

Forum Mieux
Vivre avec
l'Alzheimer

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L'importance du diagnostic précoce





Conflit d'intérêt

- Créeur du test MoCA
- Impliqué dans multiples études avec l'industrie pharmaceutique



- Diagnostic
 - Évaluation médicale
 - Tests cognitifs
 - Investigation sanguine, radiologique
- Traitement
- Suivi
- Recherche
- Futur: Repérage de cas

A close-up photograph of a person's hand holding a single wooden cube. The cube has a large, bold black letter "P" printed on its top face. The background is a solid light blue color.

A photograph showing four wooden cubes stacked vertically. The top cube has a "P", the second cube has an "L", the third cube has an "A", and the bottom cube has an "N". All letters are in a large, bold black font. The background is a light blue gradient.

De la plainte au Diagnostic



- Évaluation médicale
- Histoire
 - Mémoire court terme verbale et spatiale
 - Manque de mot
 - Dysfonction exécutive: planification, résolution de problème, organisation, priorisation, prise de décision, gestion financière.
 - Anxiété, Dépression
- Examen physique et neurologique
- Habitudes de vie
- Histoire familiale

Thérèse, 75 ans



Examen Cognitif

- MMSE
- MoCA
- Test de l'Horloge
- Mini-Cog

The Mini-Mental State Exam

Patient _____ Examiner _____ Date de naissance: _____ DATE: _____

Maximum Score

5 ()
5 ()

Orienté
Copier le cube

Dessiner une HORLOGE (Onze heures et dix minutes) (3 points)

POINTS _____ Date _____

MONTRÉAL COGNITIVE ASSESSMENT (MOCA®)
Version 8.1 Français
VISUOSPATIAL/EXÉCUTIF

Aigüilles /5

Contour /1

Chiffres /1

Début /1

Dénomination /1

Fin /1

1 2 3 4 5

C D E A B

Lion /1

Rhinocéros /1

Camel /1



MoCA
COGNITIVE ASSESSMENT

Scan des fonctions cognitives en 10 min



- **TEST #1 pour la détection précoce de la Maladie d'Alzheimer et troubles cognitifs associés à de multiples conditions médicales dont la COVID, Commotion cérébrale, Dépression, etc.**
- Utilisé dans 200 pays et 100 langues
- Test cité dans 18,000 études scientifiques



E-VERSION

DUO Full 8.1

LANGAGES

8

VIDEOCONFERENCE

7

VERSIONS PAPIER

LANGAGES

Full 7.1 7.2 7.3 8.1 8.2 8.3

100

Basic

20

Blind/telephone

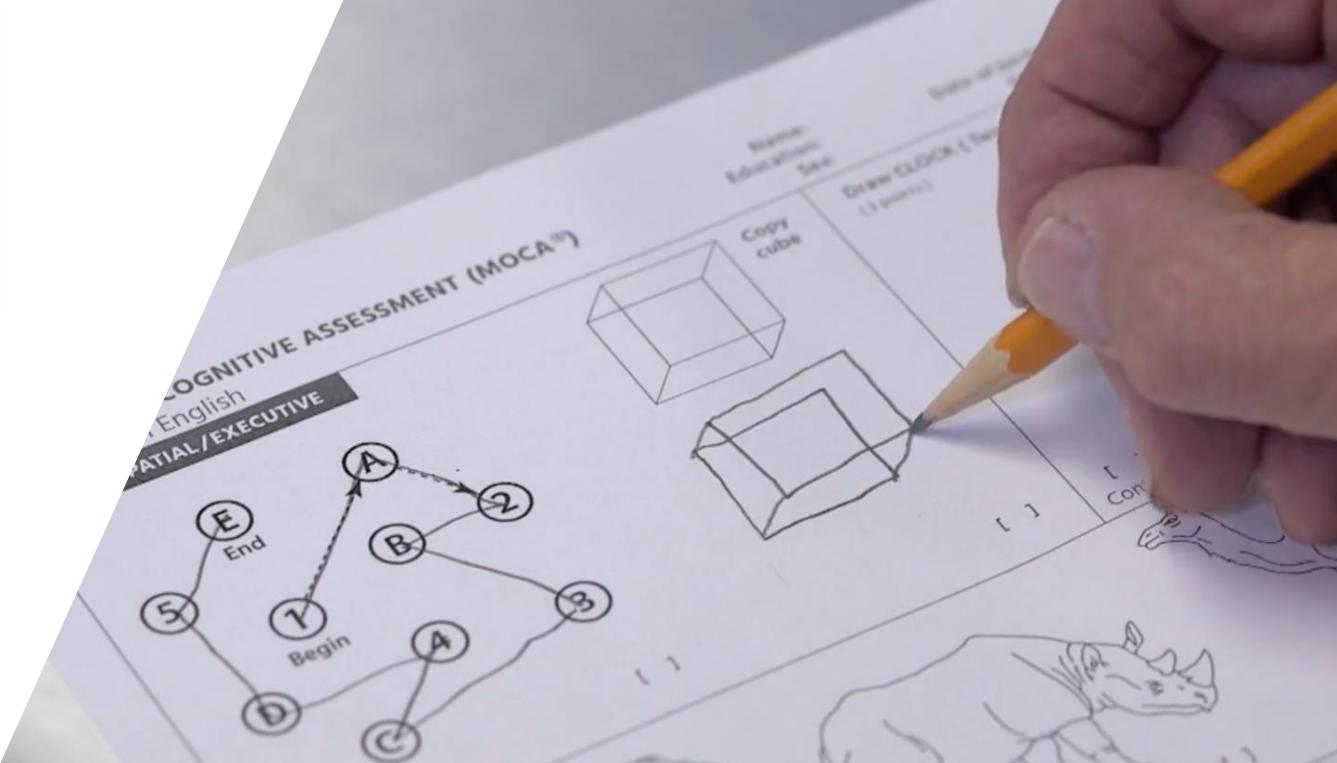
8

5-min/telephone

6

Hearing Impairment

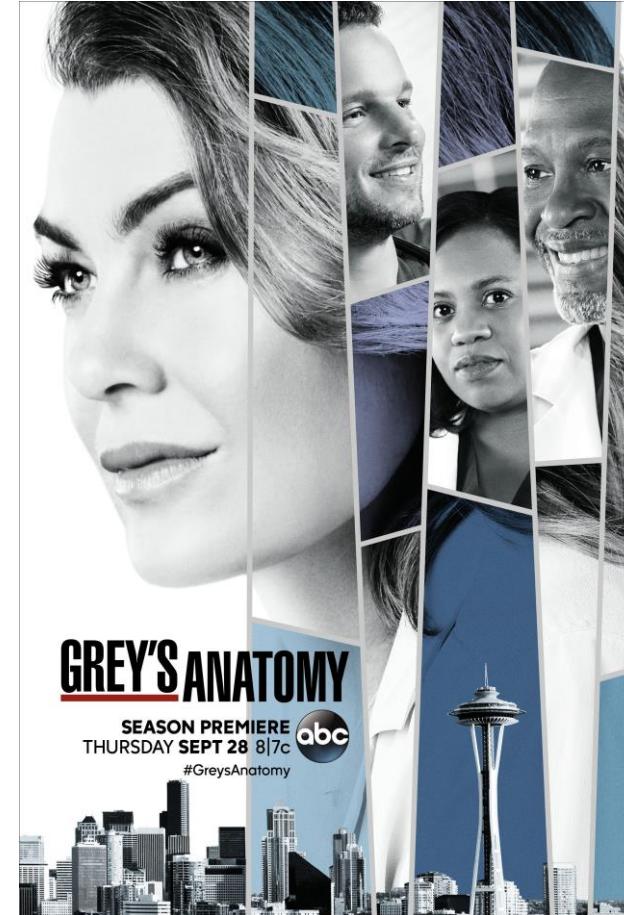
2



MoCA
ÉVALUATION COGNITIVE



MoCA
COGNITION



Sur **NETFLIX**



NBC's
THIS IS US
TUES 9/24 NBC



MoCA
COGNITION

A la Maison Blanche



mrcTV

Via Skype
Montreal

DEVELOPING STORY

TRUMP KEEPS TOUTING COGNITIVE ABILITIES BASED ON TEST HE TOOK THAT SCREENS FOR SIGNS OF ALZHEIMER'S, NOT IQ

LIVE
CNN
7:57 PM ET

NOT AN OPTION, AT CNN.COM/PODCASTS OR ON YOUR FAVORITE PODCAST ERIN BURNETT

Étude de cas

Thérèse, grande-maman, 75 ans, autonome avec plainte cognitive

Histor

Laboratory

Neurologic exa

Examen Cognitif



Examen Cognitif:

MMSE = 30/30
MoCA = 22/30

- Déficit Mémoire récente, Fluidité verbale, dessin de l'horloge

MONTREAL COGNITIVE ASSESSMENT (MoCA®)		Name: Education: Sex: Date of birth: DATE:	POINTS												
VISUOSPATIAL/EXECUTIVE		Copy cube 	[✓] 3/5												
		Draw CLOCK (Ten past eleven) (3 points)													
NAMING			[✓] [✓] [✓] 3/3												
MEMORY		Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.	<table border="1"> <tr> <td>1st TRIAL</td> <td>✓</td> <td>✓</td> <td>✗</td> <td>✓</td> <td>✗</td> </tr> <tr> <td>2nd TRIAL</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </table>	1 st TRIAL	✓	✓	✗	✓	✗	2 nd TRIAL	✓	✓	✓	✓	✓
1 st TRIAL	✓	✓	✗	✓	✗										
2 nd TRIAL	✓	✓	✓	✓	✓										
ATTENTION		Read list of digits (1 digit/sec.). Subject has to repeat them in the forward order. Subject has to repeat them in the backward order.	<table border="1"> <tr> <td>2 1 8 5 4</td> <td>[✓]</td> </tr> <tr> <td>4 2</td> <td>[✗]</td> </tr> </table>	2 1 8 5 4	[✓]	4 2	[✗]								
2 1 8 5 4	[✓]														
4 2	[✗]														
LANGUAGE		Repeat: I only know that John is the one to help today. The cat always hid under the couch when dogs were in the room.	<table border="1"> <tr> <td>[✓]</td> </tr> </table>	[✓]											
[✓]															
ABSTRACTION		Fluency: Name maximum number of words in one minute that begin with the letter F.	<table border="1"> <tr> <td>9 (N=11 words)</td> <td>[✗]</td> </tr> </table>	9 (N=11 words)	[✗]										
9 (N=11 words)	[✗]														
DELAYED RECALL		Similarity between e.g. banana - orange = fruit	<table border="1"> <tr> <td>train - bicycle</td> <td>[✓]</td> </tr> <tr> <td>watch - ruler</td> <td>[✓]</td> </tr> </table>	train - bicycle	[✓]	watch - ruler	[✓]								
train - bicycle	[✓]														
watch - ruler	[✓]														
(MIS)		Has to recall words WITH NO CUE	Points for UNCUED recall only												
X3		[✗]													
X2		Category cue													
X1		Multiple choice cue	MIS = 2 / 15												
ORIENTATION		Date Month Year Day Place City	22 / 30												
		© Z. Nasreddine MD Administered by: www.mocatest.org MIS: 2 / 15 (Normal ≥ 26/30) Add 1 point if ≤ 12 yr educ	TOTAL												
		Training and Certification are required to ensure accuracy													





MoCA
COGNITION

Diagnostic
différentiel
quelles sont
les causes
possibles?

Dégénératives

Alzheimer, Parkinson,
Corps de Lewy, Aphasie
Progressive, Fronto-
temporale

Hydrocéphalie

Systémiques

Cardiaques, Respiratoires,
Rénales, Hépatique,
Thyroïde, B12, Calcium,
Anémie

Mentales

Dépression, Anxiété,
Stress, Épuisement
professionnel



Vasculaires

AVC majeur et/ou
atteinte
microvasculaires
lacunaires

Tumeurs cérébrales

Médicaments

Hypnotiques, sédatifs,
narcotiques,
anticholinergiques

Toxiques

Alcool, Marijuana



MoCA
COGNITION

Le Diagnostic (Suite)



Investigations:

- Analyses Sanguines
 - FSC, Thyroïde, B12, Calcium, Enz hépatique, Fct rénale, Diabète
- Imagerie
- Ponction Lombaire (peu utilisée)

IRM

Fazekas 0: zero or a single punctate white matter hyperintensity lesion

Fazekas 1: multiple punctate lesions

Fazekas 2: beginning confluence of lesions (bridging)

Fazekas 3: large confluent lesions

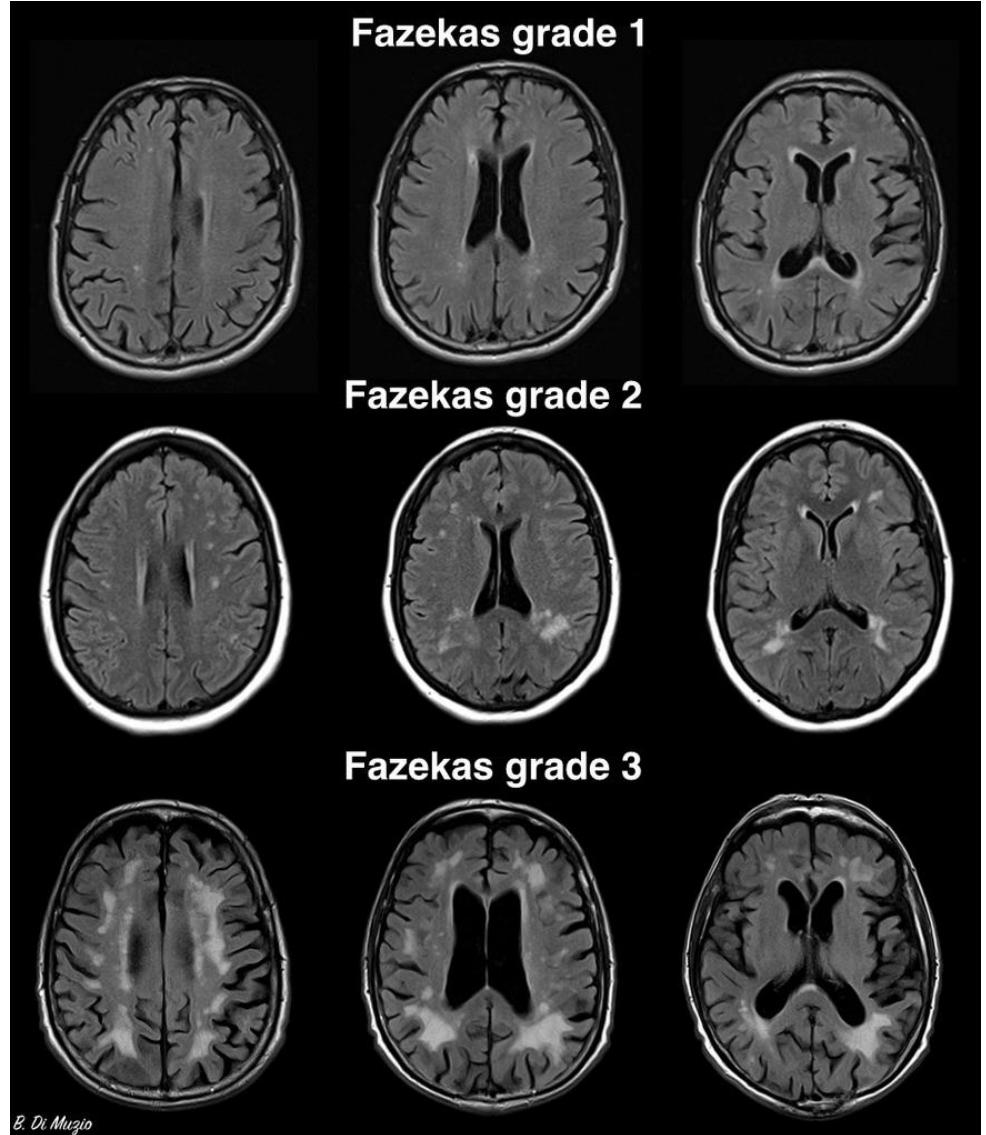


Image from: <https://radiopaedia.org/articles/fazekas-scale-for-white-matter-lesions>. Accessed November 21, 2018.

Fazekas F, et al. AJR Am J Roentgenol. 1987;149:351–356.



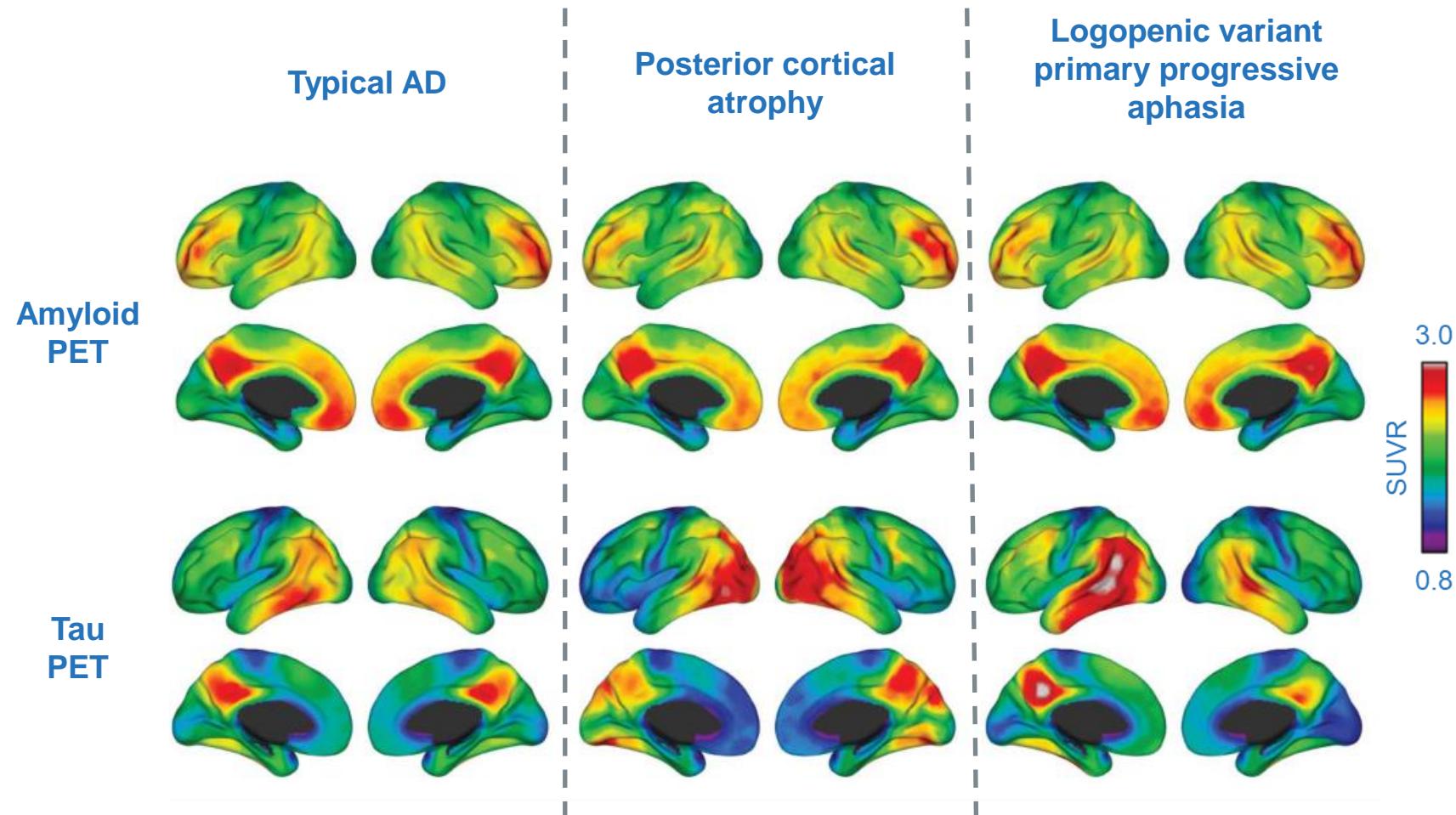
MoCA
COGNITION

TEP Amyloide versus TEP Tau

Images on the right illustrate:

- Amyloid and tau deposition in patients with typical and atypical AD
- Relative distributions of ^{11}C -PiB (top) and ^{18}F -flortaucipir (bottom) within each pathology

Unlike amyloid PET, tau PET corresponds to the clinical presentation of AD.

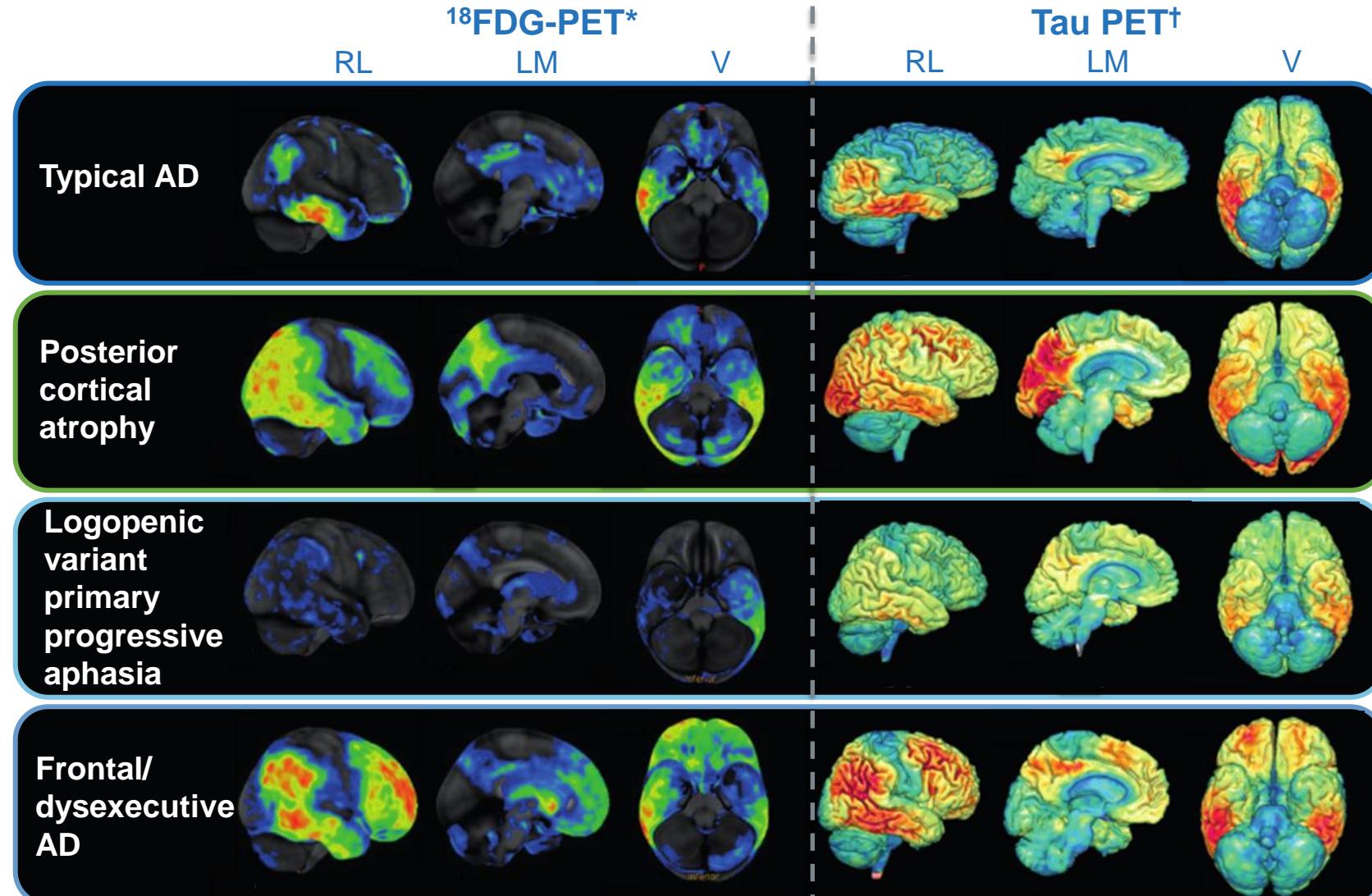


Images show marginal means, i.e., predicted SUVR values for the average age (65.3 years) of the cohort, CDR-SB (4.0), and global cortical SUVR.

AD, Alzheimer's disease; CDR-SB, Clinical Dementia Rating Sum of Boxes; PET, positron emission tomography; PiB, Pittsburgh compound B; SUVR, standardized uptake value ratio.

La Joie R, et al. *Neurology*. 2021;96:e650–e661.

¹⁸FDG-PET versus tau PET in patients with typical and atypical AD



*Red indicates greater hypometabolism; †red indicates higher intensity of radiotracer (¹⁸F-flortaucipir).

AD, Alzheimer's disease; ¹⁸FDG, 18-fluorodeoxyglucose; LM, left medial; PET, positron emission tomography; RL, right lateral; V, ventral.

Graff-Radford J, et al. *Lancet Neurol*. 2021;20:222–234.

Hypometabolism patterns on ¹⁸FDG-PET

- Reflect clinical presentations across atypical AD pathologies
- Can differentiate between typical and atypical AD

In atypical AD, the pattern observed with tau PET

- Does not follow amnestic presentations
- May be used to distinguish typical AD from atypical AD

Analyse du dossier

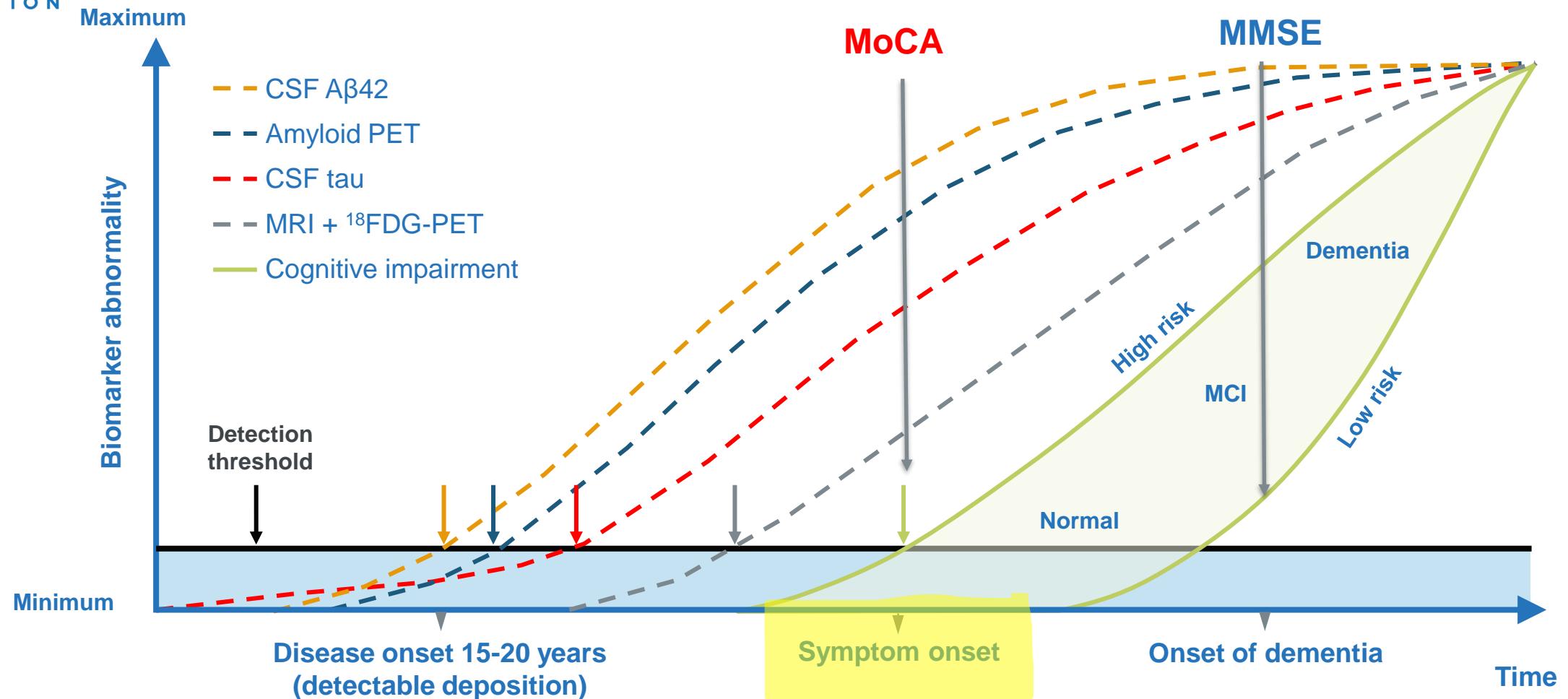


Annonce du Diagnostic





Alzheimer: pathologie et évolution



A_β, amyloid beta; CSF, cerebrospinal fluid; ¹⁸FDG-PET, 18-fluorodeoxyglucose positron emission tomography; MCI, mild cognitive impairment; MRI, magnetic resonance imaging; PET, positron emission tomography.

1. Selkoe D & Hardy J. *EMBO Mol Med*. 2016;8:595-608; 2. Jack CR et al. *Lancet Neurol*. 2013;12:207-16.

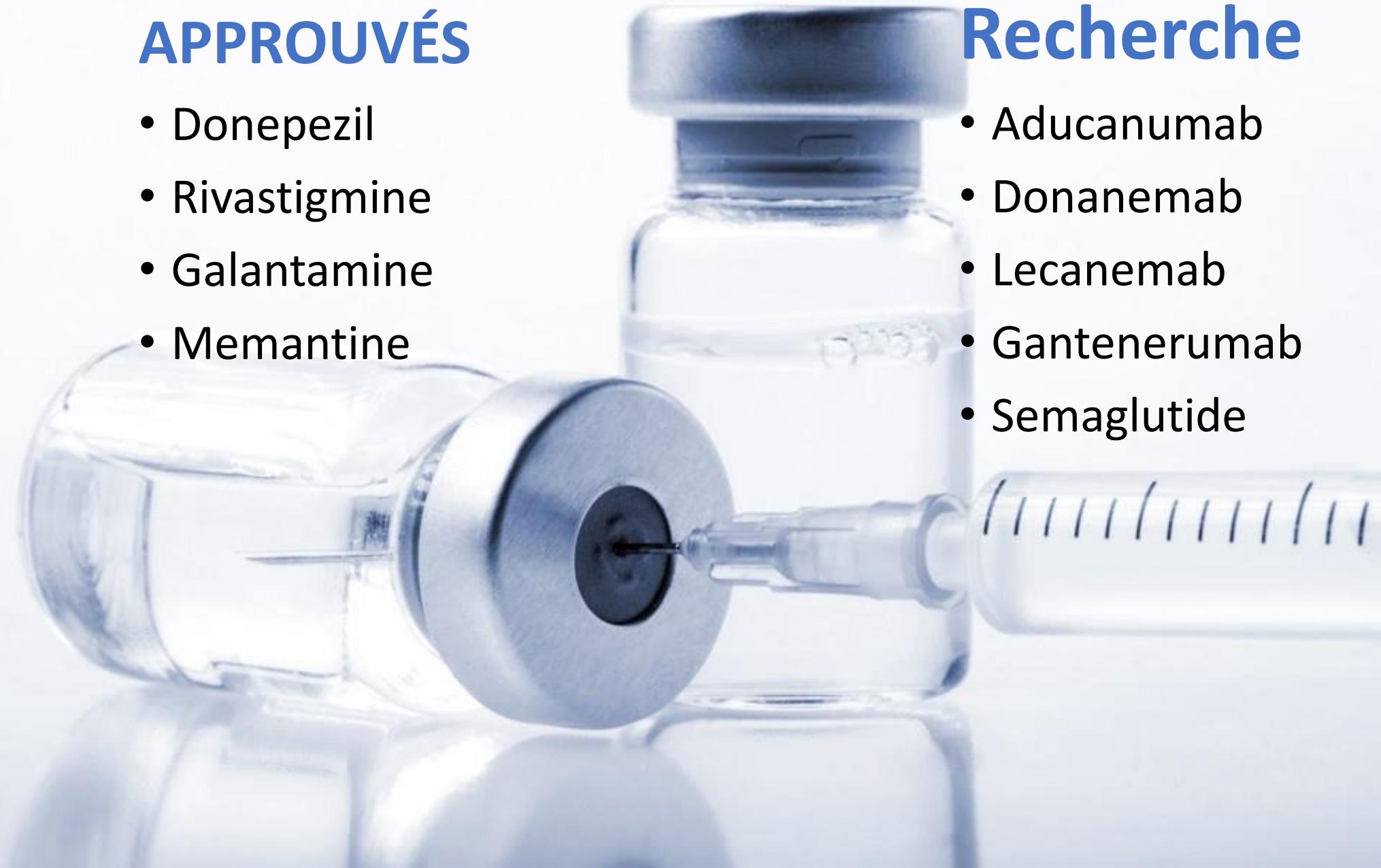
Les Traitements

APPROUVÉS

- Donepezil
- Rivastigmine
- Galantamine
- Memantine

Recherche

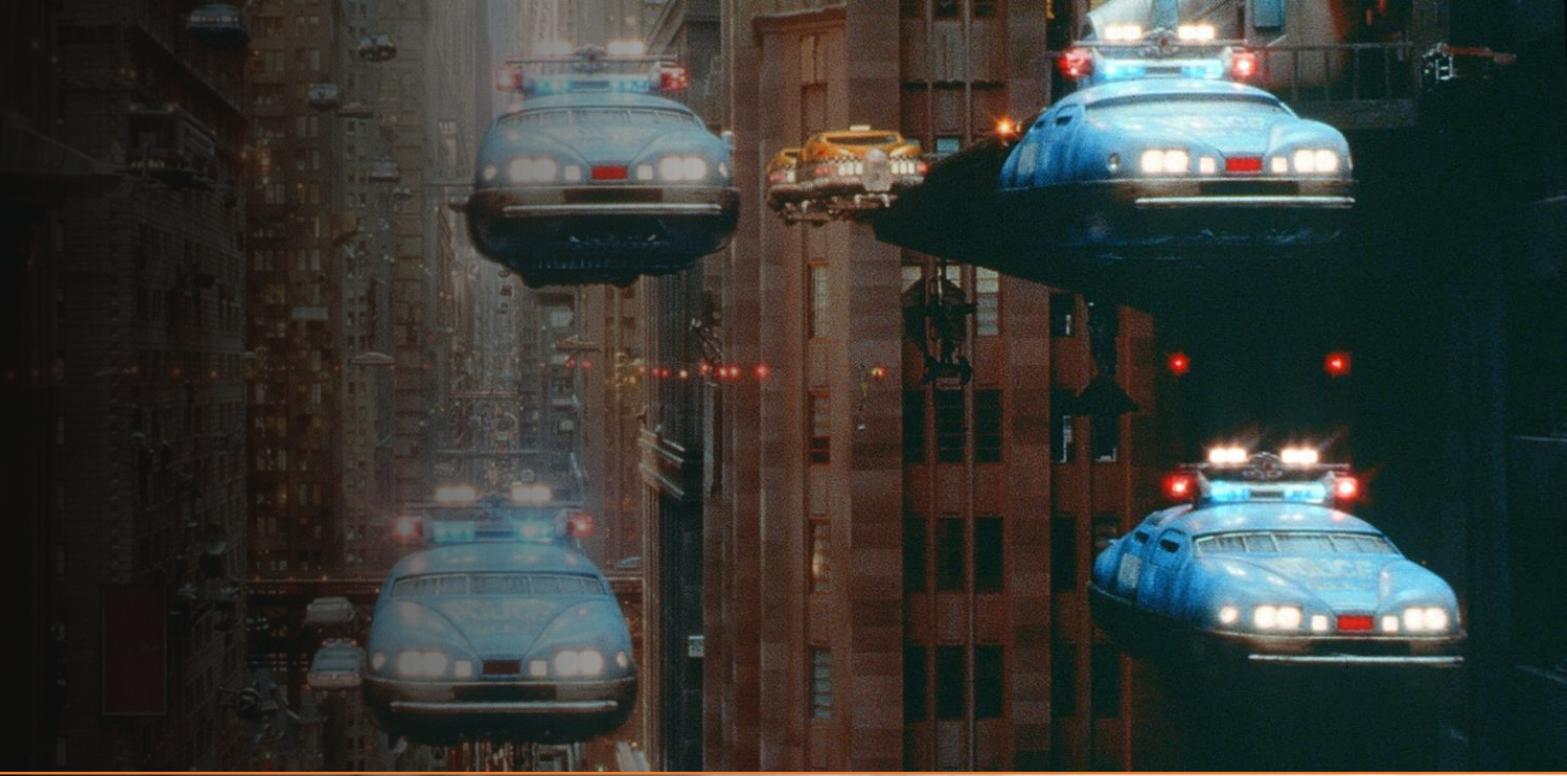
- Aducanumab
- Donanemab
- Lecanemab
- Gantenerumab
- Semaglutide



Quand référer à un spécialiste

- Cas complexe
- Début précoce ≤ 65 ans
- Confirmation Dx
- Accès aux Biomarqueurs
- Intérêt pour la recherche

Le futur





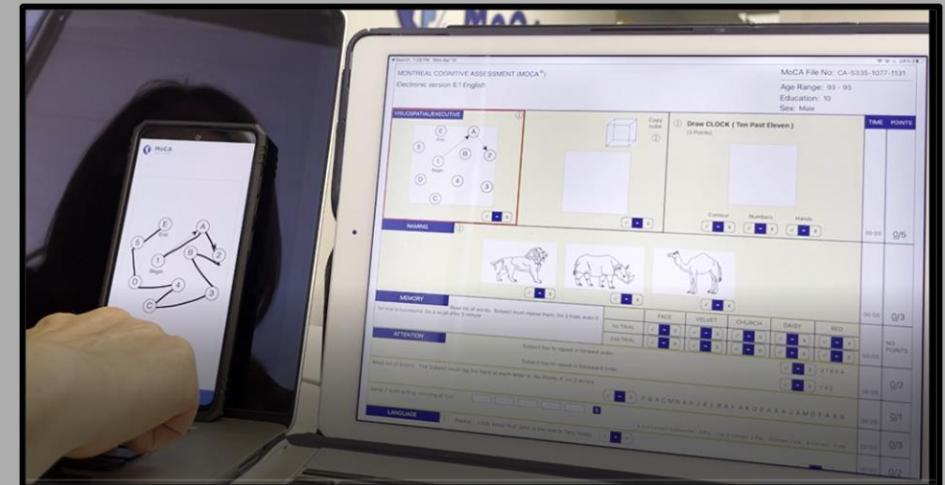
MoCA
COGNITION

Solutions Digitales

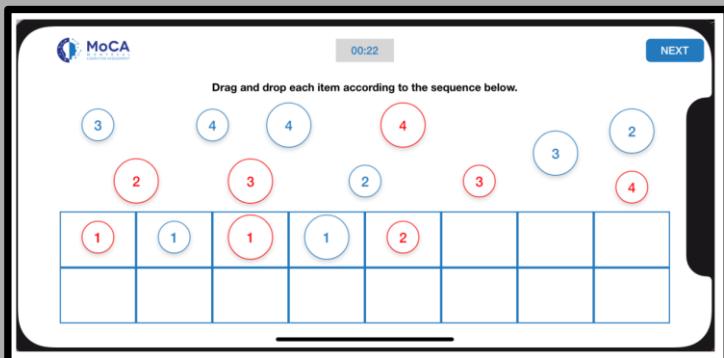
MoCA Duo®



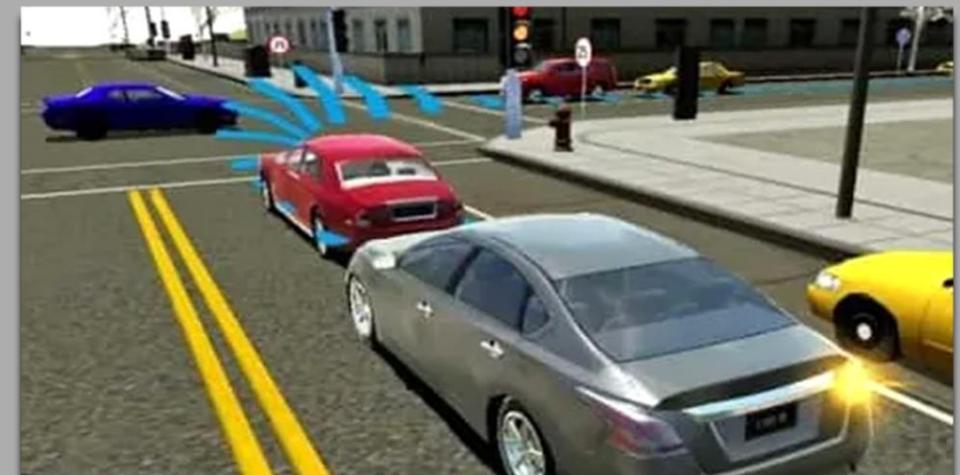
MoCA Solo®



MoCA XpressO®



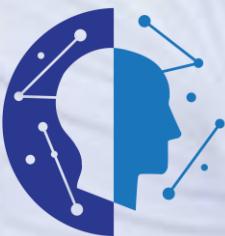
MoCA Drive®



A photograph of a young man with dark hair and glasses, wearing a white t-shirt, laughing heartily with an elderly woman with short grey hair and glasses, wearing an orange t-shirt. They are both smiling broadly. The background is slightly blurred, showing what appears to be a kitchen or dining area.

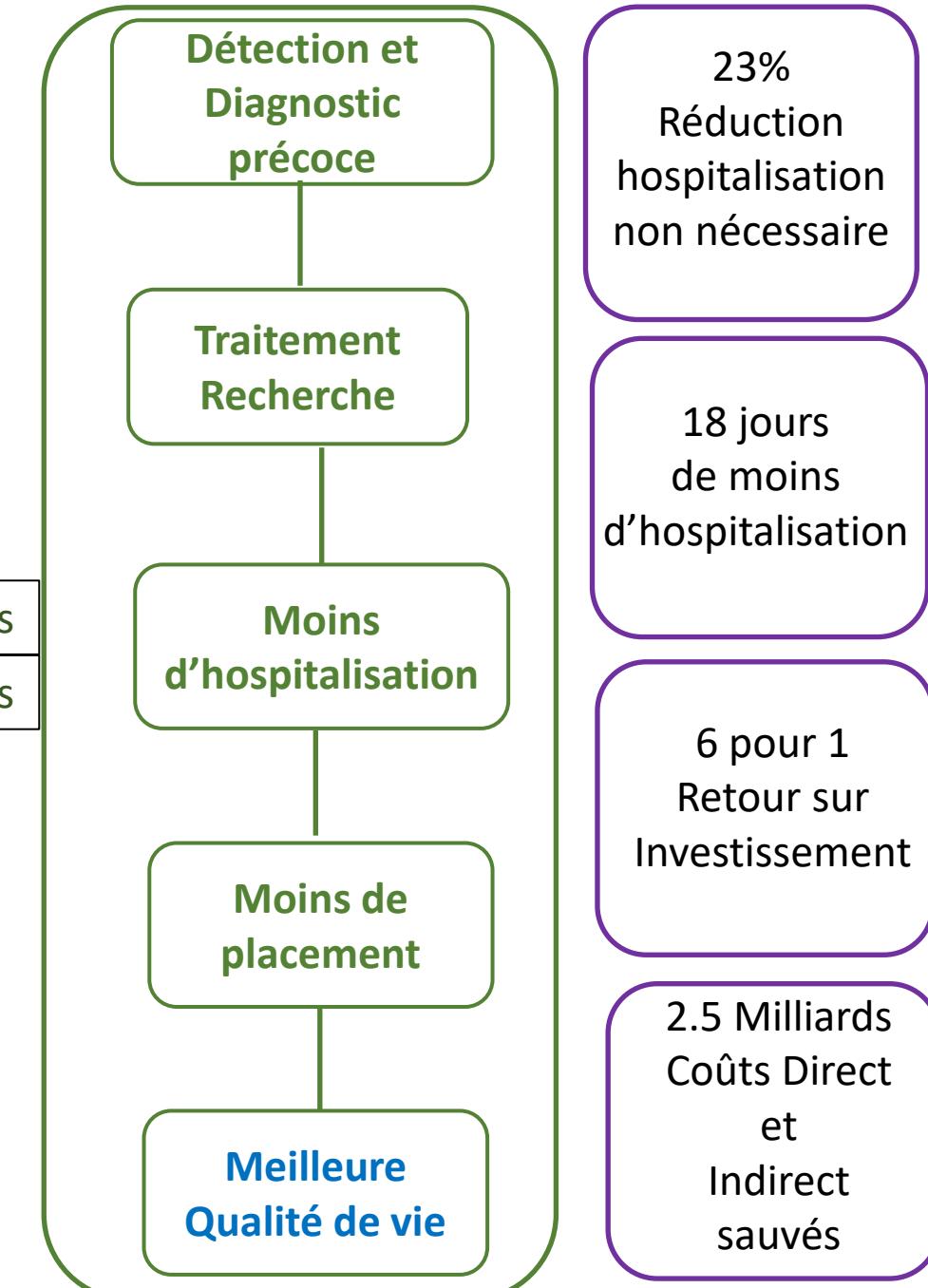
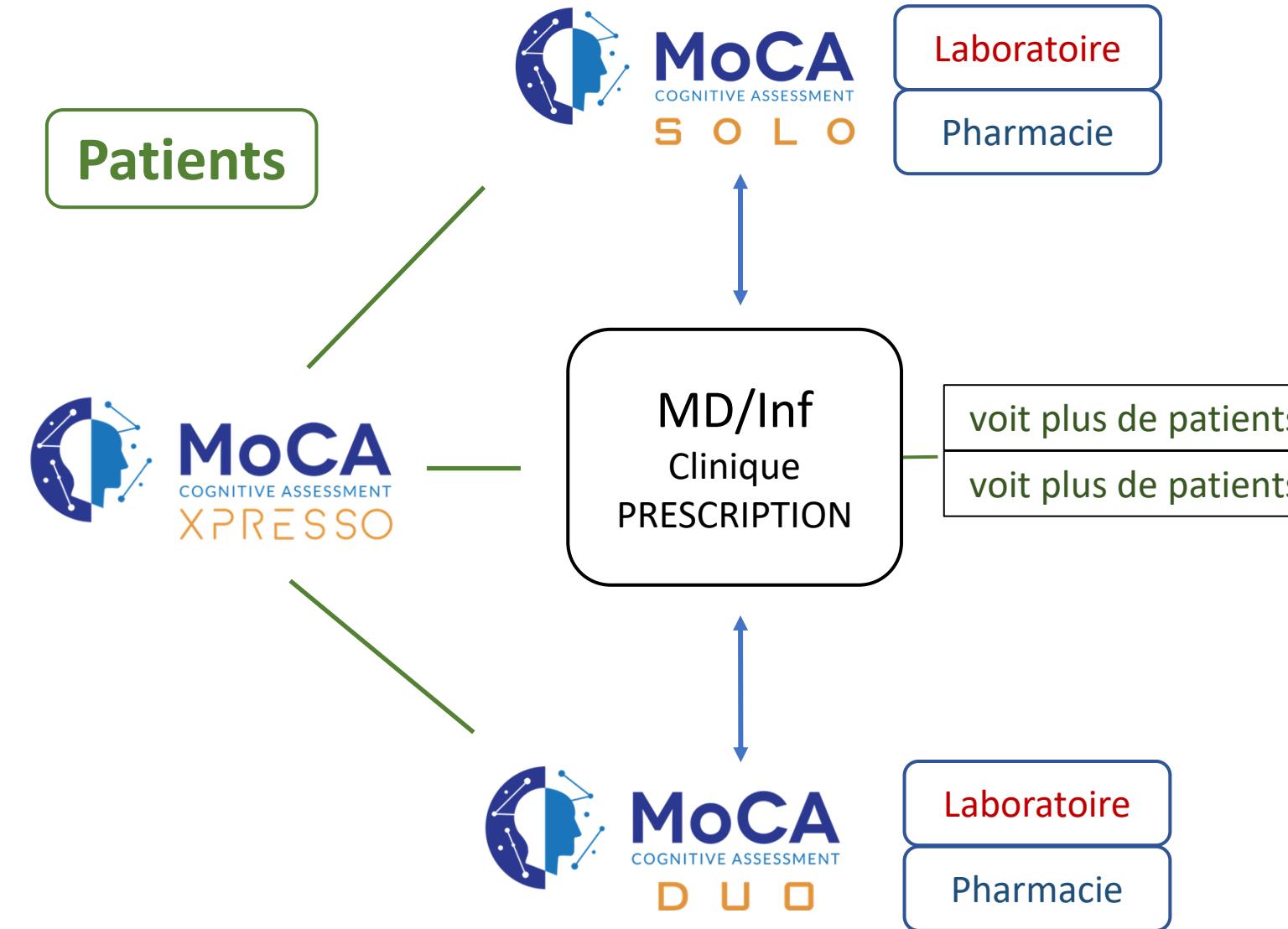
Inquiet pour sa
mémoire?

- Est-ce qu'elle se répète?
- 40% du déclin cognitive peut-être prévenu



MoCA
COGNITIVE ASSESSMENT
XPRESSO

FUTUR PARCOURS PATIENT





MoCA
COGNITION

Pour un futur meilleur

- Meilleurs tests de dépistage cognitif
 - Meilleurs biomarqueurs
 - Meilleure compréhension de la pathologie
 - Meilleurs traitements
 - Meilleur soutien aux patients et leur famille
-
- MEILLEUR FINANCEMENT DE LA RECHERCHE



Remerciement à l'équipe

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Participez à la
recherche



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Comptabilité: Rachelle Gaulin, Mathieu Melanson

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Infirmière formatrice Christine DeMelo,
Infirmière pharmacie Julie Guillet
Infirmière visites patients Christine Demelo, Alexe Ouellet-Boudreault, Chantal Gagnon, Geneviève Houle, Nathaly Renaud
Infirmière coordonnatrice: Marion Paquette-Masson
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Comptabilité Rachelle Gaulin, Jessie Bacon

MoCA Test

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