.18
Rim Volume	**0.25**	**0.02 mm³**	**0.30 - 0.61**
Cup/Disc Area Ratio	0.24	-0.03	0.07 - 0.30
Linear Cup/Disc Ratio	0.49	-0.03	0.27 - 0.55
Mean Cup Depth	0.15	0.00 mm	0.10 - 0.27
Maximum Cup Depth	0.41	0.00 mm	0.32 - 0.76
Cup Shape Measure	**-0.16**	**0.00**	**-0.28 - -0.15**
Height Variation Contour	**0.27**	**0.01 mm**	**0.31 - 0.49**
Mean RNFL Thickness	**0.19**	**0.00 mm**	**0.20 - 0.32**
RNFL Cross Sectional Area	0.85	0.01 mm²	0.99 - 1.66
Reference Height	465	10 µm	
Topography Std Dev.	17 µm		
FSM	0.21		
RB	0.76		



Moorfields Classification: Within normal limits (*)

(*) Moorfields regression classification (Ophthalmology 1998;105:1557-1563). Classification based on statistics. Diagnosis is physician's responsibility.

Comments:

Date: 27/Apr/2009 Signature:

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Service d'OPHTALMOLOGIE HURIEZ
Professeur J.F Rouland

Heidelberg Retina Tomograph
GPS Report

HEIDELBERG ENGINEERING

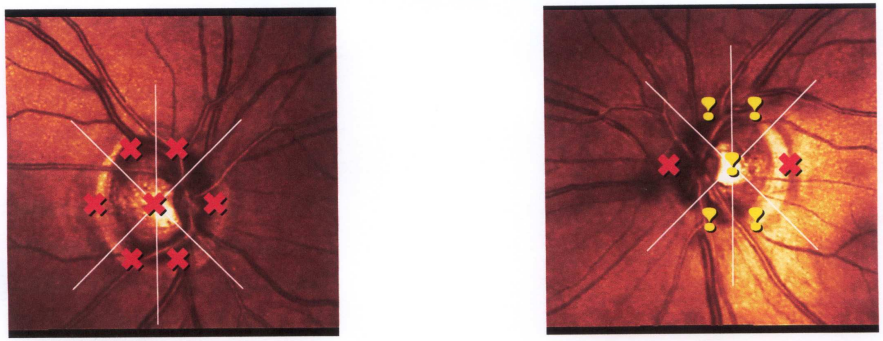
Patie [redacted]
Pat-ID:

DOB: 03/May/1957
Gender: male
Examination: 09/Nov/2006
Ethnicity: (Caucasian)

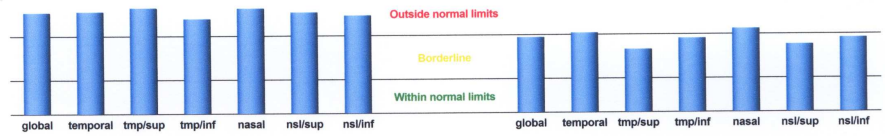
Initial Report

OD	OS
Quality: Good (SD 23 µm)	**Quality:** Very good (SD 19 µm)
Focus: -3.00 dpt	**Focus:** -4.00 dpt
Operator: JFR	**Operator:** JFR

Glaucoma Probability Score (GPS)



global	temporal	tmp/sup	tmp/inf	nasal	nsl/sup	nsl/inf	Parameter	global	temporal	tmp/sup	tmp/inf	nasal	nsl/sup	nsl/inf
0.83	0.84	0.87	0.78	0.86	0.83	0.81	Glaucoma prob.	0.62	0.65	0.52	0.61	0.68	0.56	0.61
0.35	0.18	0.19	0.30	0.33	0.22	0.24	Rim steepness	0.47	0.70	0.22	0.98	0.27	0.30	-0.03
0.59	0.20	0.13	0.09	0.10	0.11	0.07	Cup size [mm²]	0.45	0.21	0.08	0.10	0.05	0.06	0.07
0.39	---	---	---	---	---	---	Cup depth [mm]	0.42	---	---	---	---	---	---
-0.07	---	---	---	---	---	---	H. RNFL curv.	-0.04	---	---	---	---	---	---
-0.09	---	---	---	---	---	---	V. RNFL curv.	-0.09	---	---	---	---	---	---



Glaucoma Probability Score Classification:
Outside normal limits

- Within normal limits
- Borderline
- Outside normal limits

Glaucoma Probability Score Classification:
Outside normal limits

Comments:

Signature:
Date: 27/04/2009

Software Version: 3.1.2/4756
www.HeidelbergEngineering.com

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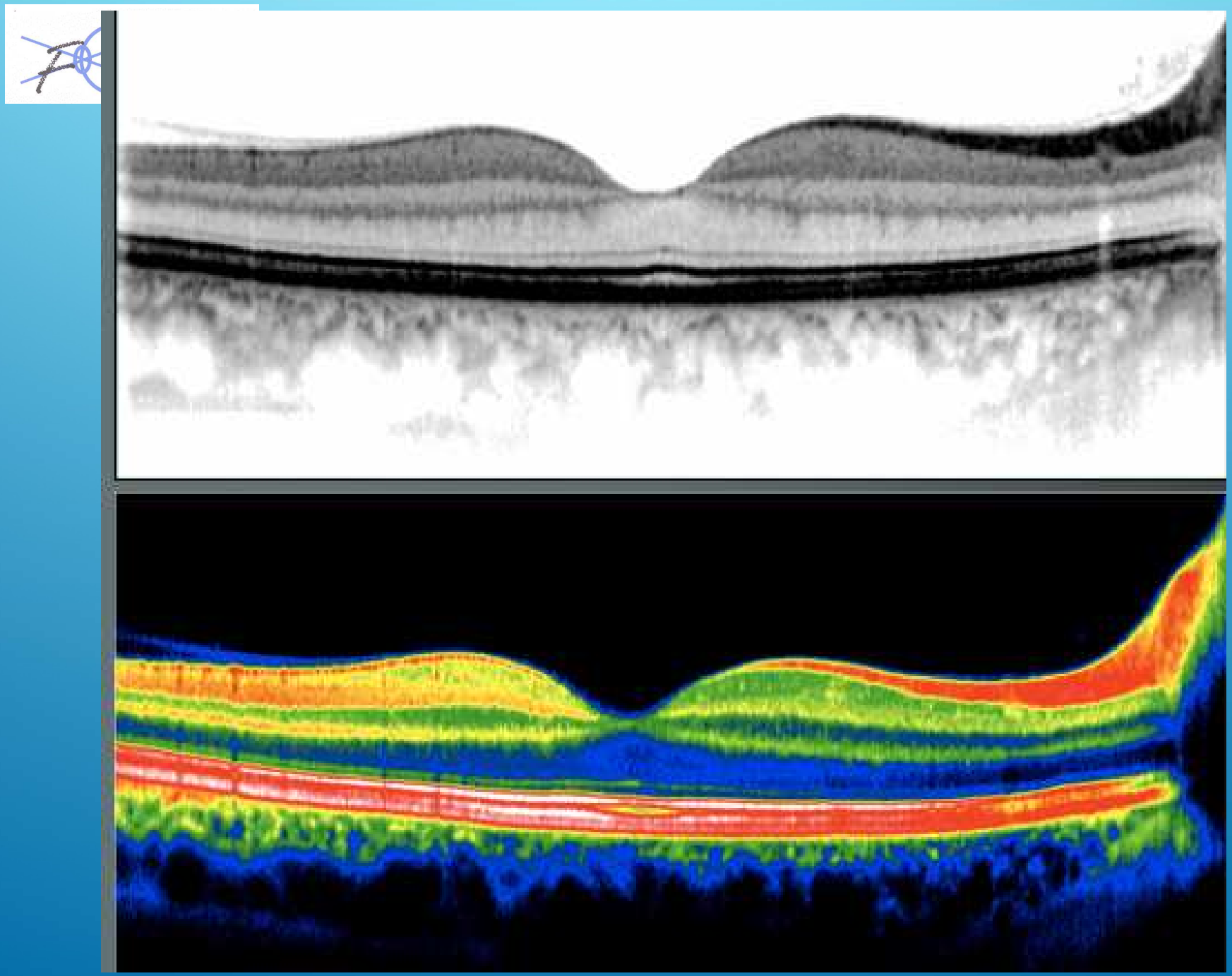
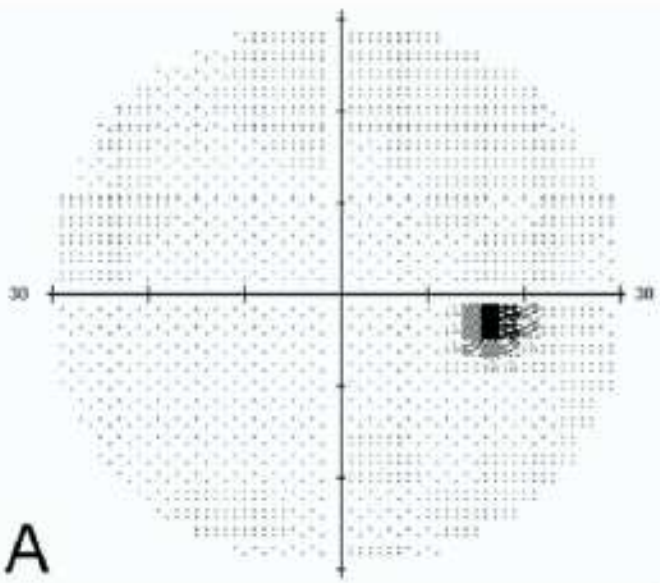
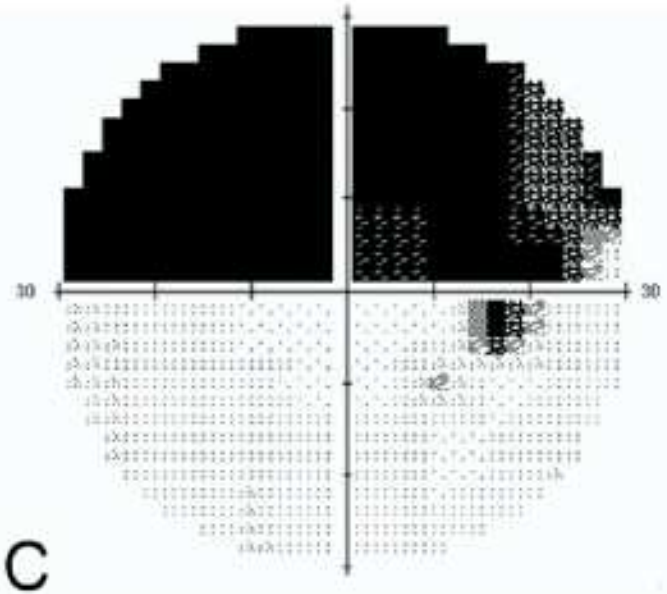
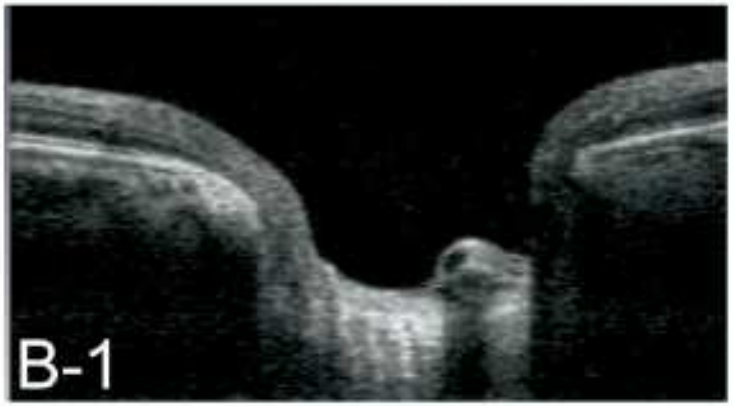
Service d'OPHTALMOLOGIE HURIEZ
Professeur J.F Rouland

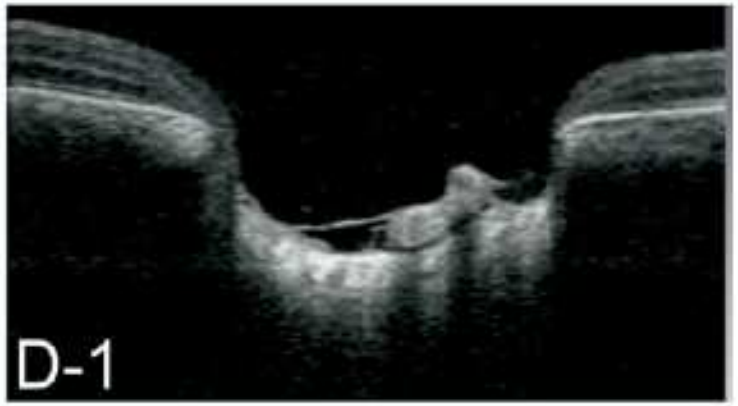
TOMOGRAPHIE PAR COHERENCE OPTIQUE



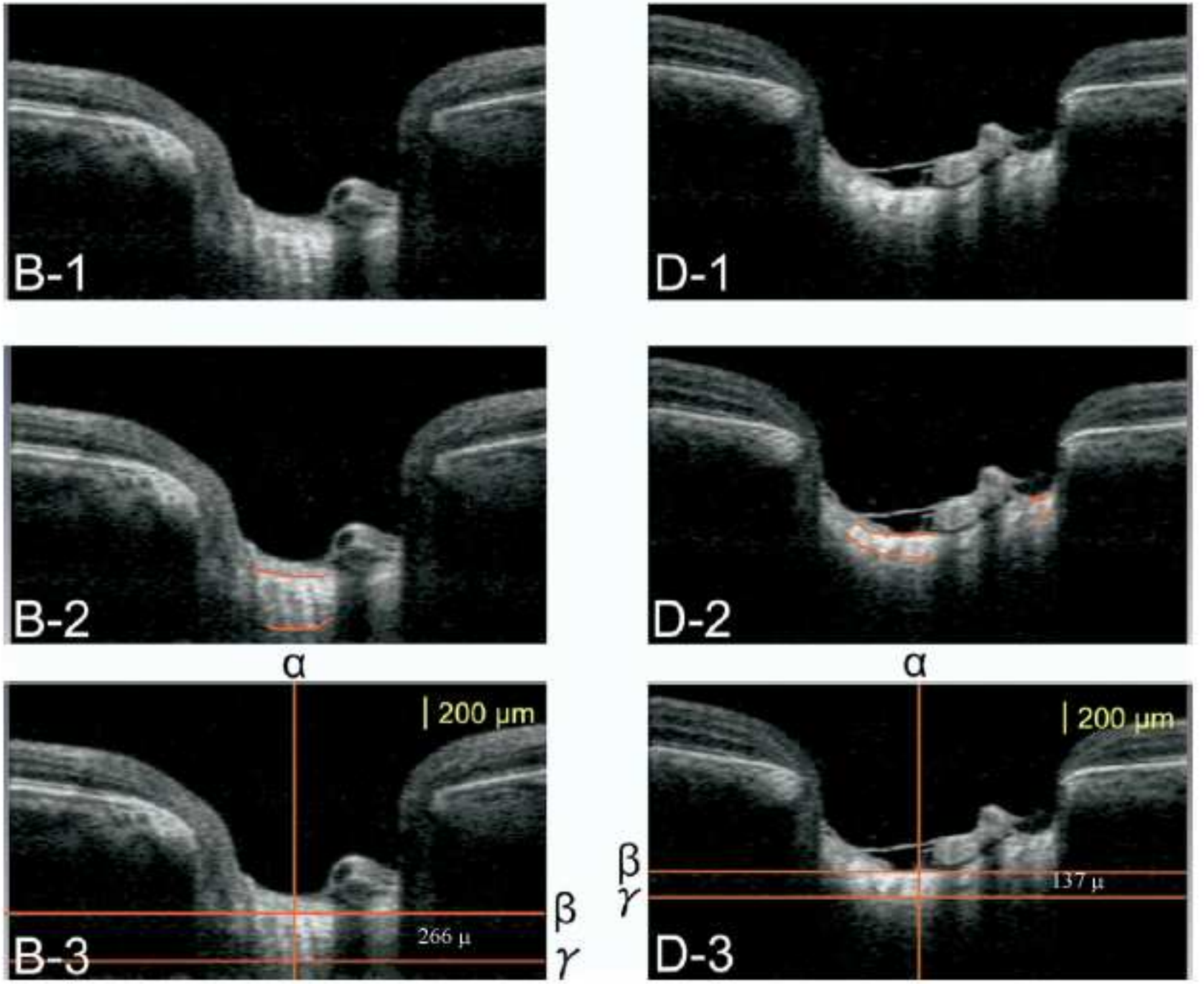




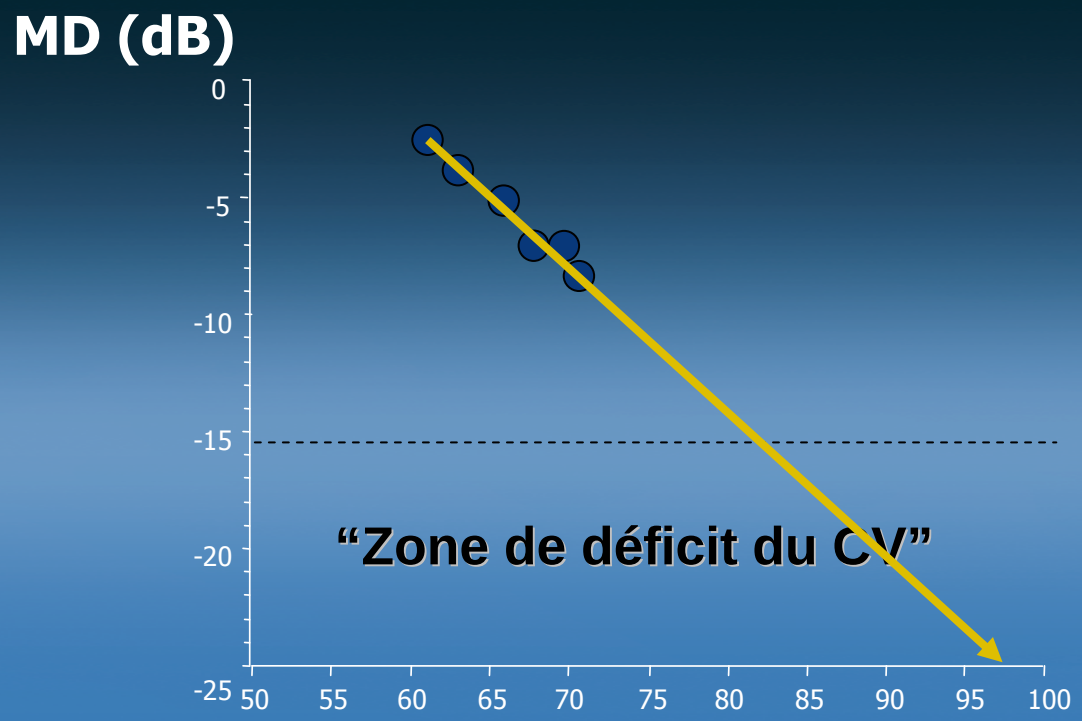




Ophthalmlogy 2009 116;2:214-222


B-1
D-1
B-2
D-2
α
α
200 μm
200 μm
B-3
266 μ
β
γ
β
γ
137 μ
D-3

Mise en évidence d'une progression



Test de seuil central 24-2

Contrôle de fixation: Suivi regard/T.A.
Cible de fixation: Central
Pertes de fixation: 4/
Erreurs faux pos.: 14
Erreurs faux nég.: 6
Durée du test: 03:04
Fovea: 33 dB

Stimulus: III, Blanc
Fond: 31.5 ASB

Diamètre de la pupille:
Acuité visuelle:
Date: 15-10-2004
Heure: 08:47
Age: 47

Déviation
Totale

Test de seuil central 24-2

Contrôle de fixation: Suivi regard/T.A.
Cible de fixation: Central
Pertes de fixation: 1/17
Erreurs faux pos.: 1/10
Erreurs faux nég.: 0/10
Durée du test: 08:46
Fovea: 30 dB

Stimulus: III, Bla
Fond: 31.5 ASB
Stratégie: FAST

Déviation
Totale

Déviati
Individ

:: < 5%
< 2%
< 1%
< 0.5%

Test de seuil central 24-2

Contrôle de fixation: Suivi regard/T.A.
Cible de fixation: Central
Pertes de fixation: 1/14
Erreurs faux pos.: 1/7
Erreurs faux nég.: 0/7
Durée du test: 06:19
Fovea: 28 dB

Stimulus: III, Blanc
Fond: 31.5 ASB
Stratégie: FASTPAC

Diamètre de la pupille:
Acuité visuelle:
RX: +3.50 DS DC X

Date: 05-05-2006
Heure: 09:51
Age: 49

Déviation
Totale

Déviation
Individuelle

MD -4.16 dB P < 2%
PSD 2.67 dB P < 10%
SF 3.08 dB P < 10%
CPSD 0.00 dB

:: < 5%
< 2%
< 1%
< 0.5%

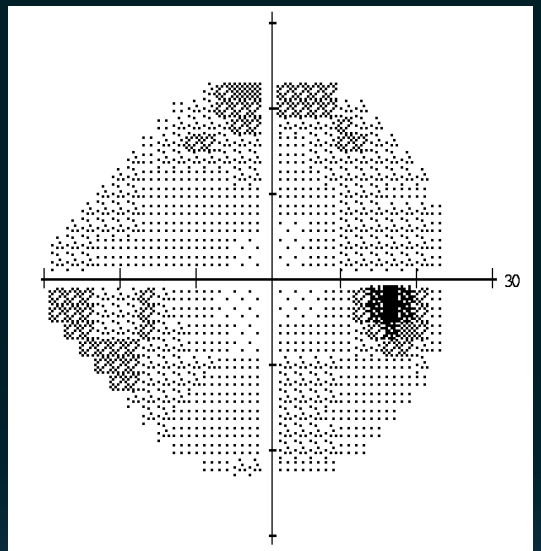
La progression

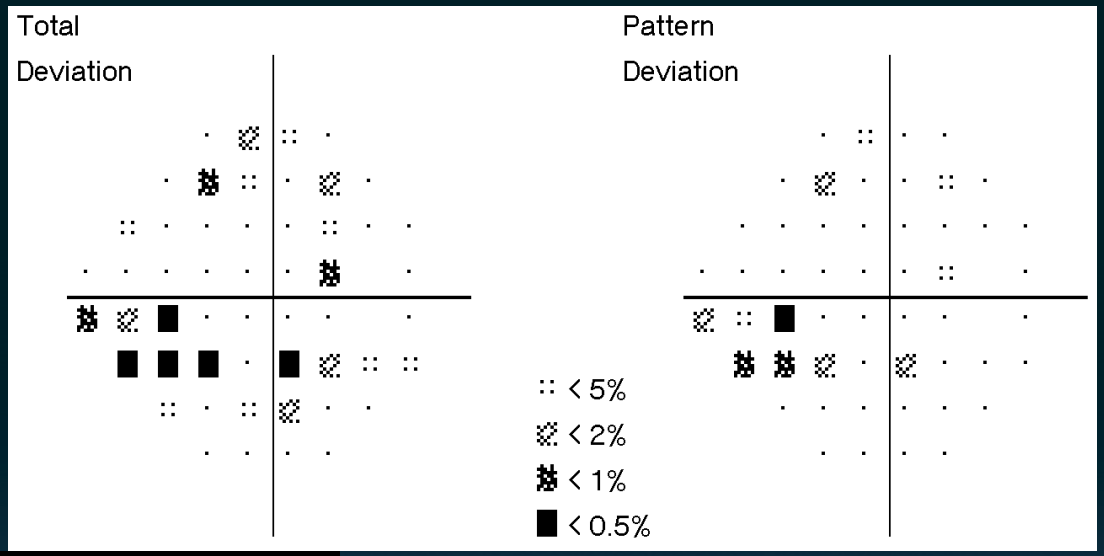
(b) Total MD change (dB)	Annual examinations		
	2 years	3 years	5 years
−1.0	7	6	4
−2.0	5	4	3
−4.0	3	3	2

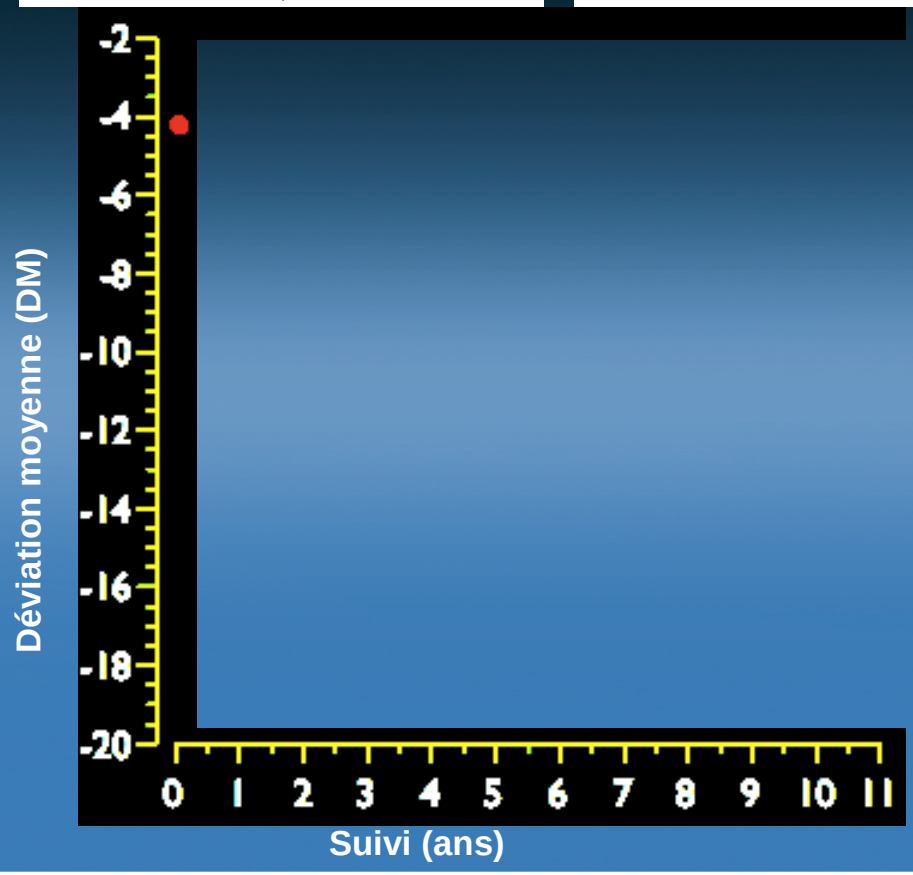
Practical recommendations for measuring rates of visual field change in glaucoma

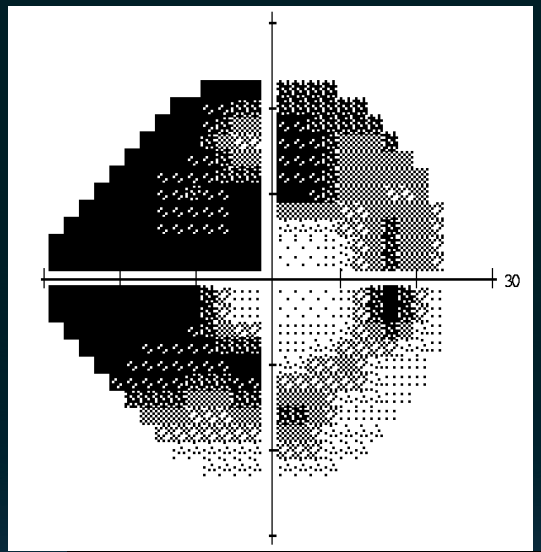
B C Chauhan, D F Garway-Heath, F J Goñi, L Rossetti, B Bengtsson, A C Viswanathan and A Heijl

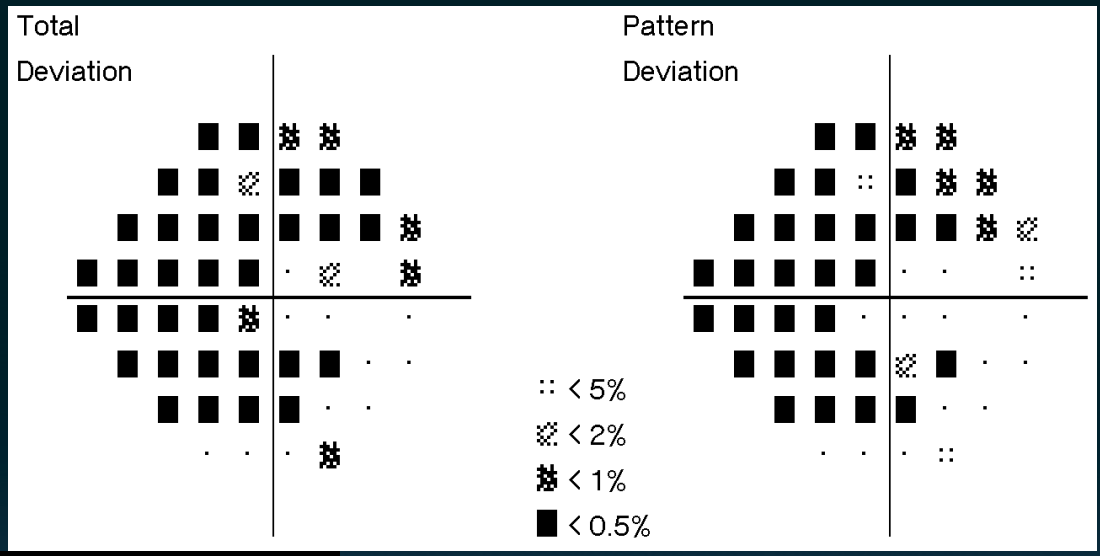
Br. J. Ophthalmol. 2008;92;569-573; originally published online 22 Jan 2008;

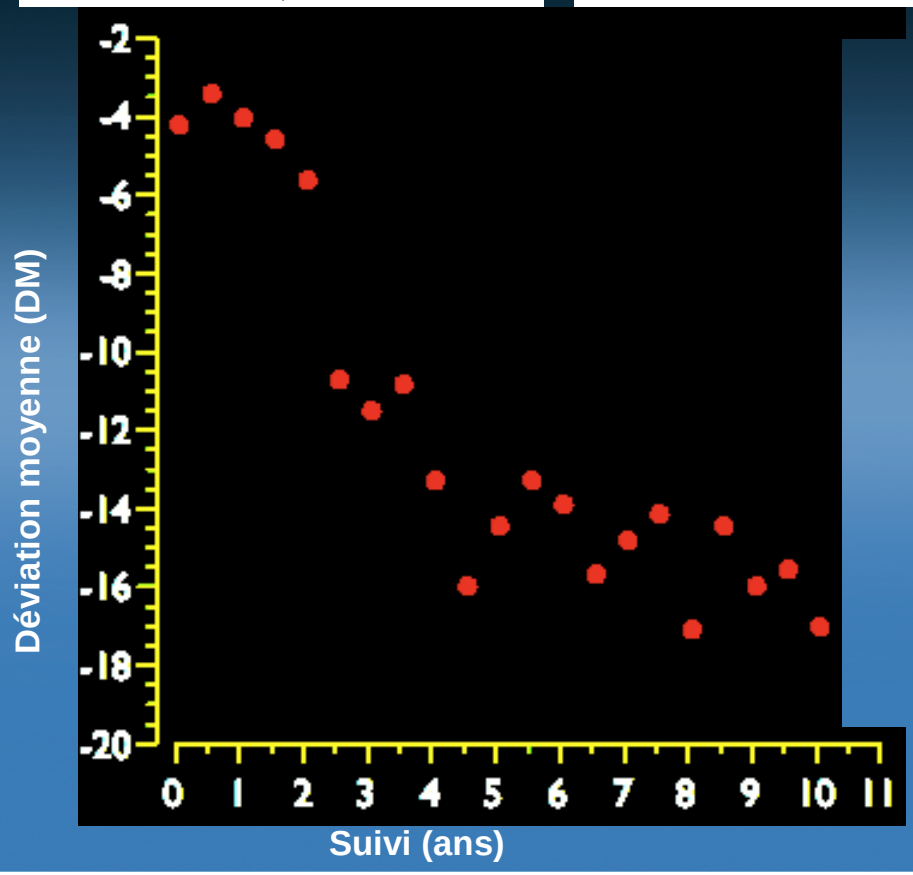

30

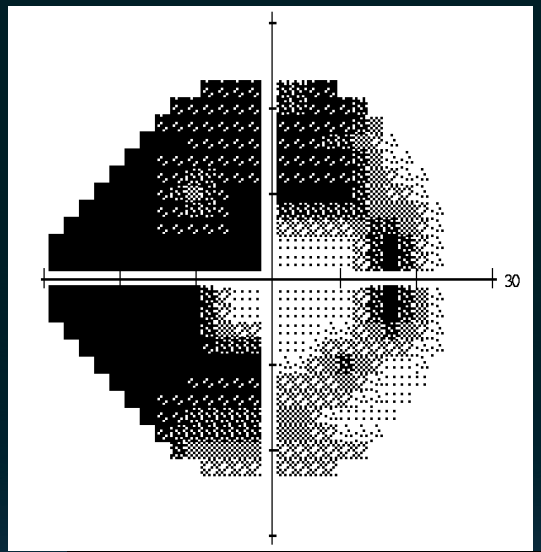

Total
Deviation
Pattern
Deviation
:: < 5%
< 2%
< 1%
< 0.5%


-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
0 1 2 3 4 5 6 7 8 9 10 11
Déviation moyenne (DM)
Suivi (ans)


30


Total
Deviation
Pattern
Deviation
:: < 5%
< 2%
< 1%
< 0.5%


-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
0 1 2 3 4 5 6 7 8 9 10 11
Déviation moyenne (DM)
Suivi (ans)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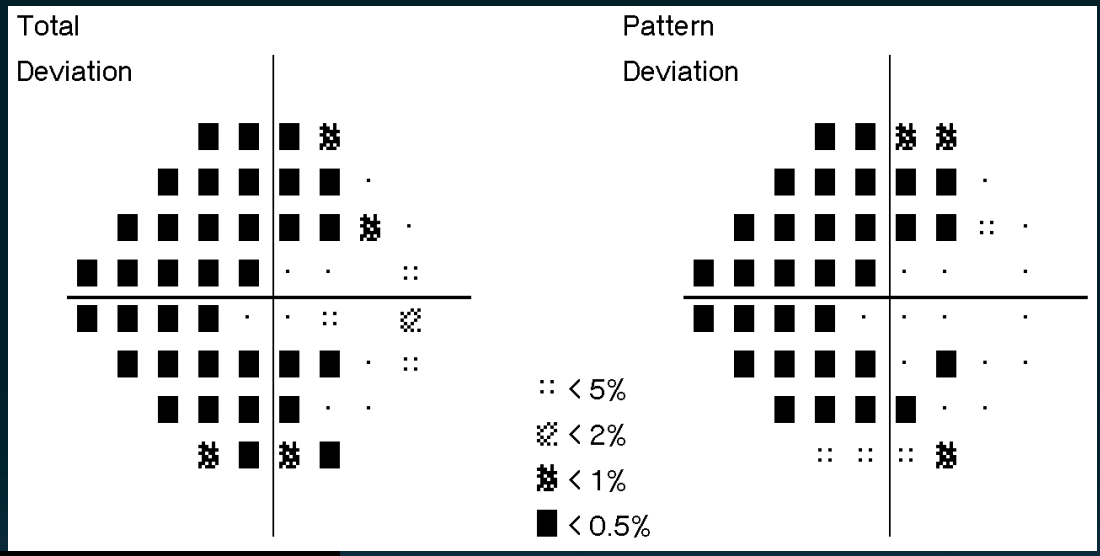
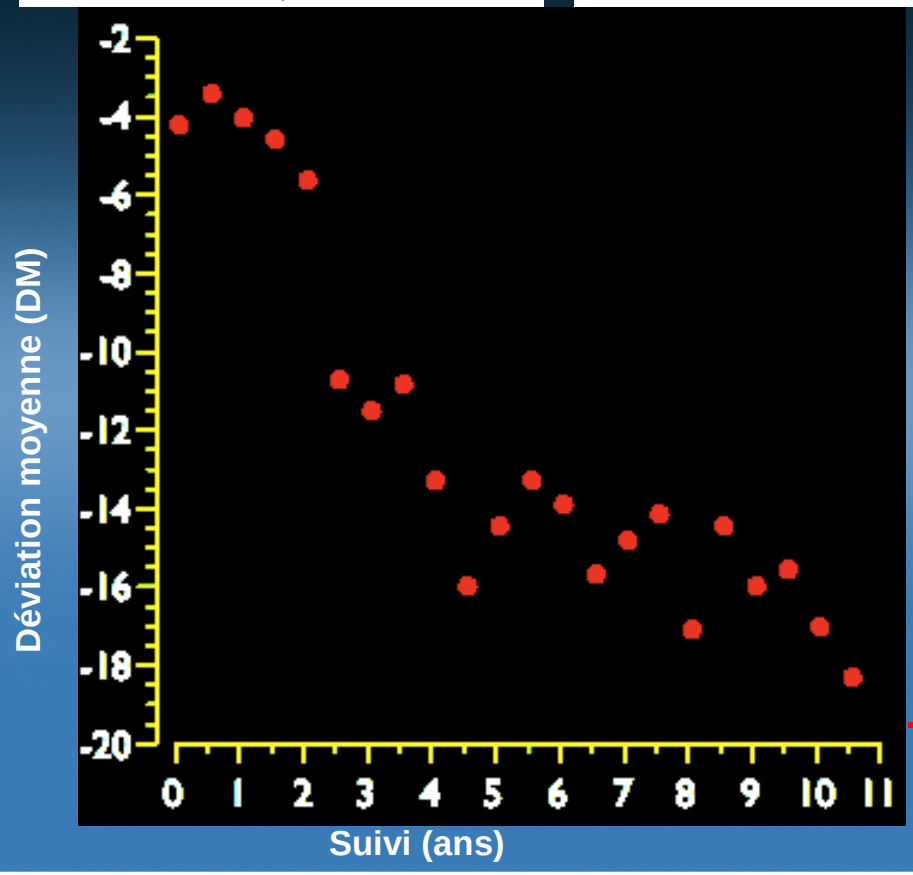
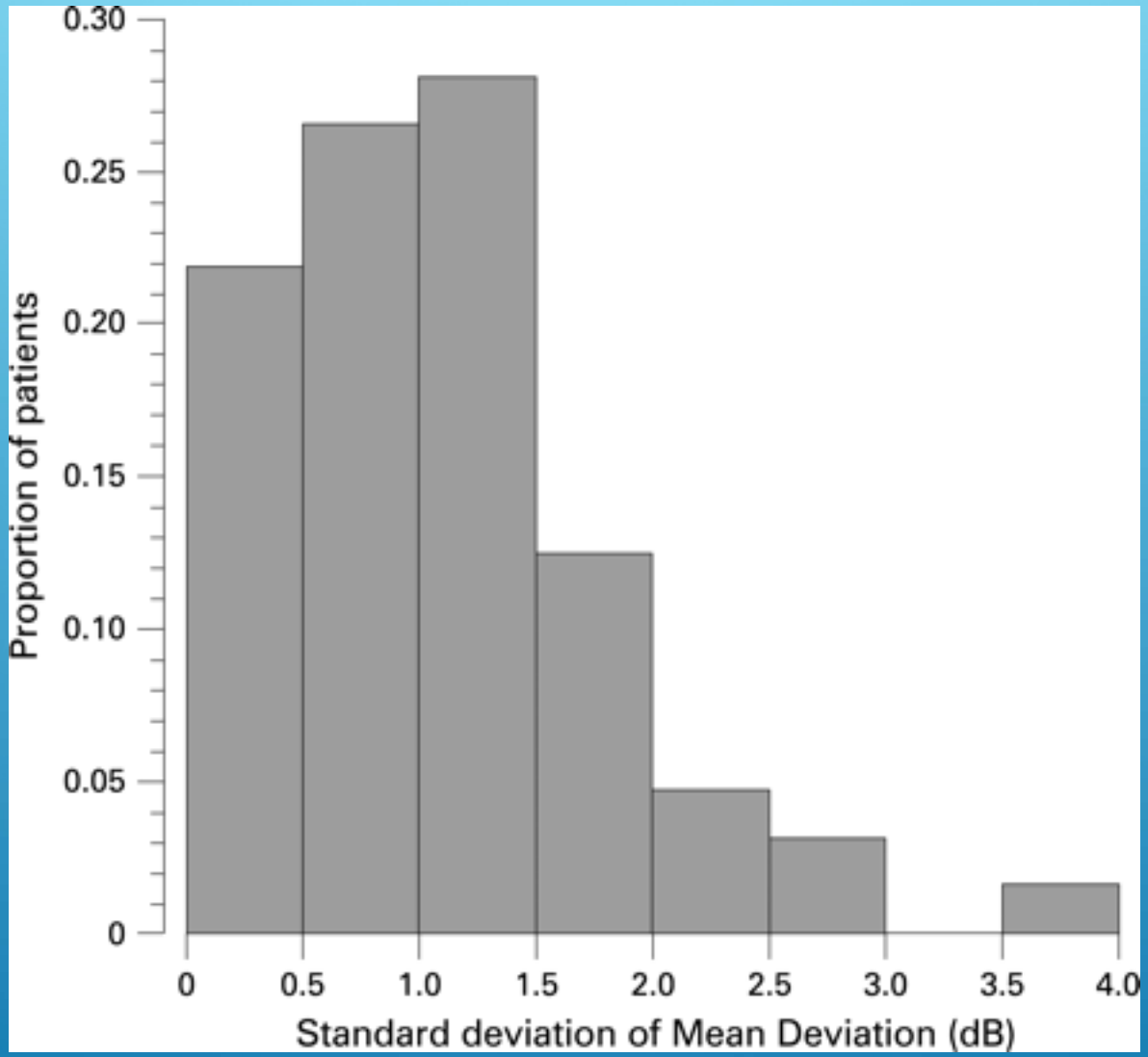
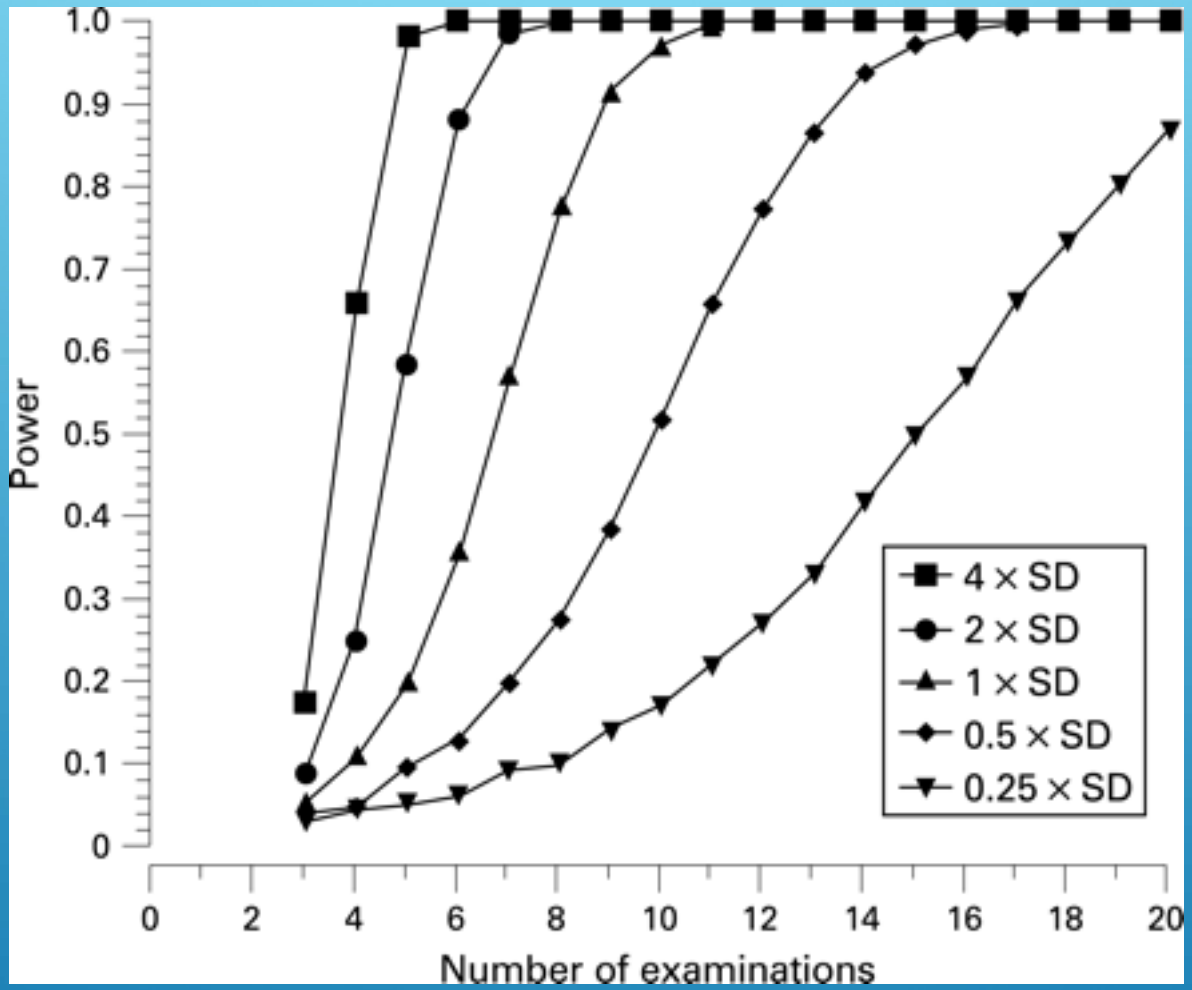

Total
Deviation
Pattern
Deviation
:: < 5%
< 2%
< 1%
< 0.5%


-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
0 1 2 3 4 5 6 7 8 9 10 11
Déviation moyenne (DM)
Suivi (ans)

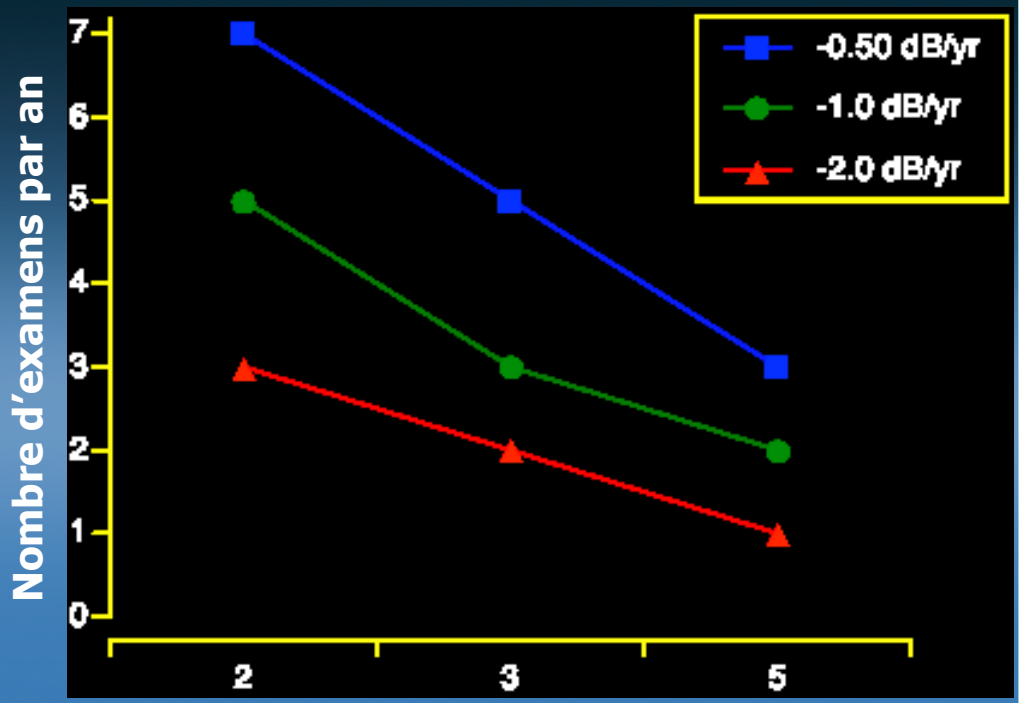
-1.31 dB/an


0.30
0.25
0.20
0.15
0.10
0.05
0
Proportion of patients
0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Standard deviation of Mean Deviation (dB)


Power
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
2
4
6
8
10
12
14
16
18
20
Number of examinations
4 × SD
2 × SD
1 × SD
0.5 × SD
0.25 × SD

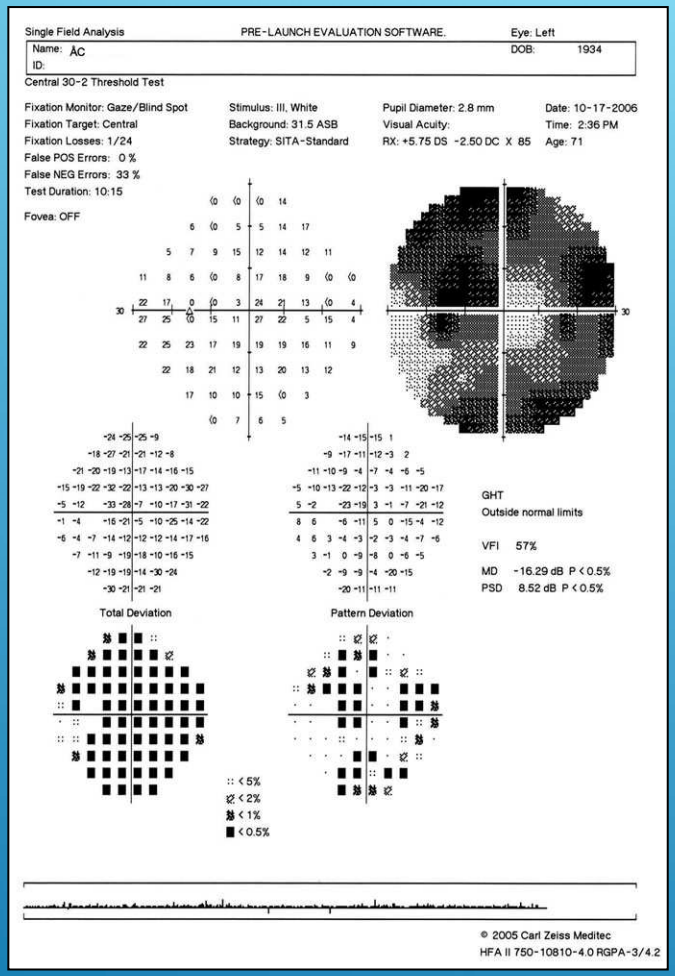
Taux de progression et nombre d'examens

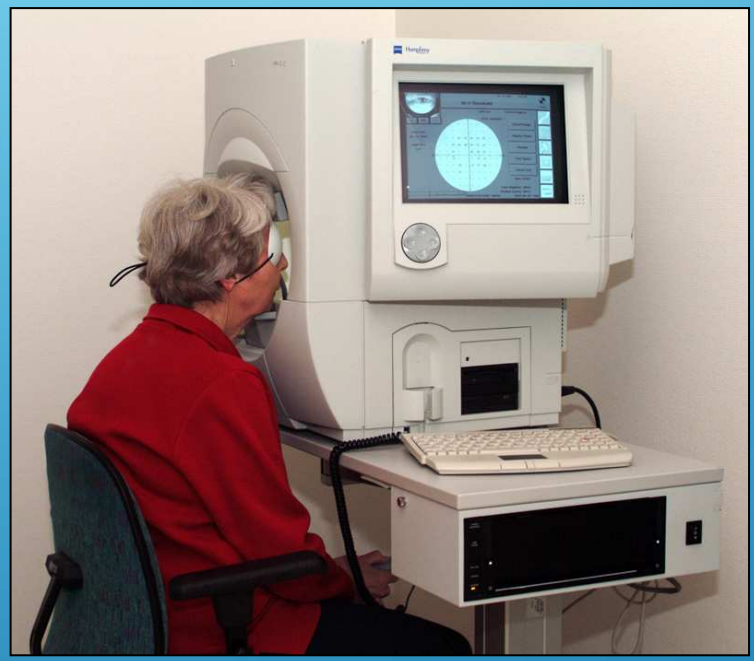
	Nombre d'examens/an		
Taux de progression	2 ans	3 ans	5 ans
-0,50 dB/an	**7**	**5**	**3**
-1,0 dB/an	**5**	**3**	**2**
-2,0 dB/an	**3**	**2**	**1**



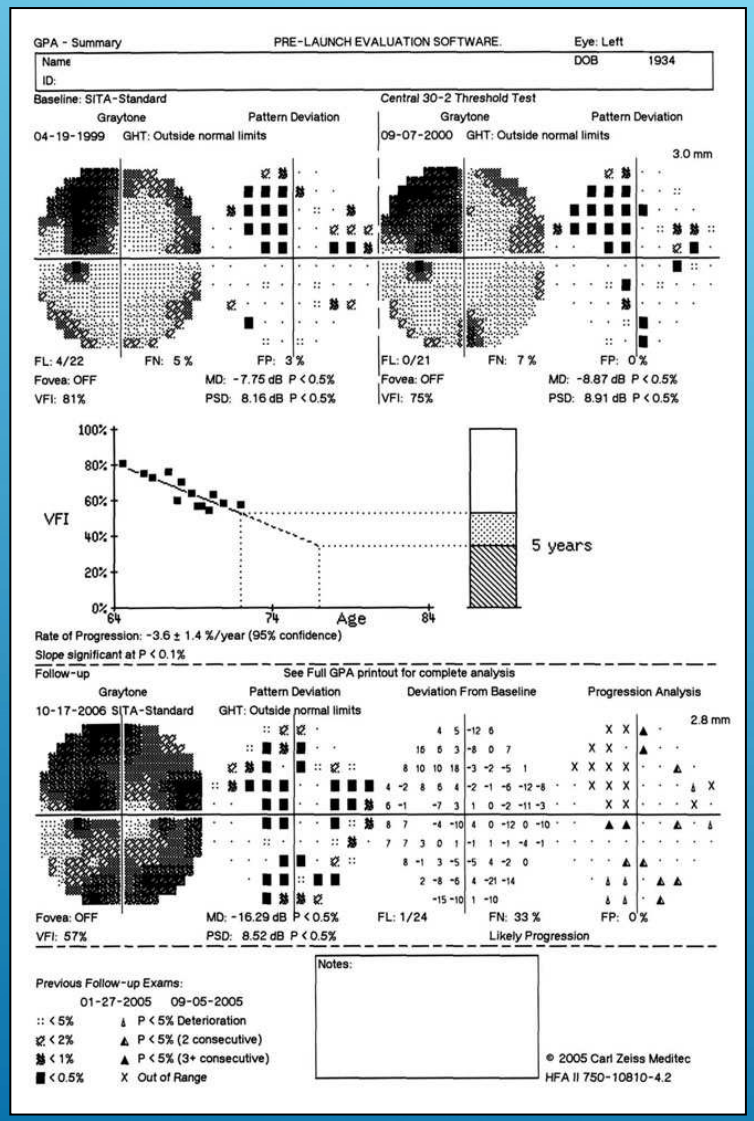
* variabilité modérée

30


Single Field Analysis
PRE-LAUNCH EVALUATION SOFTWARE.
Eye: Left
Name: AC
DOB: 1934
ID:
Central 30-2 Threshold Test
Fixation Monitor: Gaze/Blind Spot
Fixation Target: Central
Fixation Losses: 1/24
False POS Errors: 0 %
False NEG Errors: 33 %
Test Duration: 10:15
Fovea: OFF
Stimulus: III, White
Background: 31.5 ASB
Strategy: SITA-Standard
Pupil Diameter: 2.8 mm
Visual Acuity:
RX: +5.75 DS -2.50 DC X 85
Date: 10-17-2006
Time: 2:36 PM
Age: 71
GHT
Outside normal limits
VFI 57%
MD -16.29 dB P < 0.5%
PSD 8.52 dB P < 0.5%
Total Deviation
Pattern Deviation
:: < 5%
< 2%
< 1%
< 0.5%
© 2005 Carl Zeiss Meditec
HFA II 750-10810-4.0 RGPA-3/4.2



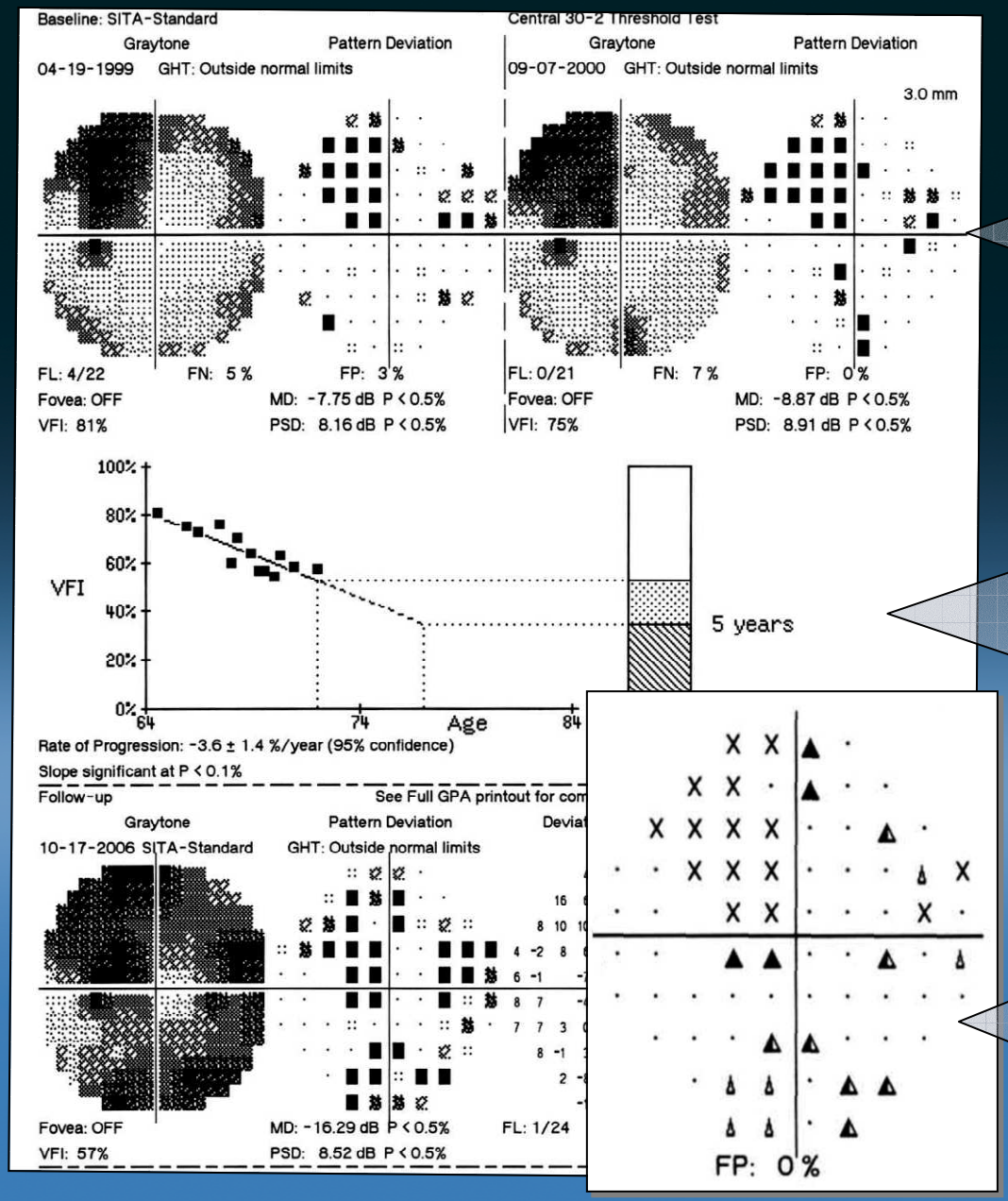
31



- Pour le suivi, cette page est remplacée par un nouvel imprimé récapitulatif, lequel fournit les résultats du CV pratiqué avec
  - une carte de probabilité de progression
  - le taux de progression
  - les champs de base

32

Imprimé récapitulatif



Champs de base

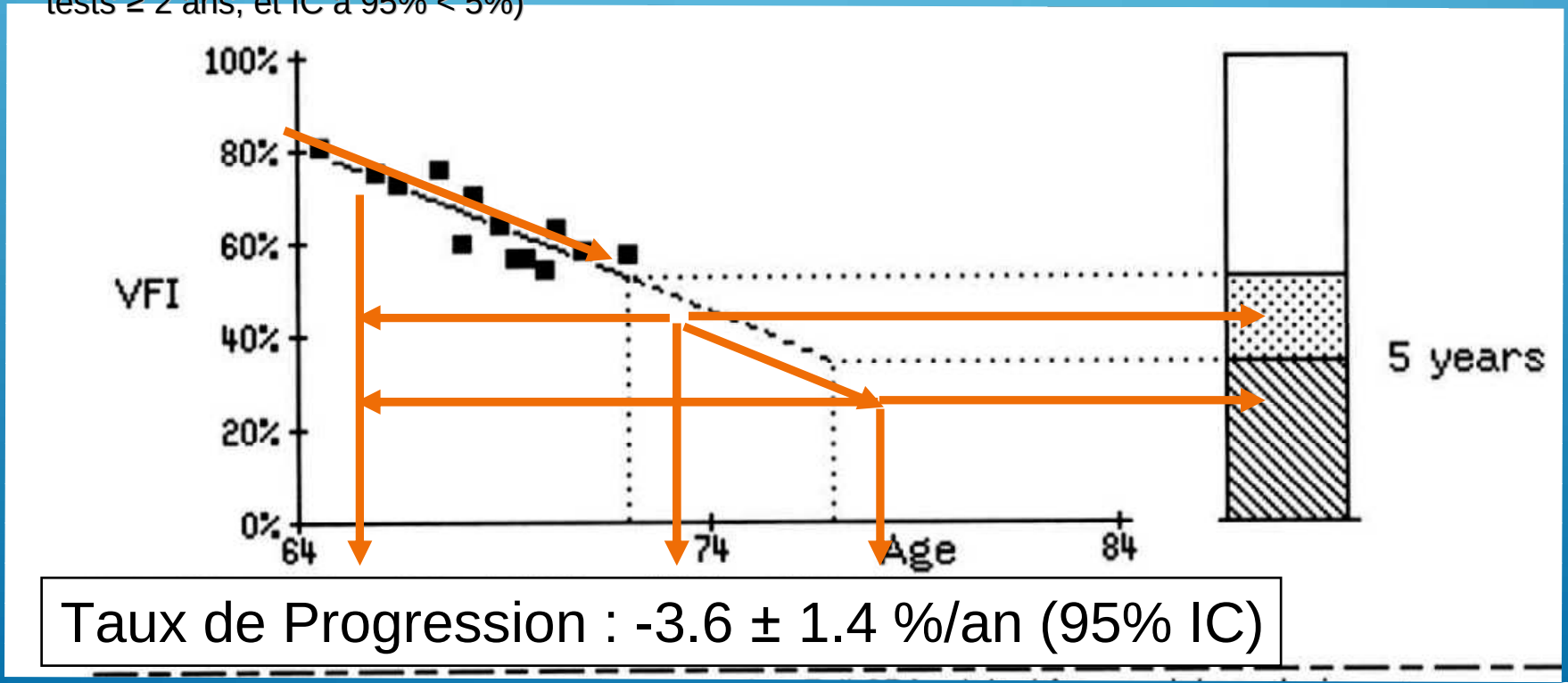
Analyse du taux de progression

Champ visuel le plus récent, comprenant les cartes de probabilité de progression

33

Analyse du taux de progression

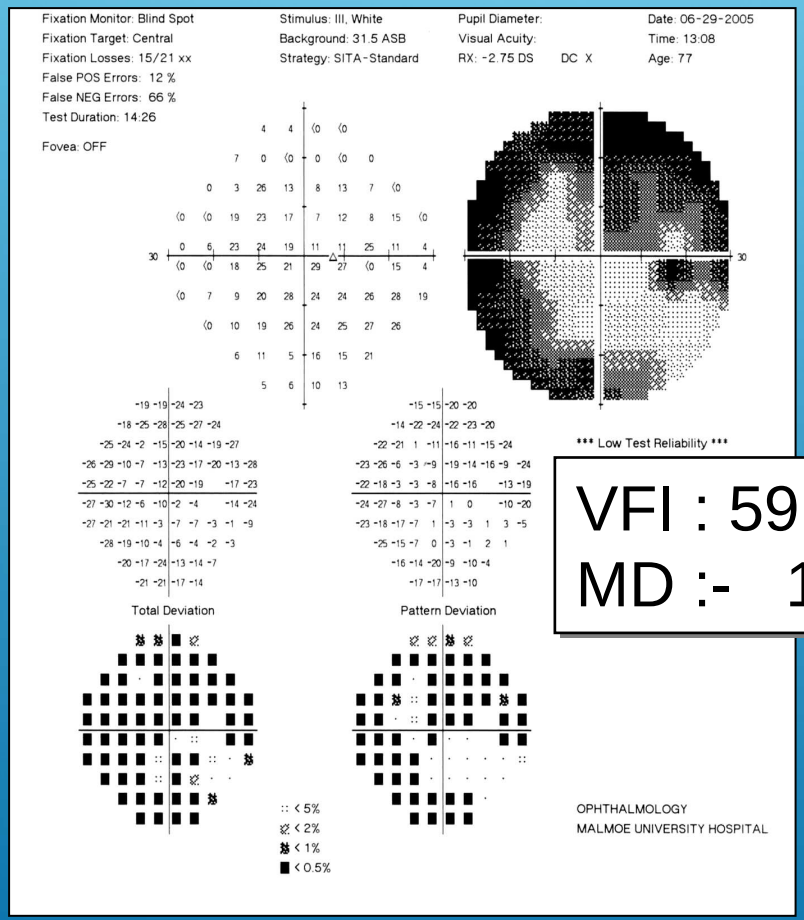
- Fournit
  - Estimations sur vitesse de progression
  - Âge du patient aux différents temps des examens
  - Informations sur la quantité de fonction visuelle au dernier examen
  - Extrapolation à partir des derniers résultats (si données suffisantes et fiables (≥ 5 tests ≥ 2 ans, et IC à 95% < 5%)



Taux de Progression : -3.6 ± 1.4 %/an (95% IC)

Nouvel indice du champ visuel : (VFI)

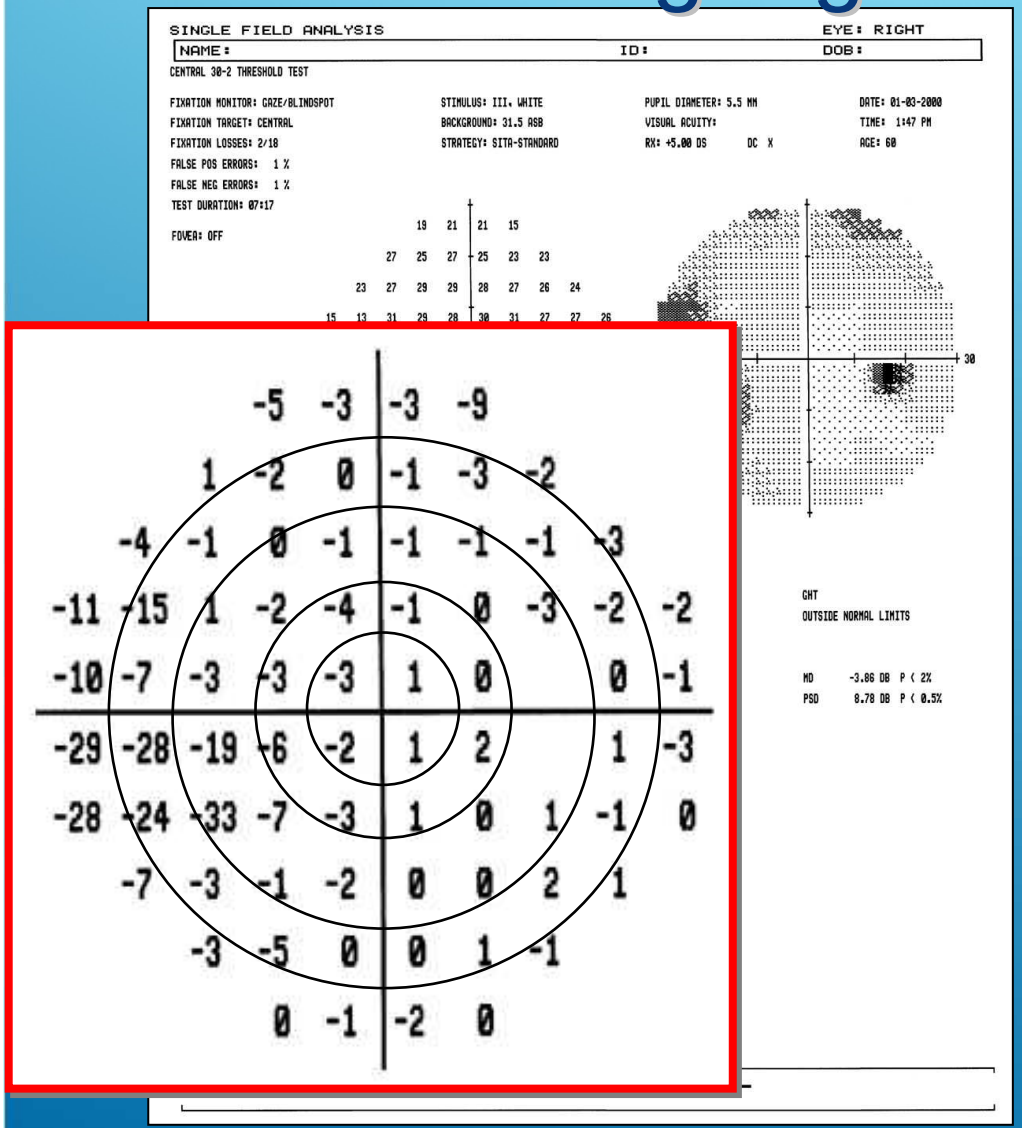
- Complète le MD (dB) par une estimation en % d'un champ complet



VFI : 59 %
MD :- 13,97 dB (MD ≈ 56 %)

35

VFI et densité des cellules ganglionnaires

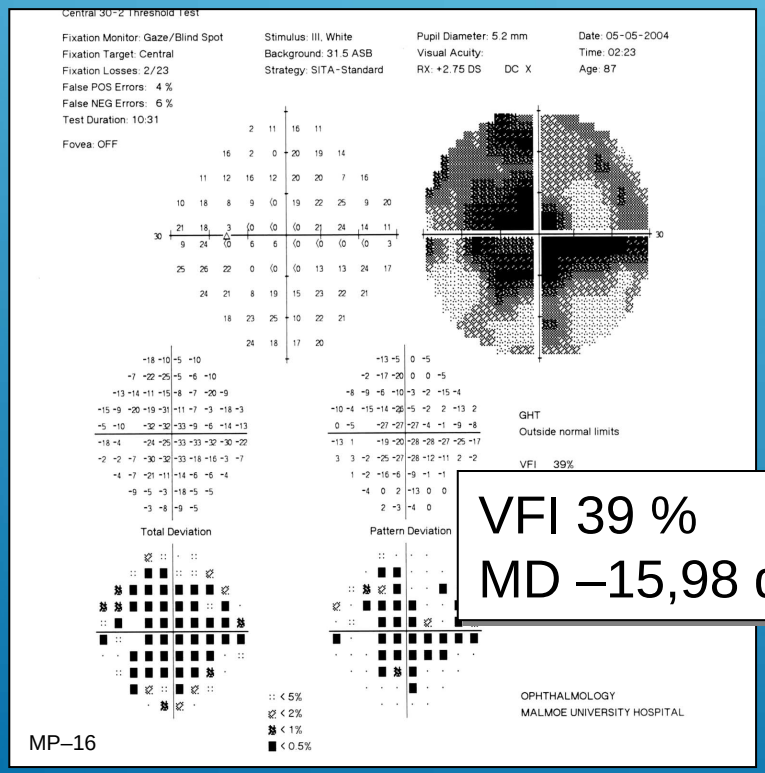


- Une procédure de pondération est appliquée en faisant correspondre la répartition des points testés avec la densité des cellules ganglionnaires
- Cette répartition des points testés est divisée en 5 zones
- Les zones centrales sont davantage pondérées que les zones périphériques

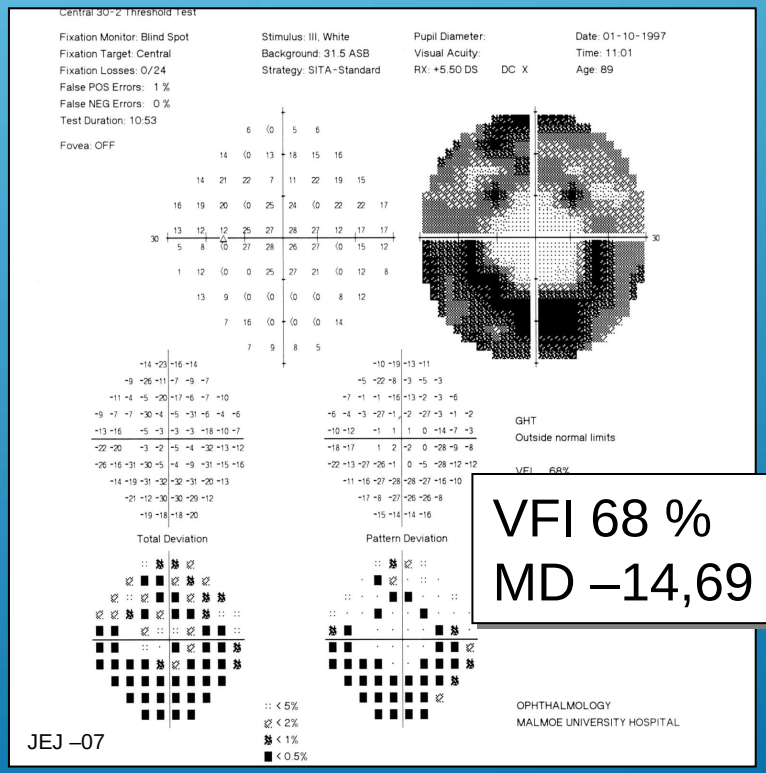
36

VFI et perte des cellules ganglionnaires

- Déficits centraux : associés à davantage de perte de cellules ganglionnaires, ils influencent le VFI plus que le MD
- Déficits périphériques : associés à moins de perte de cellules ganglionnaires, ils influencent moins le VFI que le MD



VFI 39 %
MD –15,98 dB



VFI 68 %
MD –14,69 dB

37

Nouveautés thérapeutiques :

- Associations fixes:
  - IAC – BB avec et sans conservateur
- Neuroprotection

Aujourd'hui, les combinaisons fixes sont préférées aux associations libres

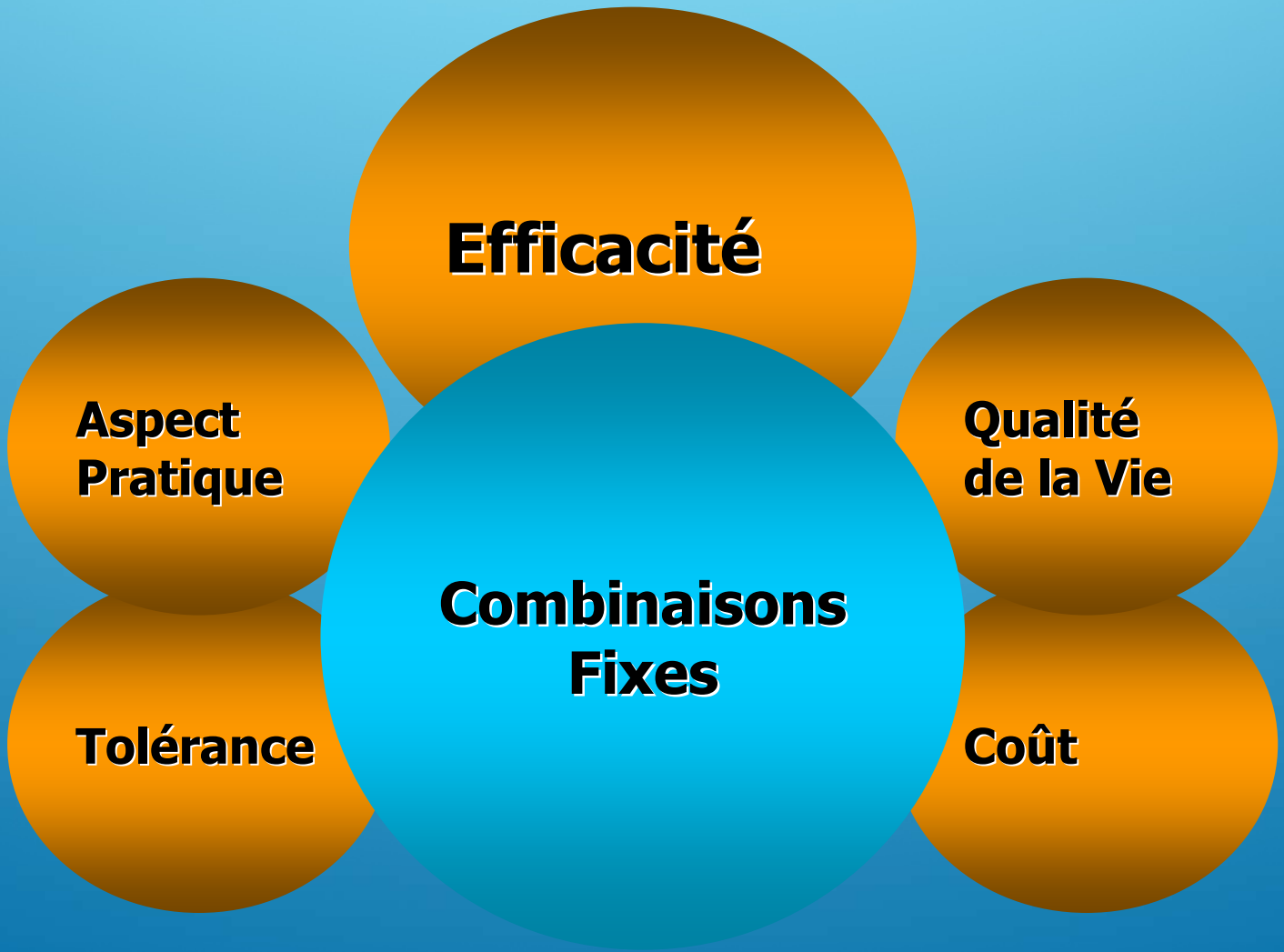
- Environ 1/3 des patients en Europe utilisent plus d'un collyre pour traiter leur glaucome.
- Parmi ceux-ci, environ 2/3 des patients utilisent des associations fixes.

	France	Allemagne	UK	Italie	Espagne
Monothérapie	69%	73%	61%	64%	64%
Association*	31%	27%	39%	36%	36%
Combinaison Fixe†	21%	17%	24%	20%	22%
Traitement dissocié	11%	9%	15%	15%	14%

**inclut les combinaisons fixes (Combigan®, Cosopt®, ou Xalacom®) ou les traitements dissociés*
†combinaisons fixes utilisées seules ou en association avec d'autres collyres

A + A Glaucoma Monitor Research 2006

Un réseau d'avantages



L'observance : un facteur à prendre en compte

Celui-ci est à prendre une fois ou deux fois par jour ?

Combien de flacons ai-je maintenant ?

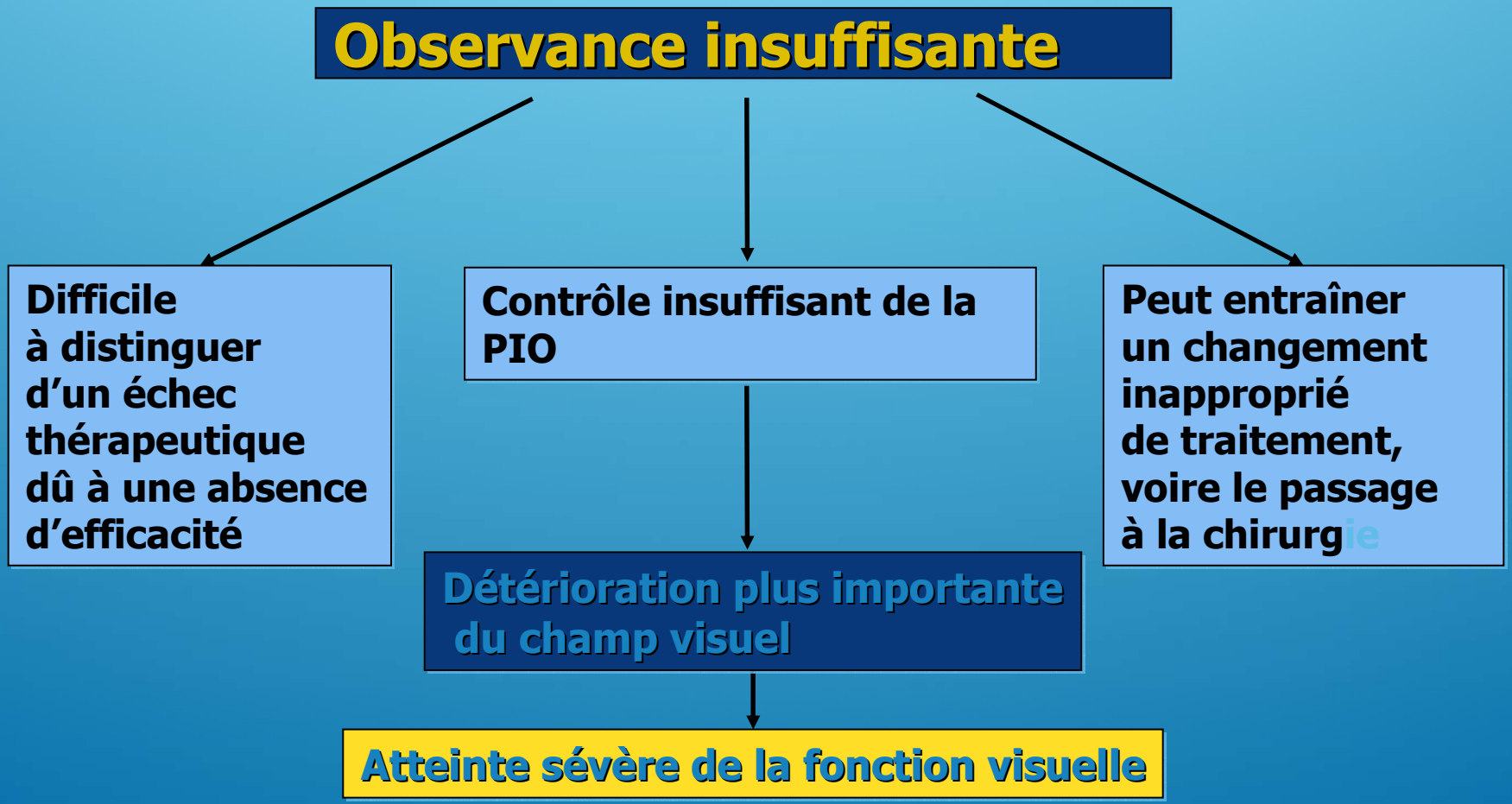
Pourquoi dois-je attendre 5 minutes entre chaque instillation ?...ça va prendre des heures !

Je ne vais jamais pouvoir me rappeler des différents horaires !

J'espère que celui-ci ne pique pas comme l'autre !

Je ne vois aucun changement que je le prenne ou non !

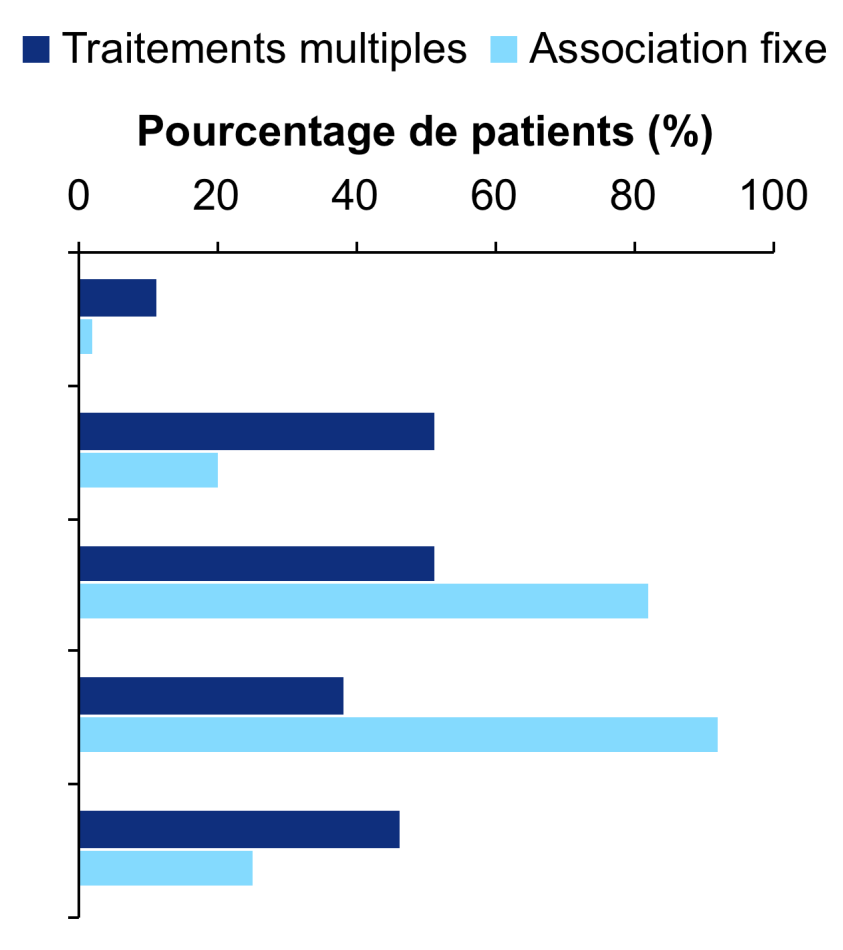
Conséquences d'une mauvaise observance



1. Olthoff CMG et coll. Ophthalmol 2005;112:953–61.
2. Taylor SA et coll. J Ocul Pharmcol Ther 2002;18:401–9.

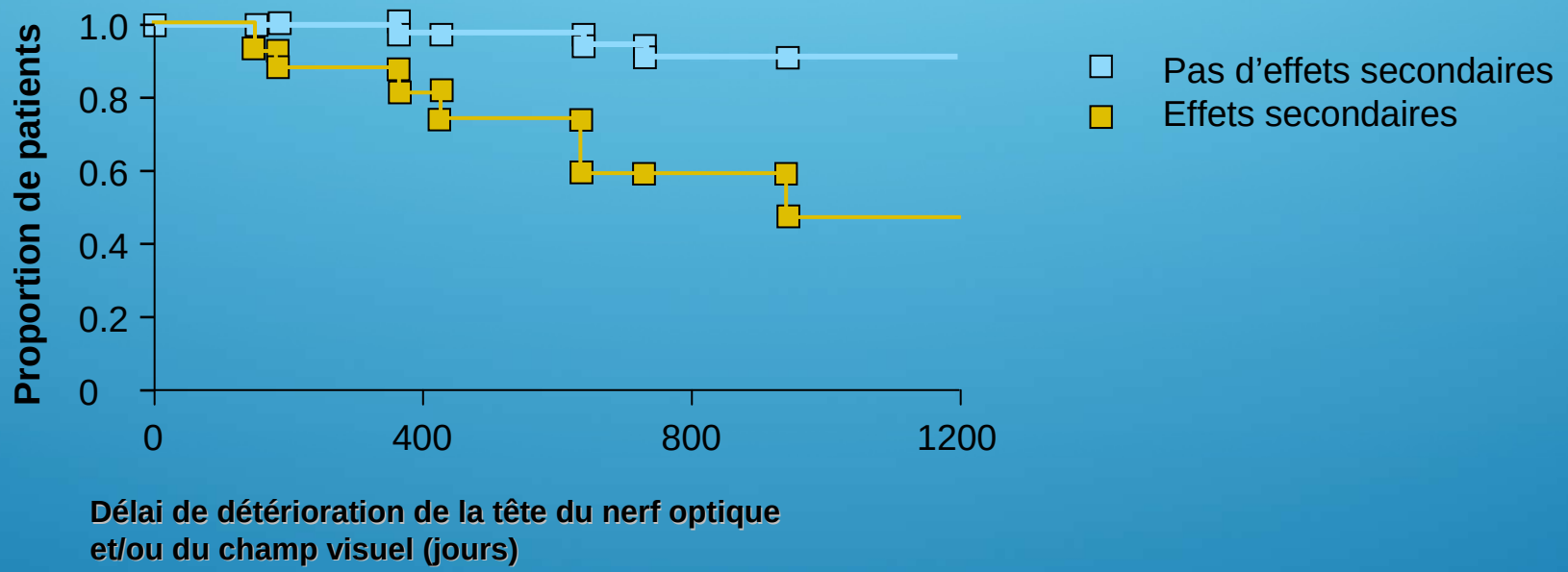
Les associations fixes améliorent l'

- Les patients passant d'une association libre à une combinaison fixe :
  - Oubliaient moins leur traitement
  - Ont trouvé l'association fixe moins difficile à prendre
  - Étaient plus satisfaits d'une manière générale
  - Suivaient le traitement plus facilement
  - Avaient un sentiment moins négatif de leur traitement



Dunker S et coll. Adv Ther 2007;24:376–86.

La tolérance : un autre facteur à prendre en compte

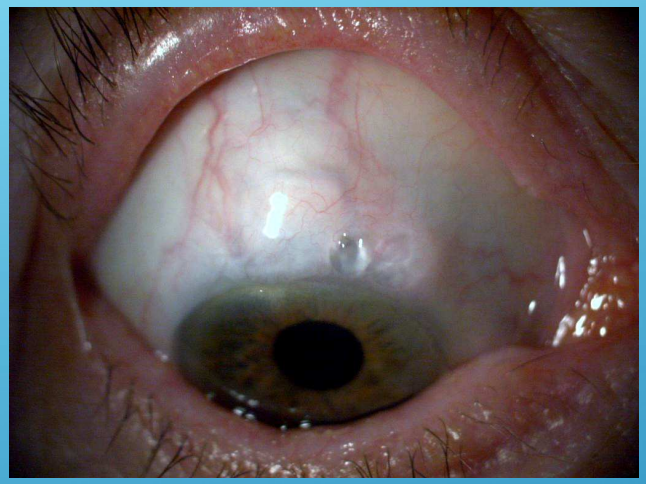


- La survenue d'événements indésirables pourrait favoriser la progression du glaucome, l'observance étant vraisemblablement plus faible chez les patients présentant des effets secondaires.

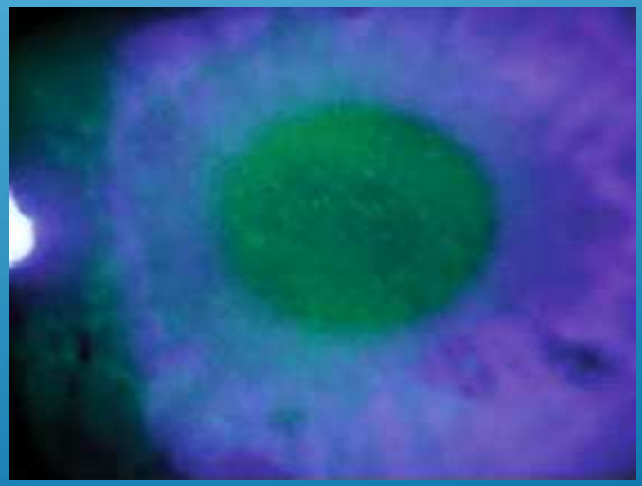
Denis Ph et coll. Clin Drug Invest 2004;24:343-52.

Toxicité des conservateurs

- Une exposition au chlorure de benzalkonium (BAK) augmente le risque de syndrome d'œil sec[1].

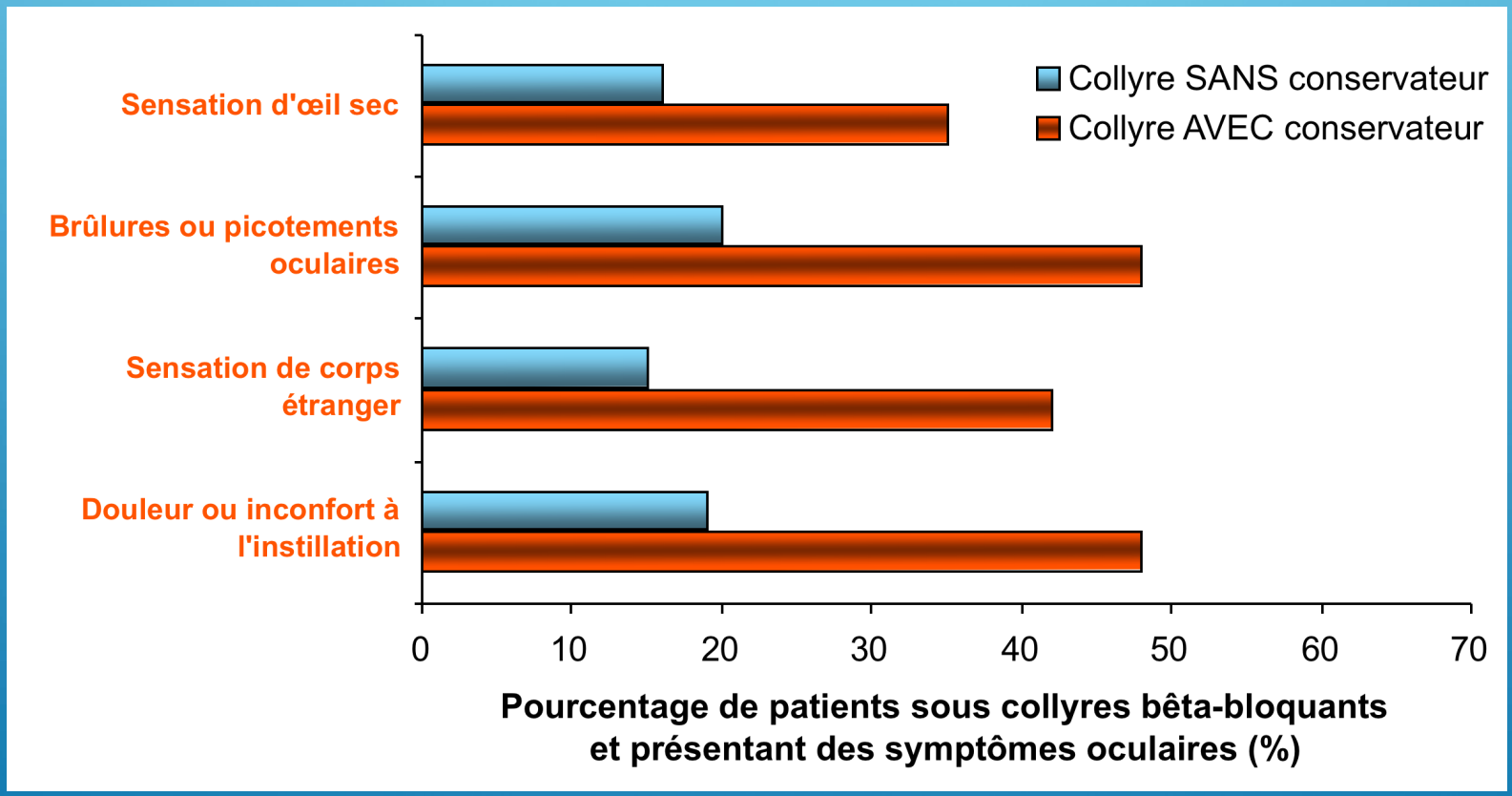


- Les études indiquent que le BAK présent dans les collyres est à l'origine de réactions allergiques, toxiques et inflammatoires de la conjonctive[2].



1. *Gobbels M, Spitznas M. Graefes. Arch Clin Exp Ophthalmol 1989;227:139–41.*
2. *Baudouin C. Curr Opin Allergy Clin Immunol 2005*; 5:459-63.

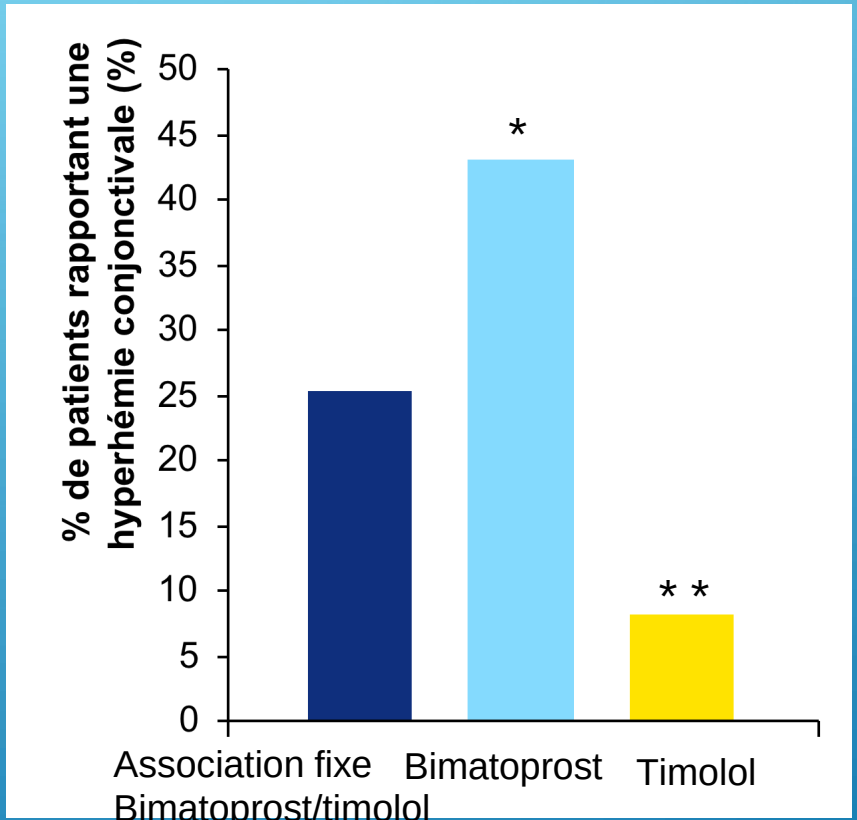
Toxicité des conservateurs



Jaenen N, Baudouin C et coll. Eur J Ophthalmol 2007;17: 341–9.

Moins d'hyperhémies conjonctivales

- L'hyperhémie conjonctivale est un effet secondaire fréquent des prostaglandines et prostamides[1,2].
- Une étude comparative a montré que l'utilisation d'une association fixe (prostamide + timolol) réduit l'incidence des hyperhémies conjonctivales de 40 % comparé au prostamide seul[3].
- Ceci pourrait être dû à l'influence du timolol[4].



* p<0,043

* * p<0,041

1. Bito LZ. Surv Ophthalmol 1997;41(Suppl 2):S1–14.
2. Feldman RM. J Ocul Pharmacol Ther 2003;19:23–35.
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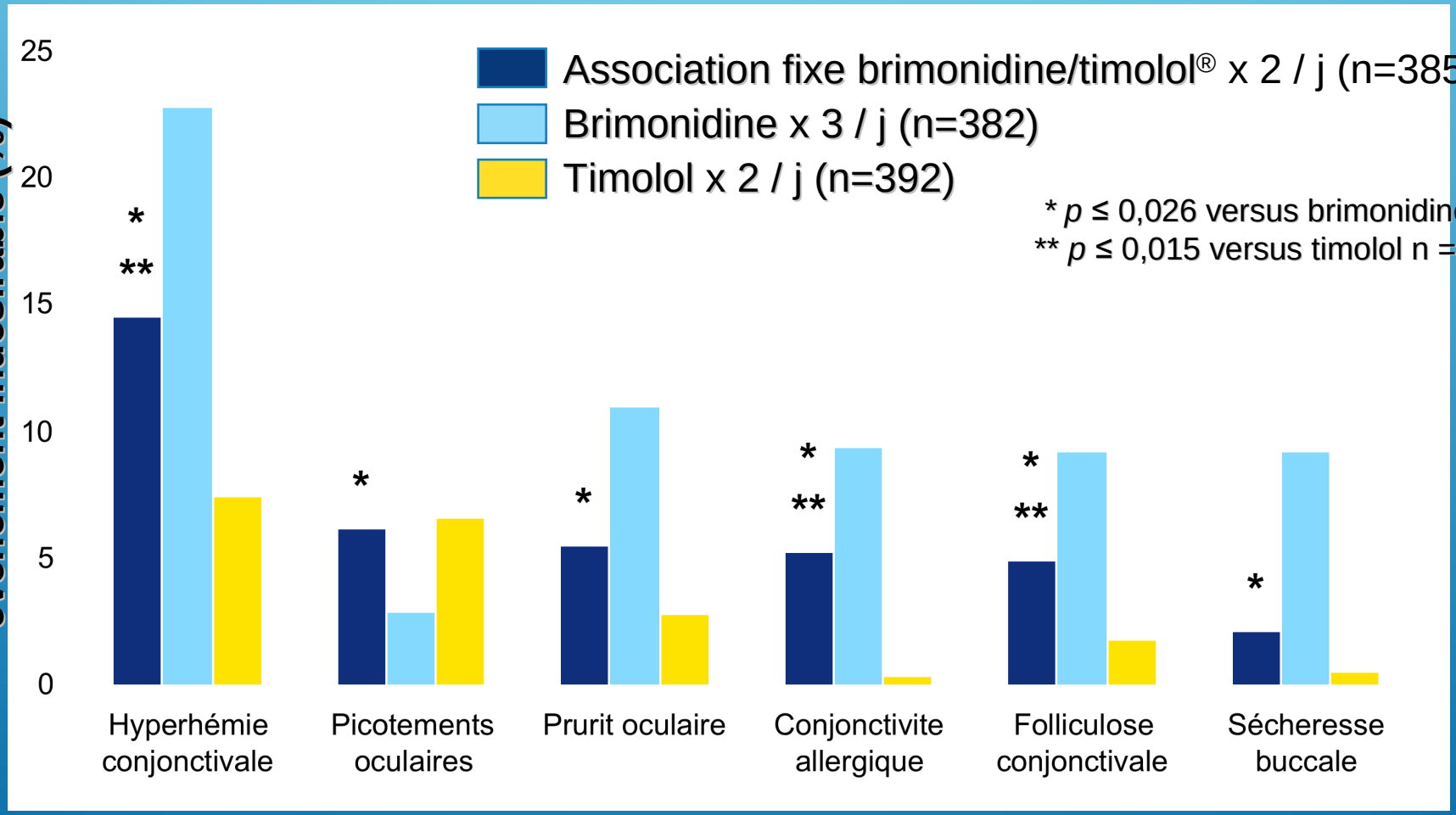
Données de tolérance à partir de deux études identiques randomisées, multicentriques, en double insu, sur 12 mois menées sur 1061 patients atteints de GPAO ou d'HTO non controlée, comparant l'association fixe bimatoprost/timolol au bimatoprost et au timolol en monothérapie.

Moins de conjonctivites allergiques



Données adaptées de Sherwood MB, et coll. Arch Ophthalmol 2006;124:1230–8.

Les associations fixes sont-elles aussi efficaces ?

- Il est essentiel que la combinaison fixe soit **aussi efficace que** le traitement dissocié.
- Toutes les études publiées sont basées sur le principe statistique de **non-infériorité**.

$$1 + 1 \not< 2$$

Quels patients pourraient bénéficier d'emblée d'une combinaison fixe ?

- Les patients qui tolèrent mal leur monothérapie
- Les patients non contrôlés sous monothérapie
- Les patients ayant une PIO initiale élevée (> 35 mm Hg)
- Les patients ayant des anomalies sévères du CV
- Les patients présentant un risque élevé de progression
- Les patients ayant certains facteurs de risque (ex : PEX)

Heijl A. AIGS Singapour 2007

PERSPECTIVES

Neuroprotection: Extrapolating from Neurologic Diseases to the Eye

HELEN V. DANESH-MEYER AND LEONARD A. LEVIN

• PURPOSE: To review the current status of neuroprotection in ophthalmic disease.
• DESIGN: Perspective.
• METHODS: Published and unpublished data on neuroprotection in neurologic and ophthalmologic diseases were reviewed and interpreted.
• RESULTS: Almost all clinical studies of neuroprotection in neurologic and ophthalmologic disease so far have failed to show efficacy, despite encouraging preclinical studies.
• CONCLUSIONS: Achievement of consensus on how to design and execute translational research in neuroprotection in ophthalmic disease would optimize the use of resources and would hasten the development and approval of effective neuroprotective agents. (Am J Ophthalmol 2009;148:186–191.

More recently, the study of neuroprotection has been extended to optic nerve diseases such as glaucoma, nonarteritic anterior ischemic optic neuropathy, and Leber hereditary optic neuropathy. Two as-yet unpublished large, parallel, randomized clinical trials of neuroprotection of the *N*-methyl-d-aspartate antagonist memantine in open-angle glaucoma did not show significant efficacy with respect to their primary outcome measures.[4] This occurred despite prior encouraging evidence from the laboratory.[5,6]

If clinical trials almost universally fail to confirm preclinical results, then what is the relevance of laboratory studies of neuroprotection in tissue culture and animals to human nervous system disease?[7–9] This difficulty in translating research from bench to bedside suggests flaws in the present approach to neuroprotection and is an unsettling message for the future of clinical trials. The goal of this perspective, therefore, was to examine critically the literature

REVIEW OF NEUROPROTECTION TRIALS IN NEUROLOGY AND OPTIC NERVE DISEASE

NUMEROUS DRUGS HAVE BEEN SHOWN TO BE NEUROPROTECtive in animal models of retinal and optic nerve injury. However, of the several clinical trials of neuroprotection in neuronal disease of the visual system to date, none have shown efficacy. By far the largest study consisted of 2 parallel clinical trials of oral memantine in patients with chronic progressive open-angle glaucoma. These industry-supported trials enrolled approximately 2,200 patients at sites worldwide. Patients were followed up for at least 4 years. Although the results of the trials have not been published so far, the sponsor provided press releases, one in 2007 and the other in 2008, revealing that neither trial met its primary outcome measure. The first release stated, "Two measures of visual function were selected in the statistical analysis plan to assess the efficacy of memantine in glaucoma. The functional measure chosen as the primary endpoint did not show a benefit of memantine in preserving visual function. In a

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- « Aimons les nouveautés en novateurs prudents »

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