

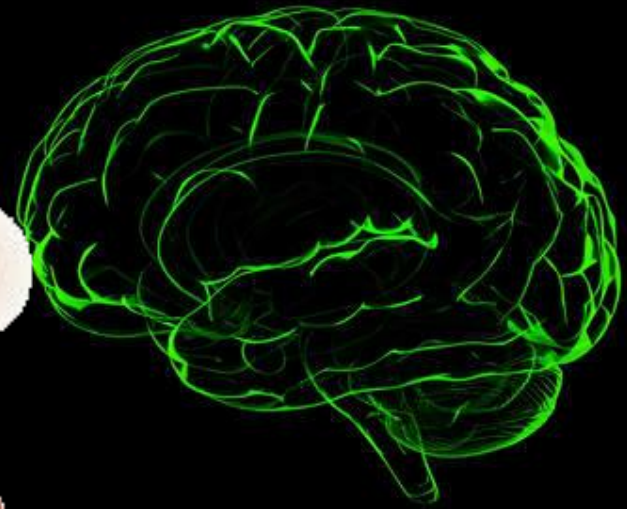
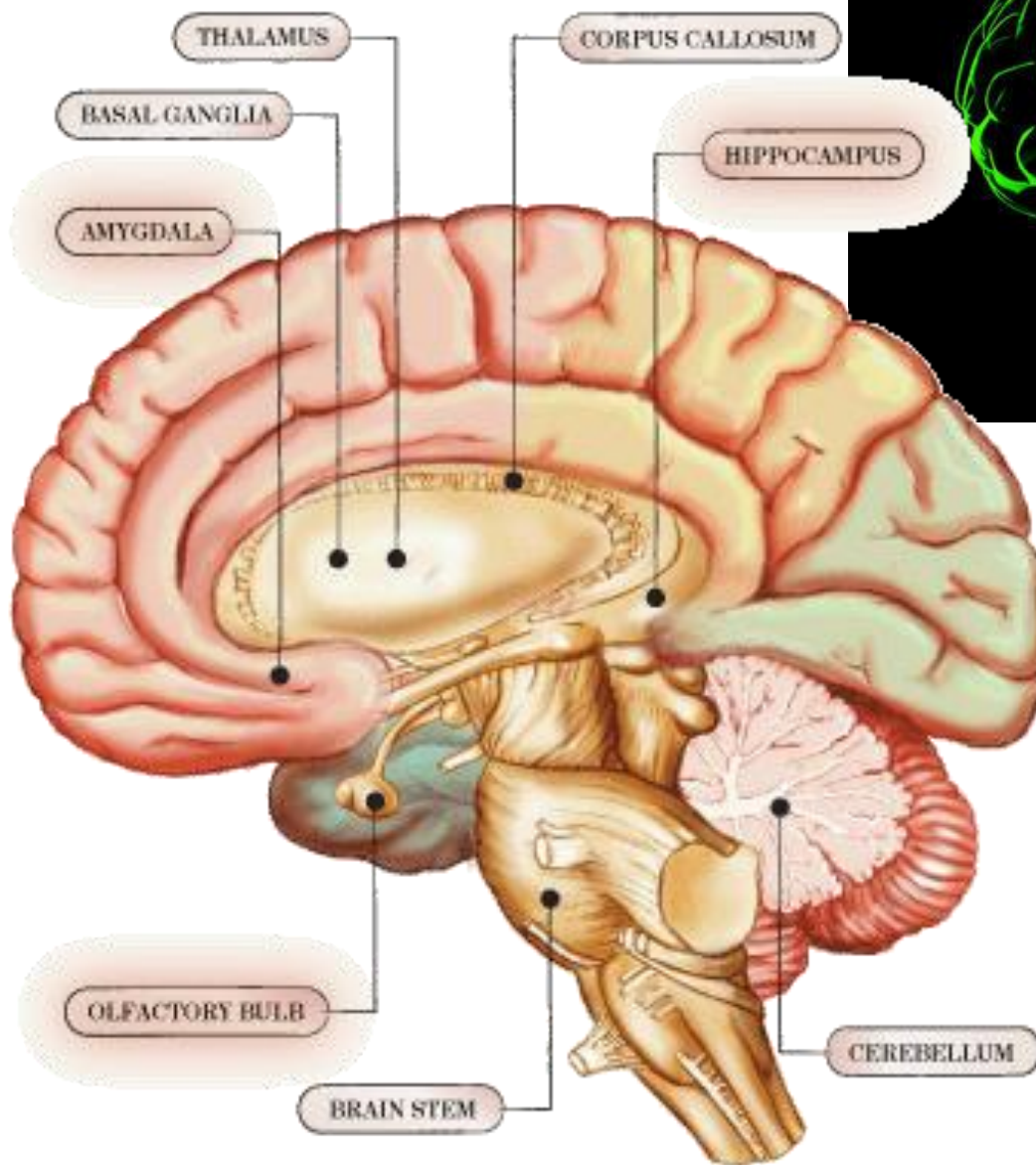
Menschen mit Demenz

Josef Marksteiner
Abteilung Psychiatrie und Psychotherapie A
LKH Hall

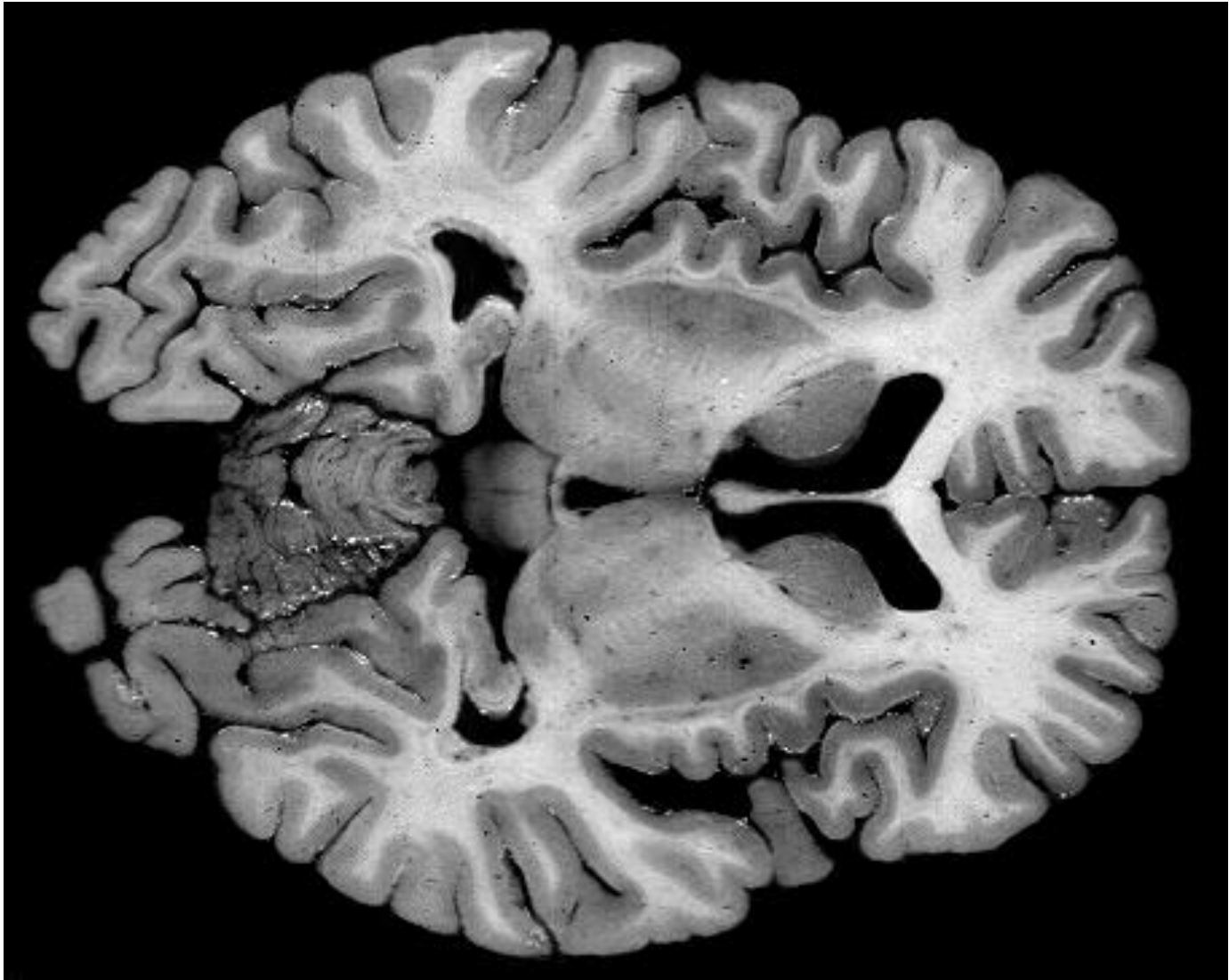
Diskussionspunkte

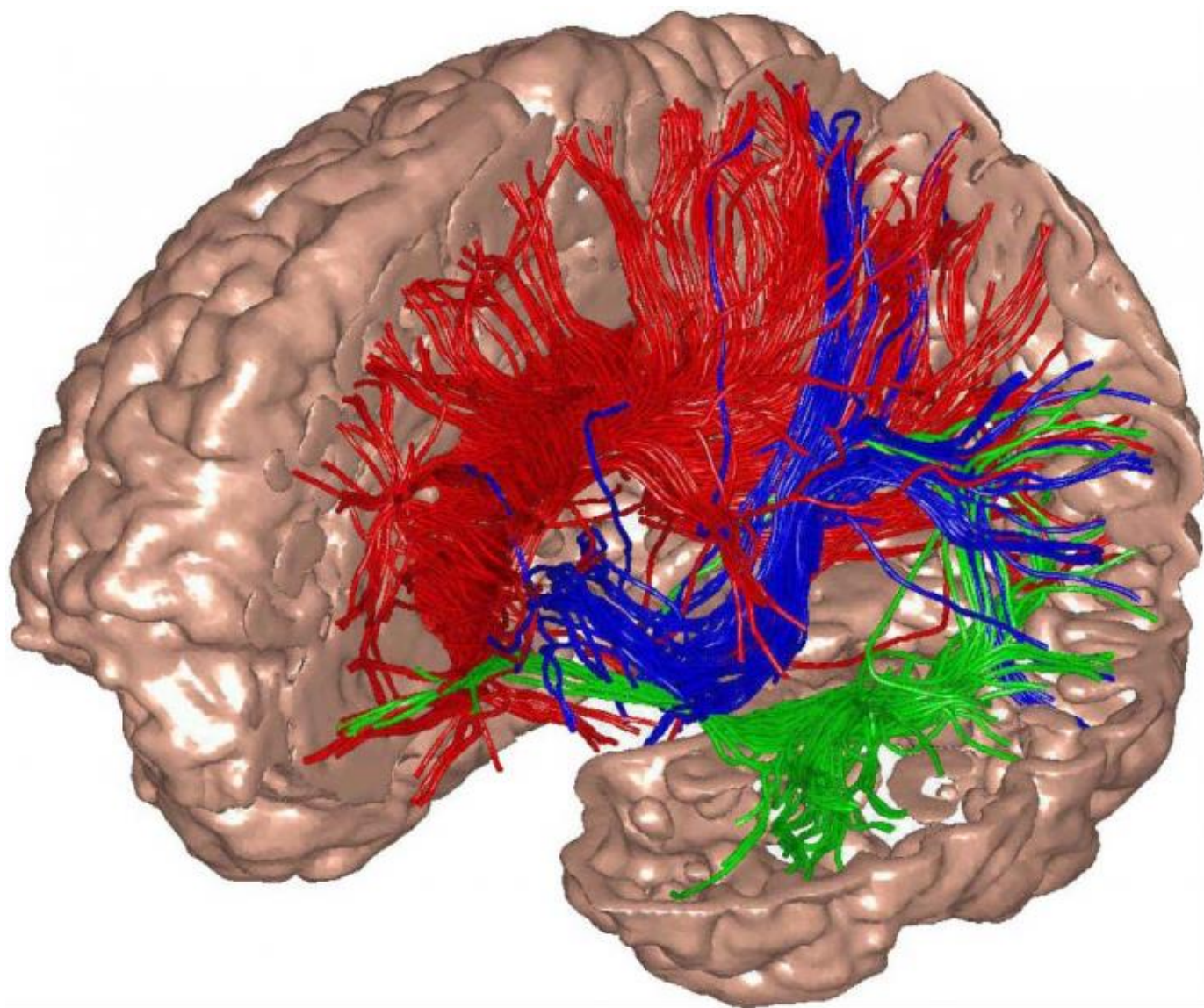
- **Epidemiologie**
- **Pathologie**
- **Krankheitsverlauf**
- **Diagnose**
- **Therapie**
- **Erfolgreiches Altern**

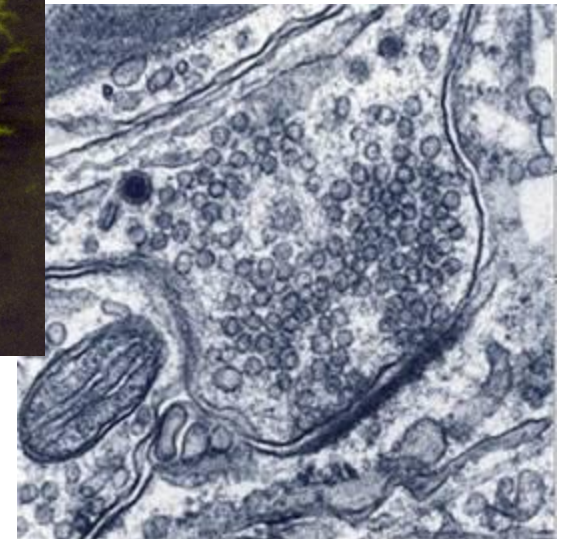
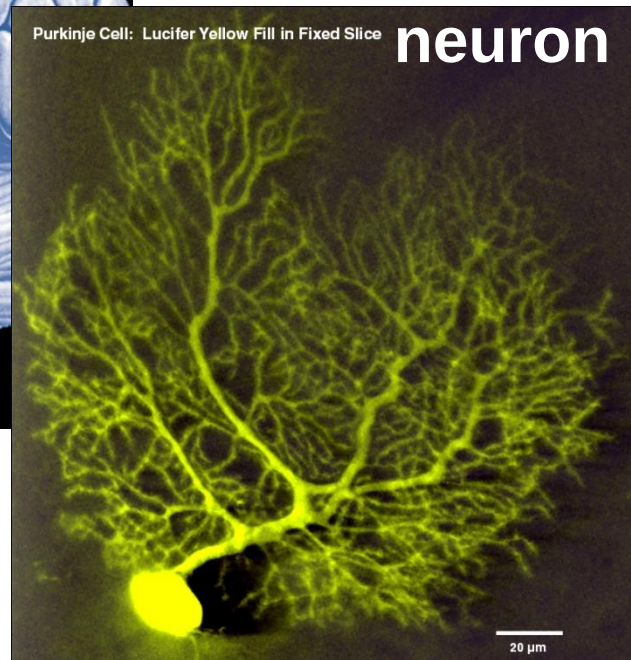
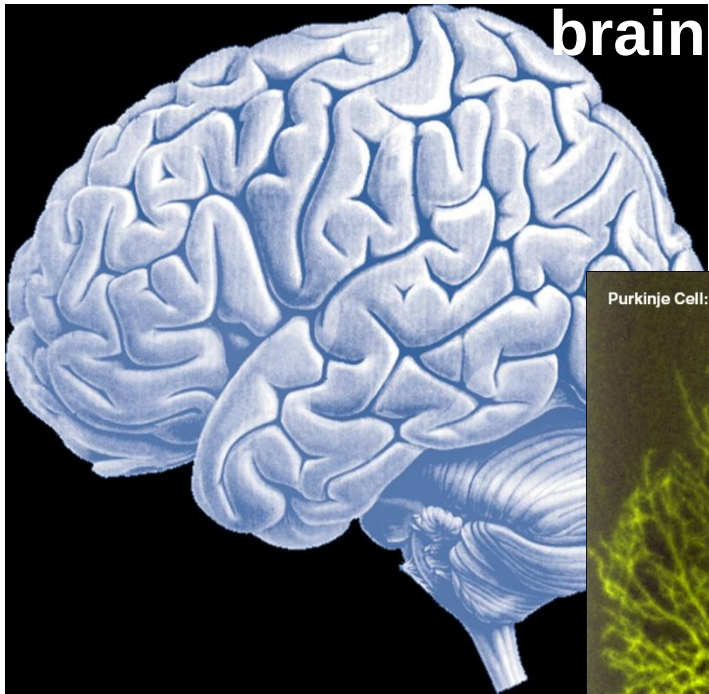
Gehirn – allgemeine Grundlagen



Graue und weiße Substanz



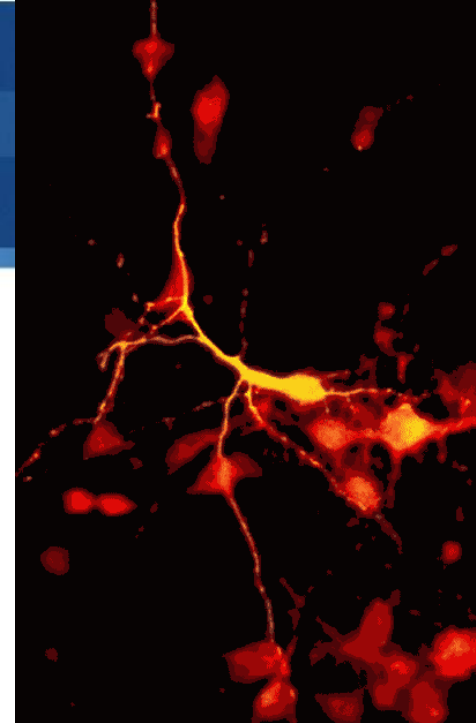




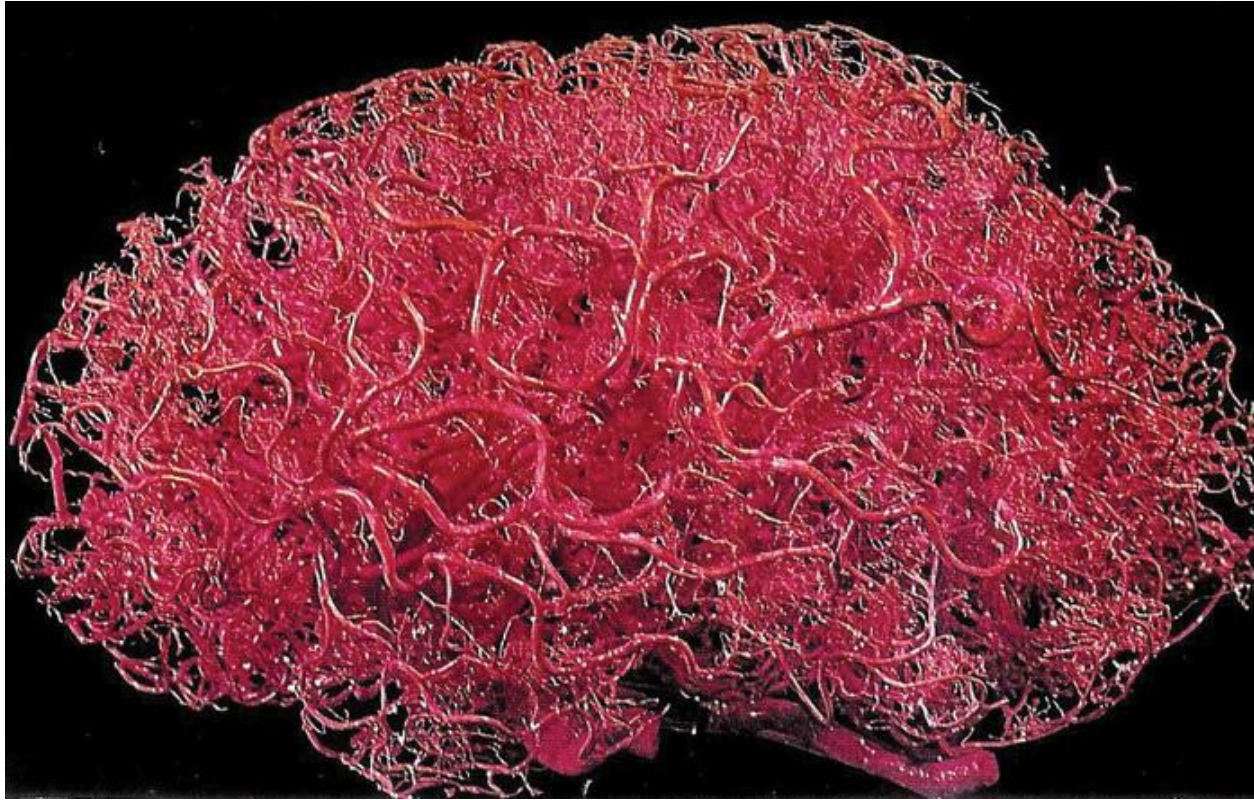
Faszination Gehirn

Kapazität, Leistung und Schnelligkeit

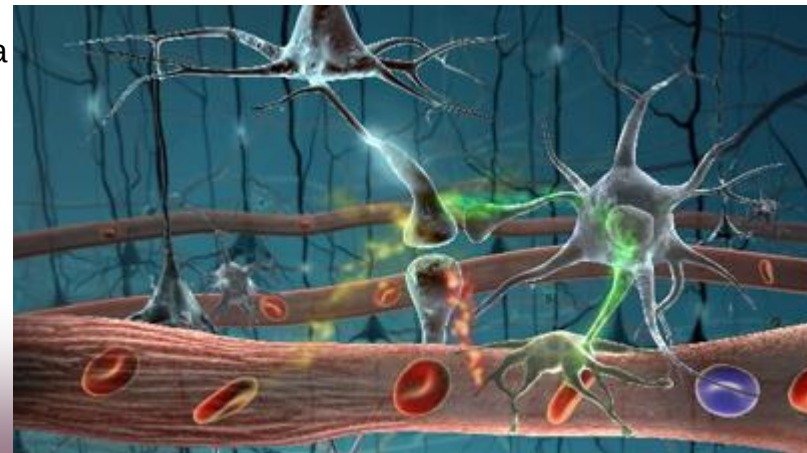
- 500 Impulse pro Sekunde kann eine einzelne Nervenzelle im Gehirn aussenden
- 100 km lang ist das Netz aus 100 Milliarden Nervenzellen und mehr als 100 Billionen Synapsen im Gehirn
- 2% Körpermasse verbrauchen 20% der Energie
- Ohne Gehirn kein Denken, Fühlen, Sehen, Sprechen, Schmecken, Riechen, Träumen, Bewegen, Erinnern, Erkennen, „Bewusst Sein“
- 360 km/h schnell ist die Übertragungsgeschwindigkeit von Informationen zwischen zwei Nervenzellen
- Übertragungsrate im gesamten Zentralen Nervensystem: ca. 11.000 kbit/s (über 150-fache ISDN-Geschwindigkeit)



Blutgefäße

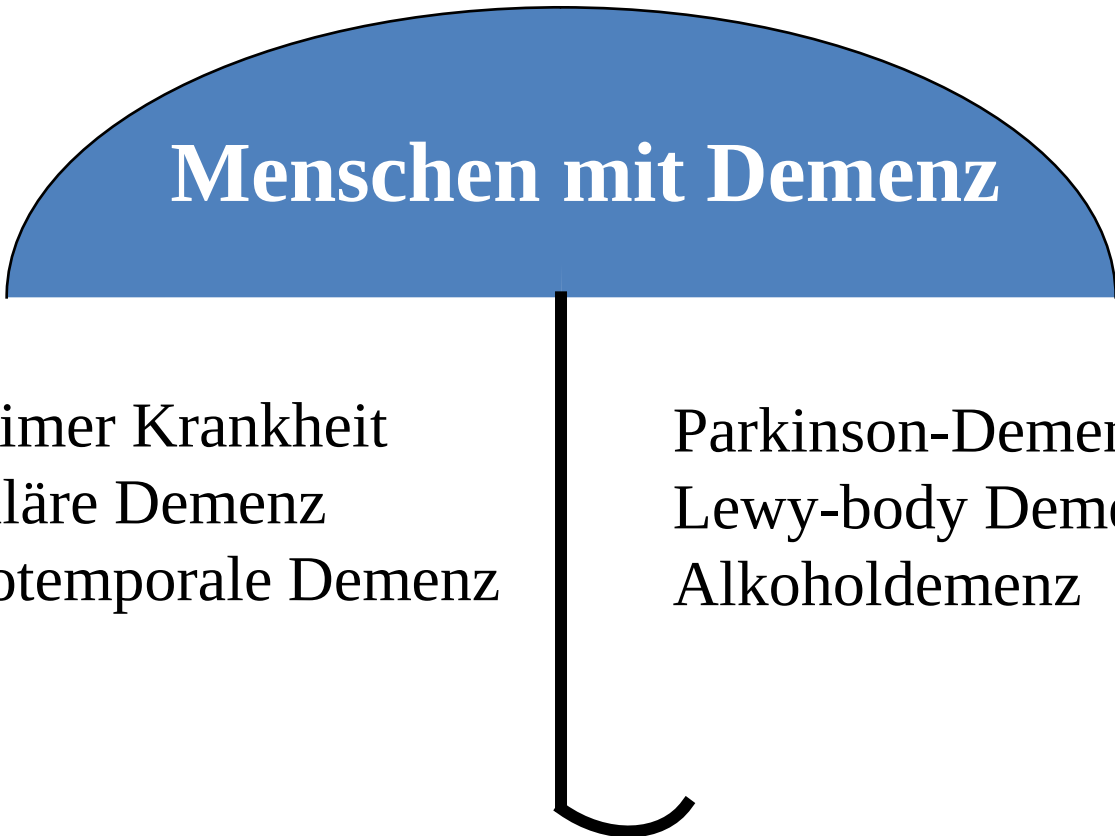


Fotuhi, M. et al. (2009) Changing perspectives regarding late-life dementia
Nat. Rev. Neurol. doi:10.1038/nrneurol.2009.175



Diskussionspunkte

- **Epidemiologie**
- Pathologie
- Krankheitsverlauf
- Diagnose
- Therapie
- Erfolgreiches Altern



Menschen mit Demenz

Alzheimer Krankheit
Vaskuläre Demenz
Frontotemporale Demenz

Parkinson-Demenz
Lewy-body Demenz
Alkoholdemenz

Mindestens 100 Ursachen für Demenz

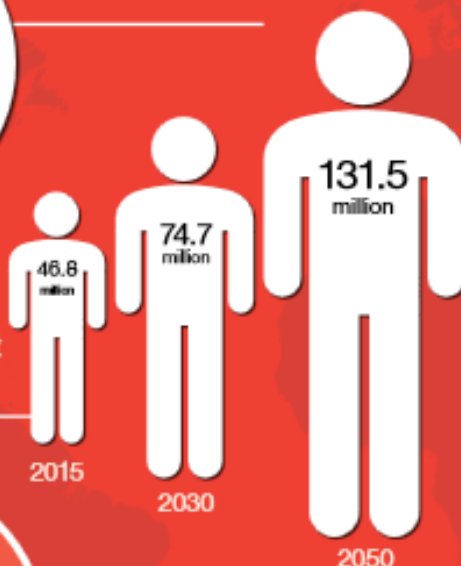
INFOGRAPHIC

The global impact of dementia



Around the world, there will be 9.9 million new cases of dementia in 2015, **one every 3 seconds**

46.8 million people worldwide are living with dementia in 2015. This number will almost double every 20 years.



Much of the increase will take place in low and middle income countries (LMICs): in 2015, 58% of all people with dementia live in LMICs, rising to 63% in 2030 and 68% in 2050.



The total estimated worldwide cost of dementia in 2015 is US\$ 818 billion. By 2018, dementia will become a trillion dollar disease, rising to **US\$ 2 trillion by 2030**

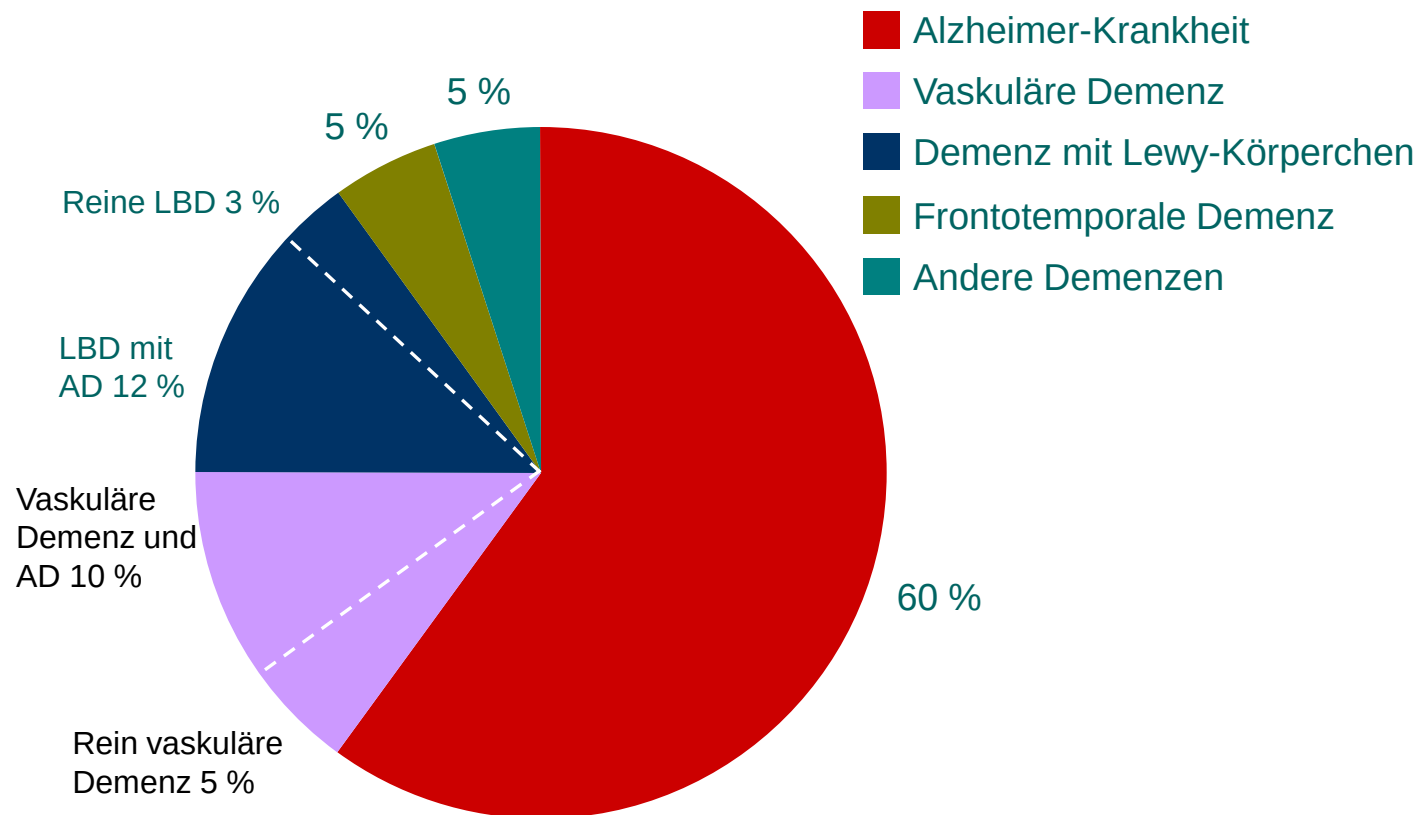
If global dementia care were a country, it would be the **18th largest economy** in the world exceeding the market values of companies such as Apple and Google



This map shows the estimated number of people living with dementia in each world region in 2015.

We must now involve more countries and regions in the global action on dementia.

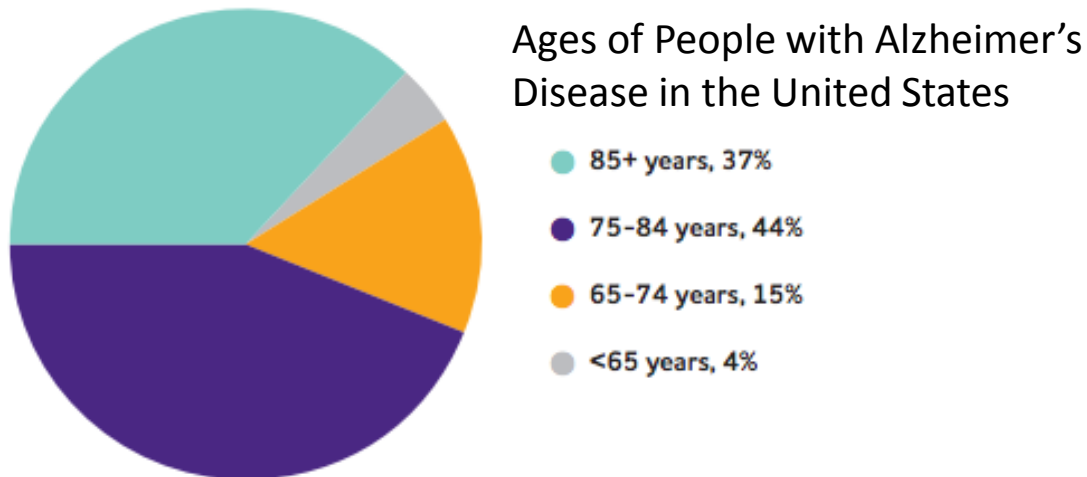
Häufigkeit verschiedener Demenzformen



Gearing *et al.* (1995); Kosunen *et al.* (1996); Nagy *et al.* (1998)

Alzheimer-Krankheit Häufigkeit

- 1 von 9 Menschen über 65+ (11%)
- **1 von 3** Menschen über 85+ (32%)



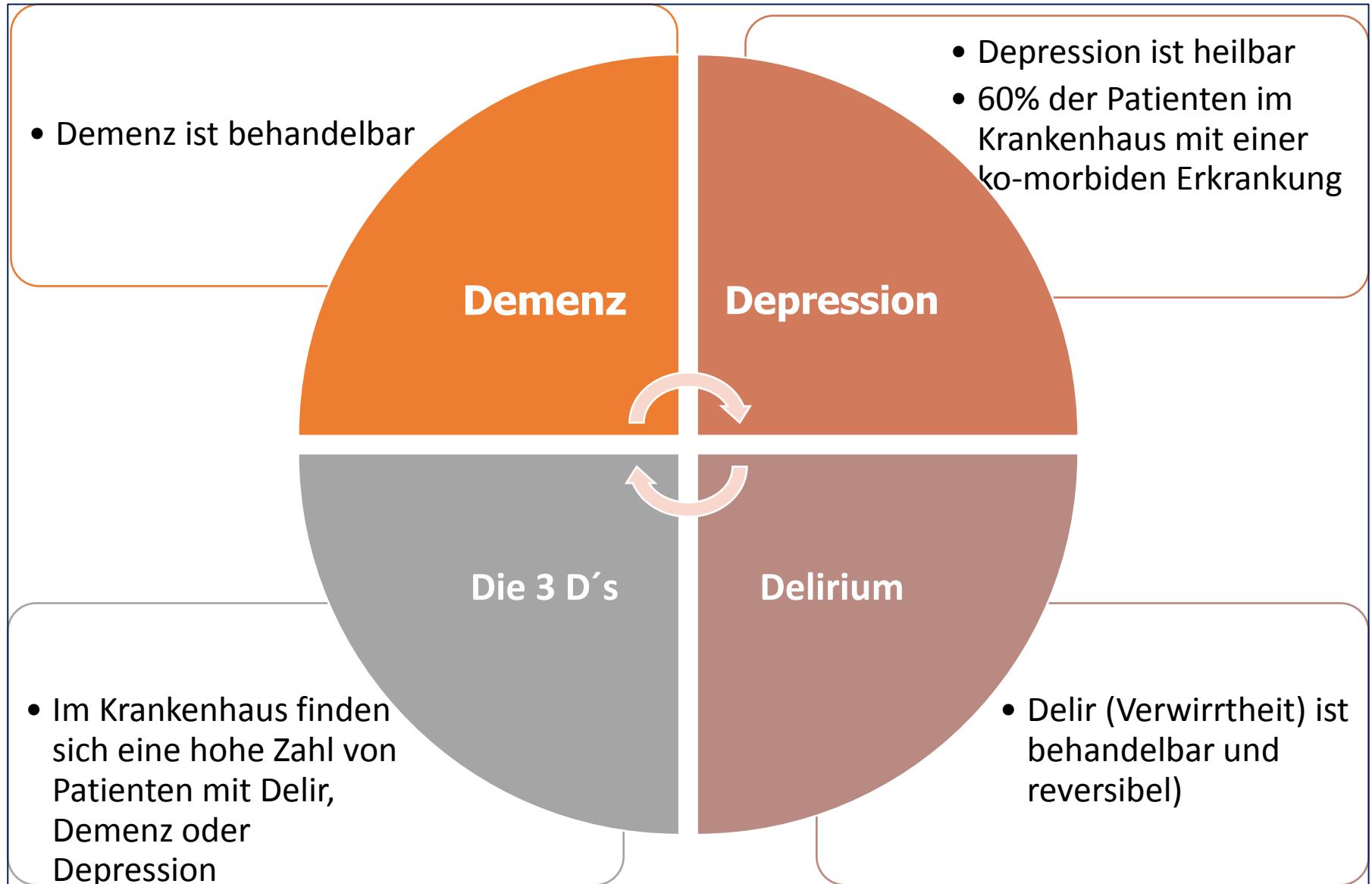
Alzheimer's Association Facts
and Figures 2016

Down Syndrom – höheres Lebensalter

- Lebenserwartung 49 Jahre (2002)
- Personen, die älter als 50 werden haben zu 100% neuropathologische Veränderungen wie bei Alzheimer Krankheit
- Mindestens die Hälfte haben eine klinische Demenz

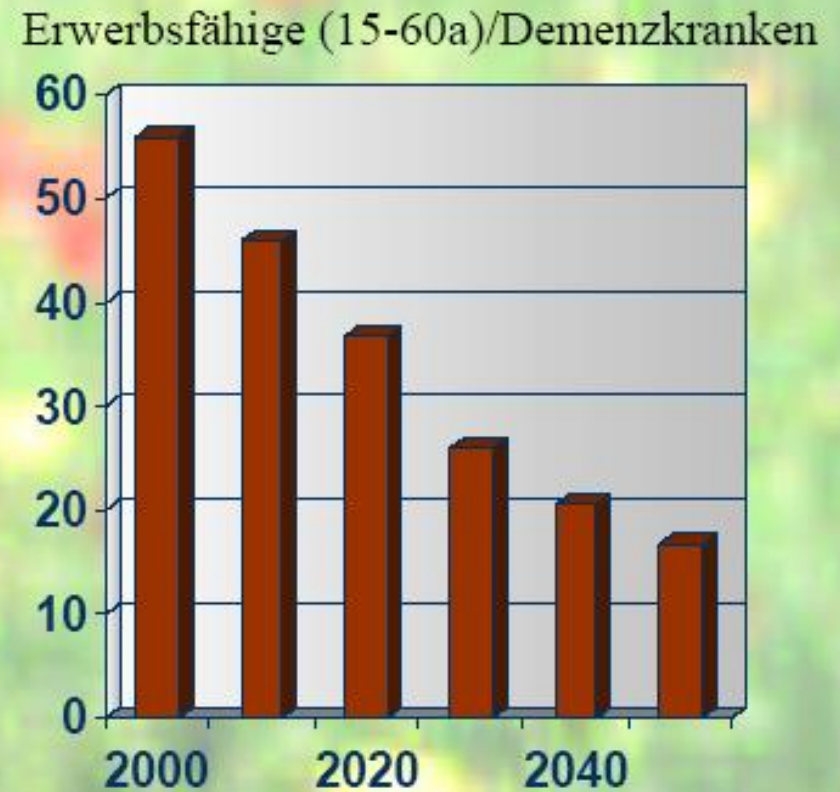


Die 3 D's



Österreich

EPIDEMIOLOGIE



Wancata et al., 2002

Öffentliche Wahrnehmung

Bedeutung für die tägliche Praxis

Ronald Reagan's letter to the American people

Nov. 5 1994

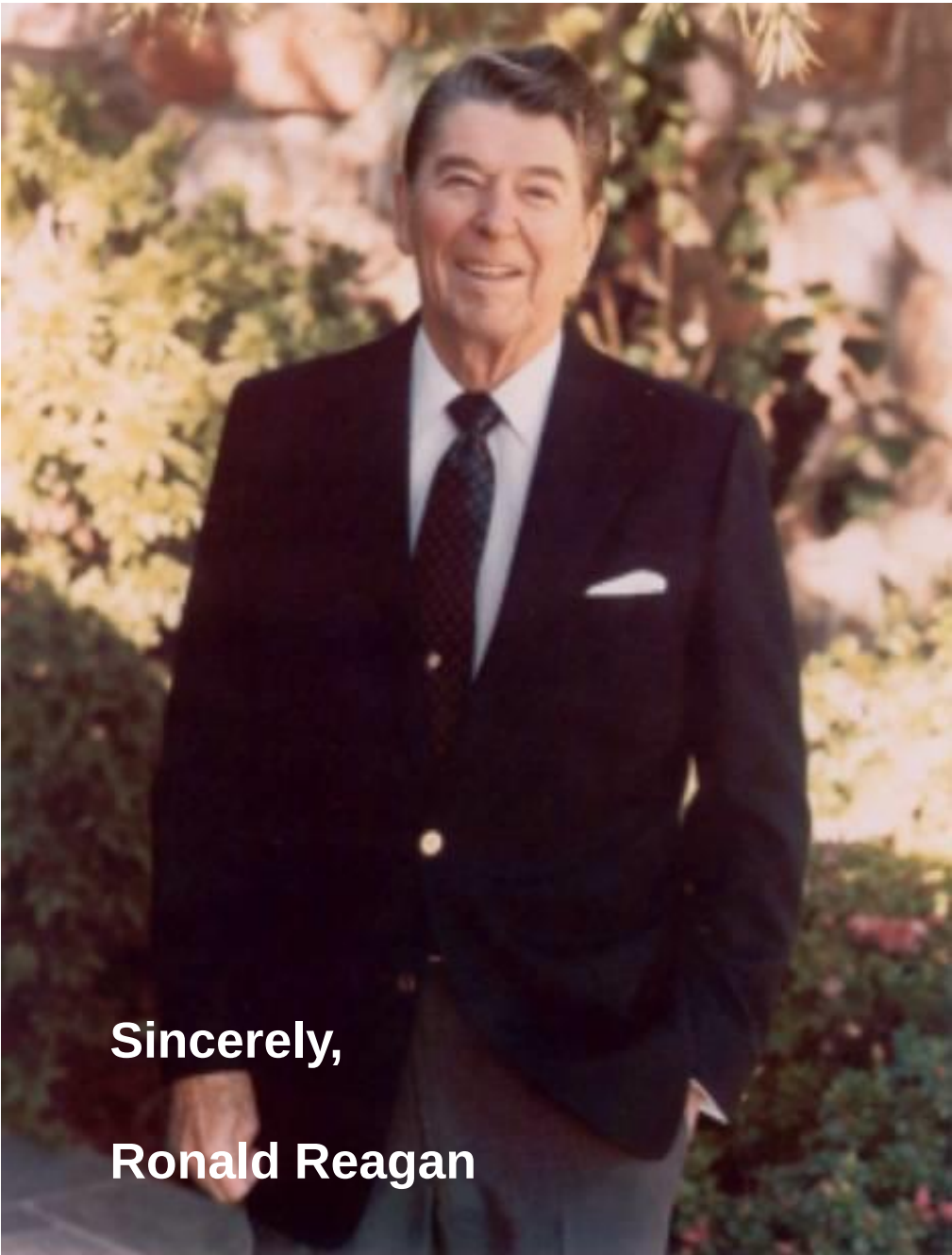
My Fellow Americans,

I have recently been told that I am one of the Americans who will be afflicted with Alzheimer's Disease.

Upon learning this news, Nancy & I had to decide whether as private citizens we would keep this a private matter or whether we would make this news known in a public way. In the past Nancy suffered from breast cancer and I had my cancer surgeries. We found through our open disclosures we were able to raise public awareness. We were happy that as a result many more people underwent testing. They were treated in early stages and able to return to normal, healthy lives. So now, we feel it is important to share it with you. In opening our hearts, we hope this might promote greater awareness of this condition. Perhaps it will encourage a clearer understanding of the individuals and families who are affected by it. At the moment I feel just fine. I intend to live the remainder of the years God gives me on this earth doing the things I have always done. I will continue to share life's journey with my beloved Nancy and my family. I plan to enjoy the great outdoors and stay in touch with my friends and supporters. Unfortunately, as Alzheimer's Disease progresses, the family often bears a heavy burden. I only wish there was some way I could spare Nancy from this painful experience. When the time comes I am confident that with your help she will face it with faith and courage. In closing let me thank you, the American people for giving me the great honor of allowing me to serve as your President. When the Lord calls me home, whenever that may be I will face it with the greatest love for this country of ours and eternal optimism for its future.

I now begin the journey that will lead me into the sunset of my life. I know that for America there will always be a bright dawn ahead.

Thank you, my friends. May God always bless you.



**Sincerely,
Ronald Reagan**

OCTOBER 26, 2010

Election 2010:
Foreign money
in the midterms?

Chilean Miners:
Their amazing
journey

China's Fury:
Eyes on the
Nobel Prize

40 Under 40:
The young
pols to watch

TIME

Alzheimer's

At last, some progress
against the most
stubborn disease

BY ALICE PARK

www.time.com



Gunter Sachs und die Fürstin Marianne zu Sayn-Wittgenstein bei einer Buchpräsentation im Landhaus in Fuschl am See (aufgenommen 2010).

**Sein Freitod spaltet die Nation.
Die Krankheit nennt er A wie Angst vor der
Vergeßlichkeit....**

Alzheimer

Alzheimer macht Angst. "Wenn es eine Sache in meinem Leben gibt, vor der ich immer Angst hatte, so richtig Schiss auf gut Deutsch, dann Alzheimer", sagt der ehemalige Fußballmanager Rudi Assauer, bei dem das Leiden immer weiter fortschreitet.

"Bloß nicht dement werden im Alter, das schwirrte mir oft im Kopf herum." Assauer kommt aus einer Familie, in der die Krankheit häufig ist.



Diskussionspunkte

- Epidemiologie
- **Pathologie**
- Krankheitsverlauf
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- Erfolgreiches Altern

100 Jahre Alzheimer Forschung



Alzheimers „erste“ Patientin Auguste D. starb nach 4,5 Jahren Krankenhausaufenthalt am 28. August, 1906 in der Frankfurter Irrenanstalt:

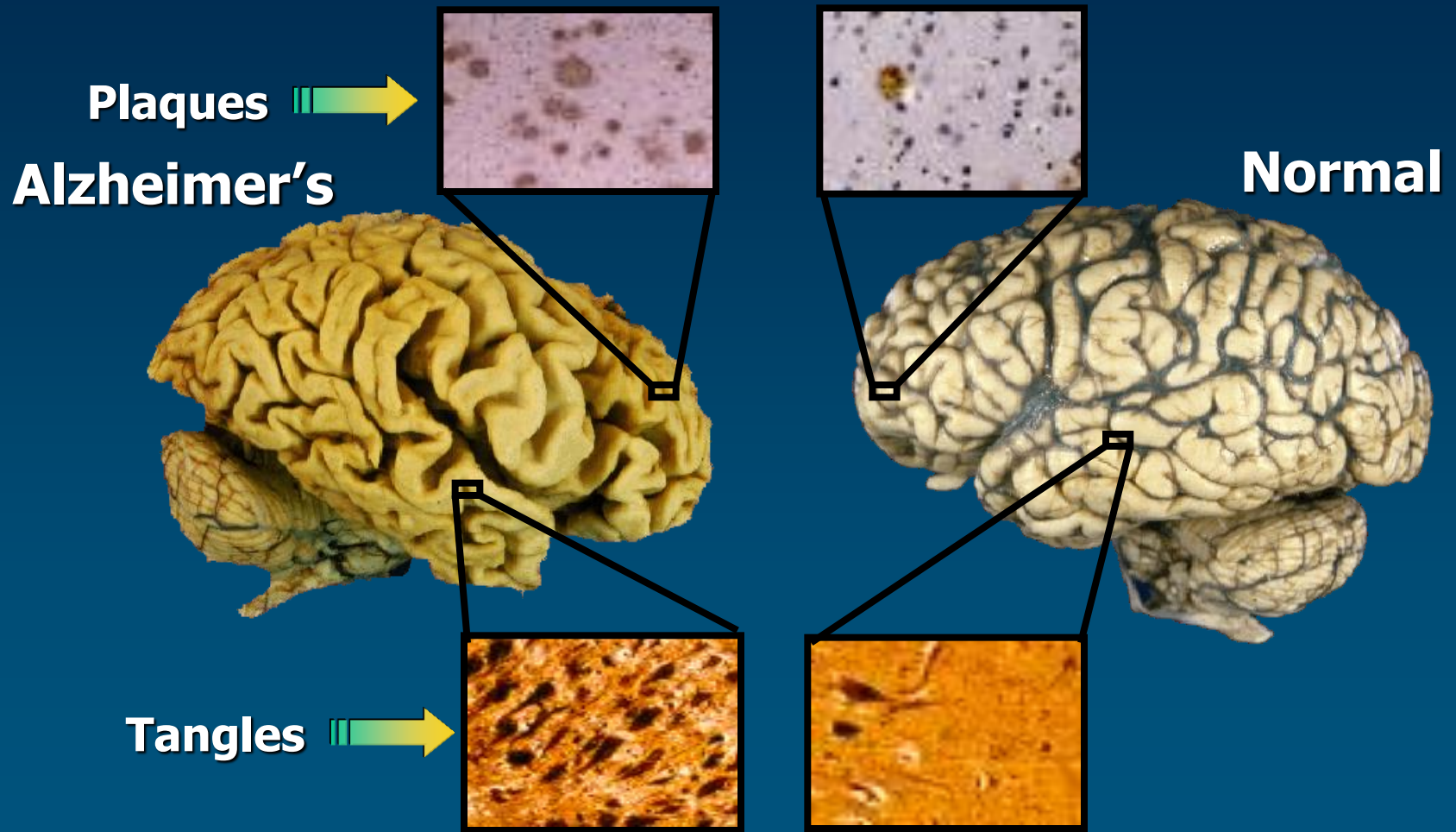
180-180-06	Chemnitz	Alzheimers	Alzheimers
181-181-06	Hamburg, St.	-	Frankfurt
182-182-06	St. Pommern	Alzheimers	St. Pommern

Am 3. November 1906, anlässlich der 37. Wanderversammlung der Südwestdeutschen Irrenärzte in Tübingen präsentierte Alois Alzheimer die Veränderungen im Gehirn von Auguste D.:



Es gab
keine
Diskussion!

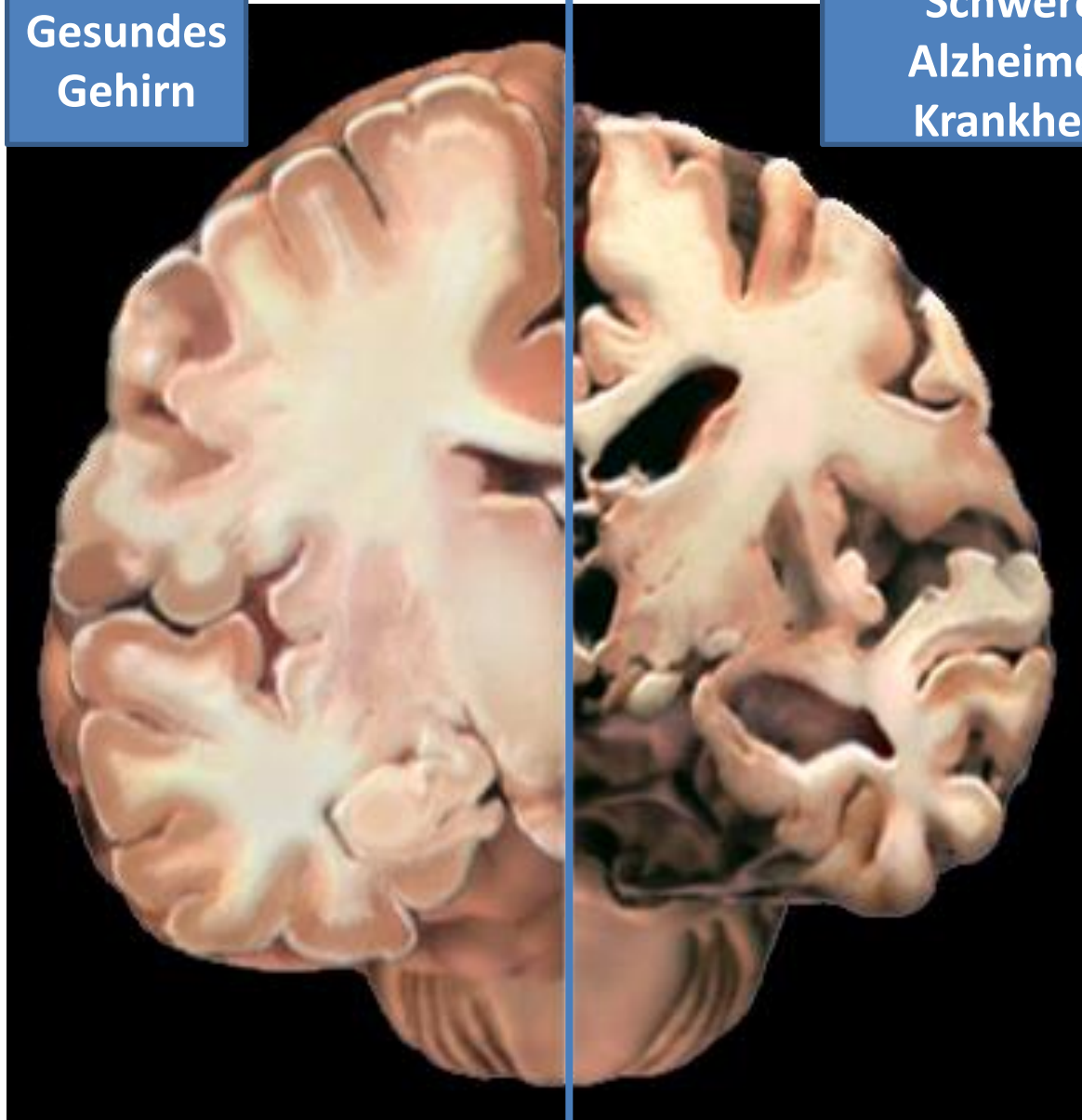
Amyloid Plaques and Neurofibrillary Tangles in Alzheimer's Disease and Normal Aging



Courtesy of Harry Vinters, MD.

**Gesundes
Gehirn**

**Schwere
Alzheimer
Krankheit**



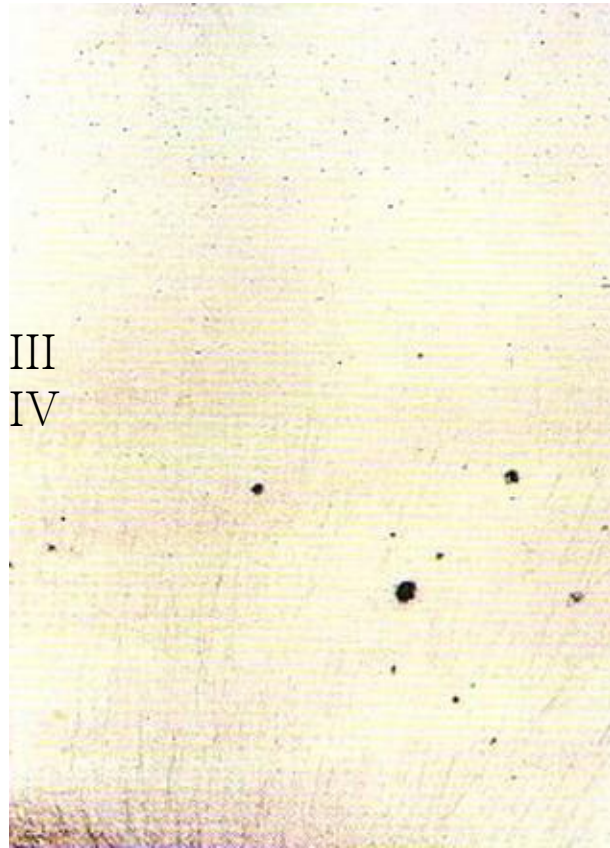


Amyloid - Pathologie

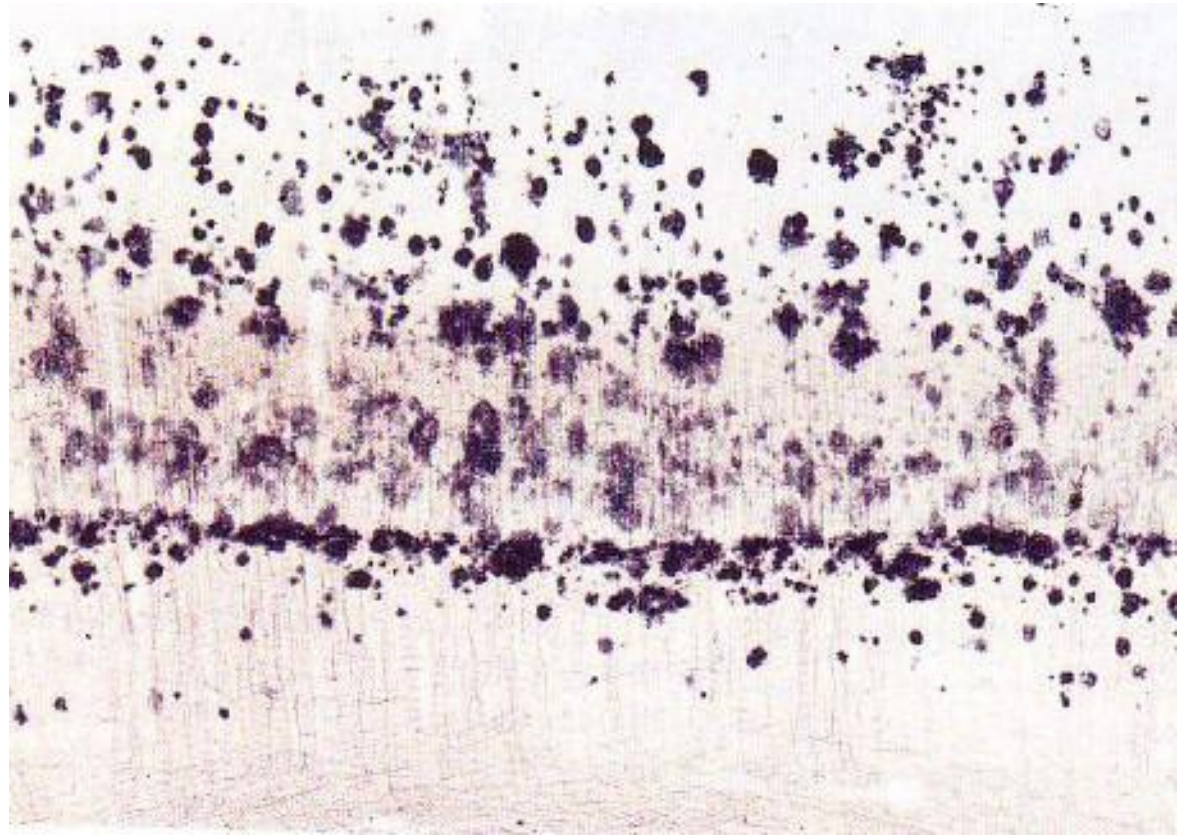
Tau - Pathologie

**Synaptische
Veränderungen**

Beta-Amyloid Plaques (neocortex)



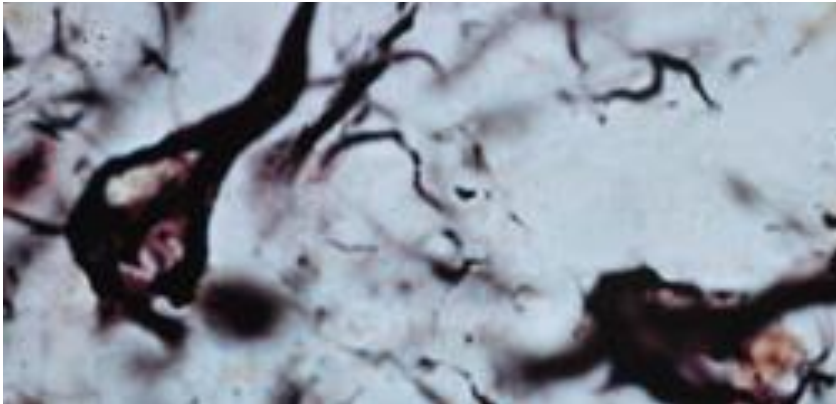
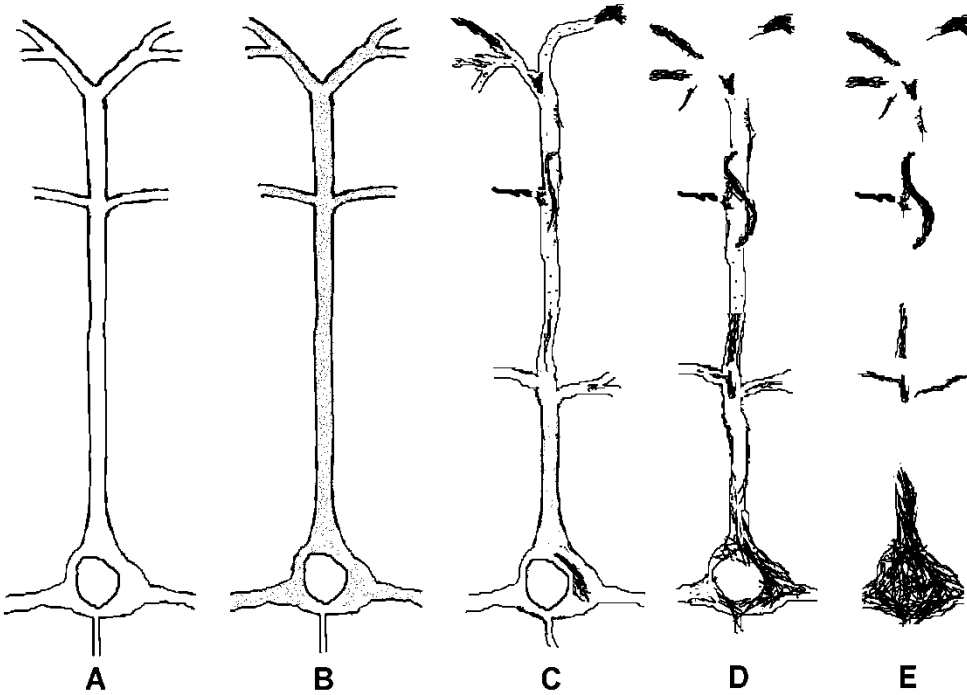
Stadium A



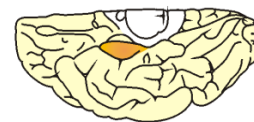
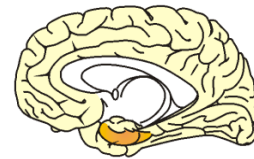
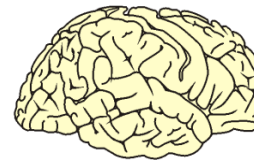
Stadium C

Tauprotein - Pathology

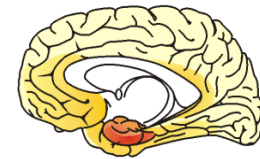
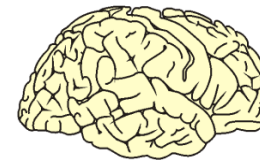
Duration:
years to decades



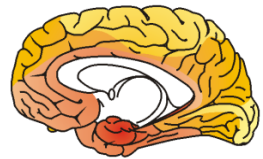
**NFT-Stages
I-II
(Entorhinal
stages)**

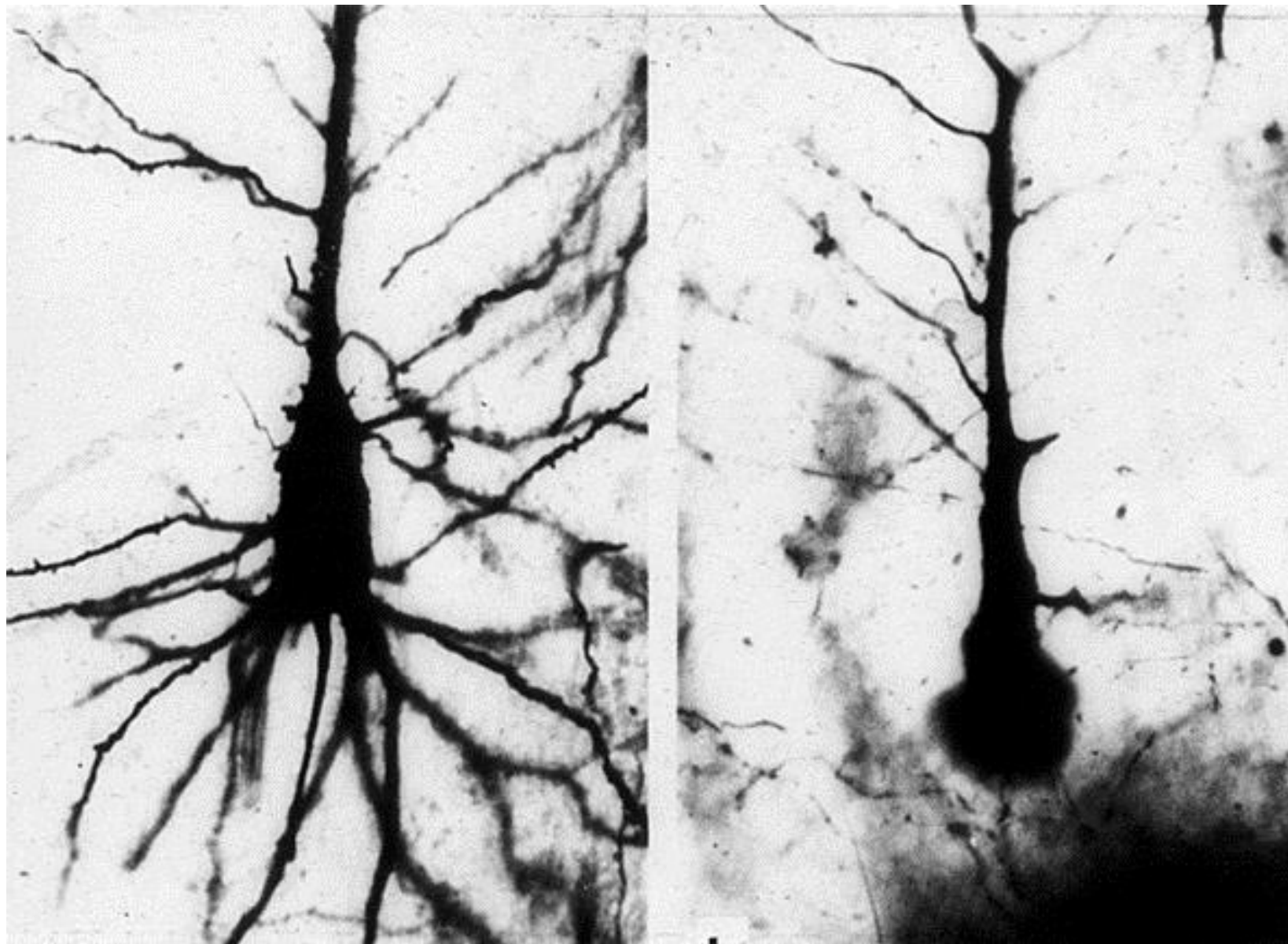


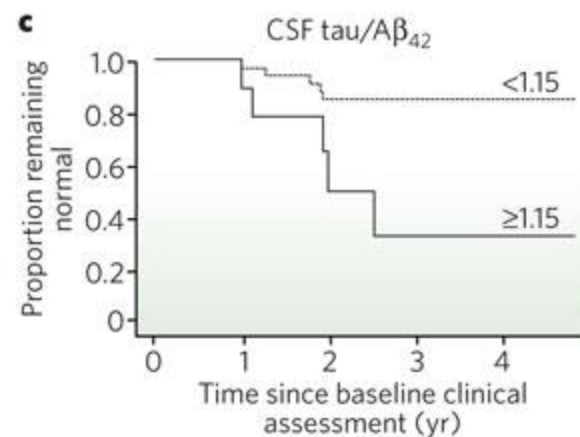
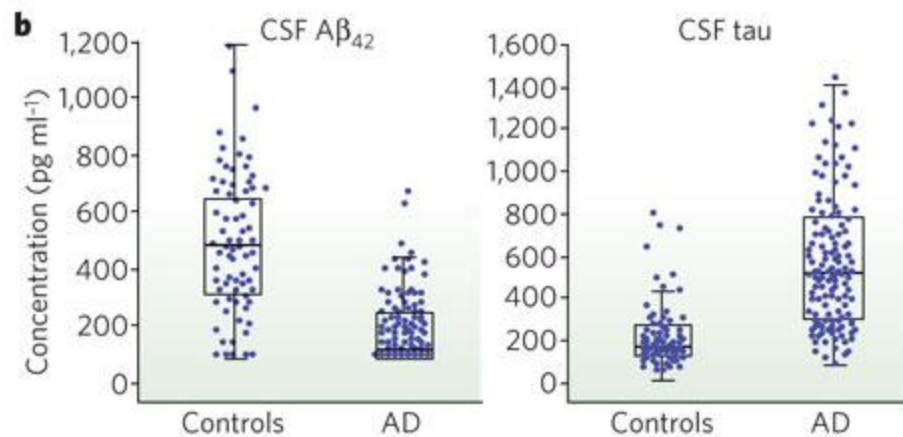
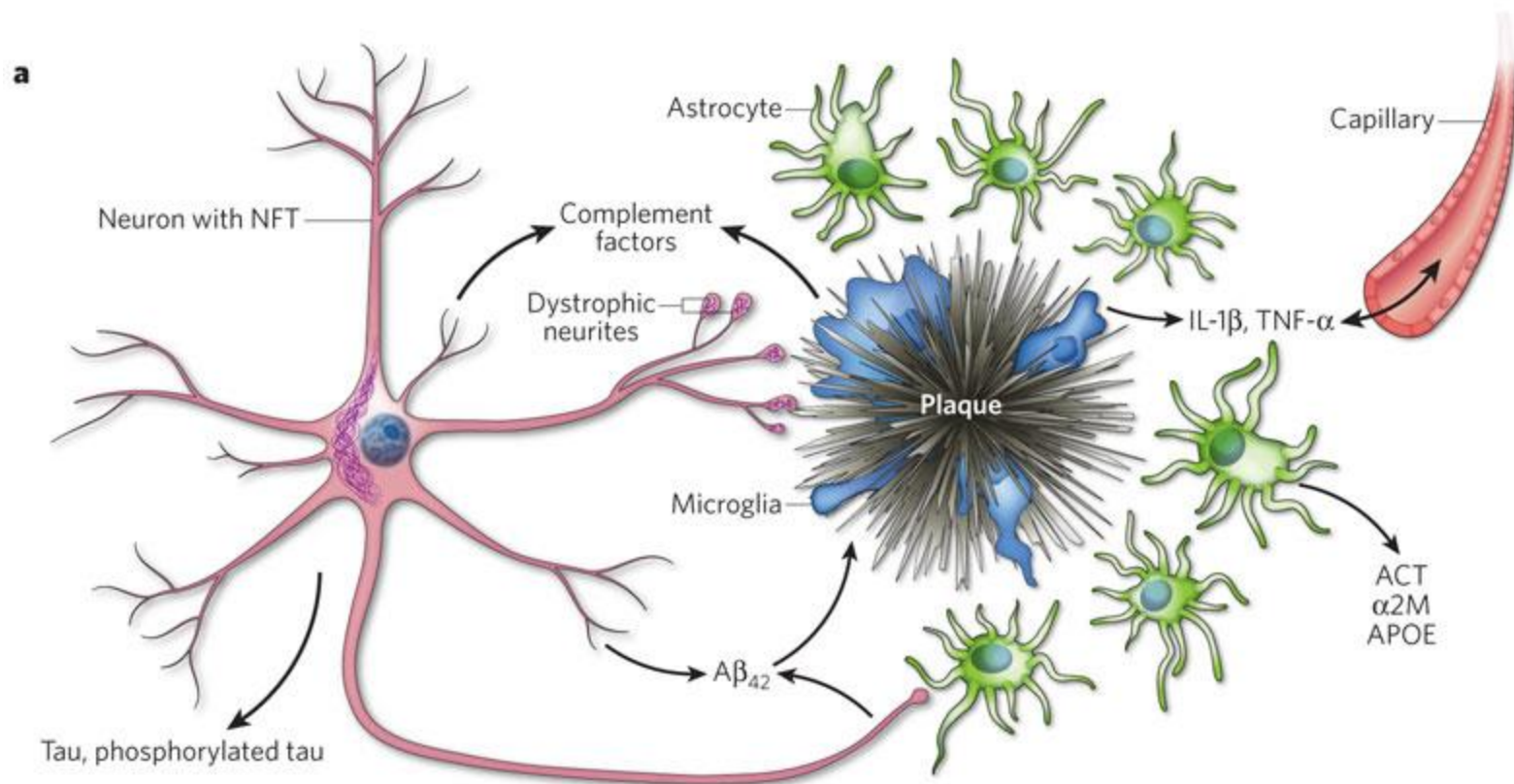
**NFT-Stages
III-IV
(Limbic
stages)**



**NFT-Stages
V-VI
(Neocortical
stages)**



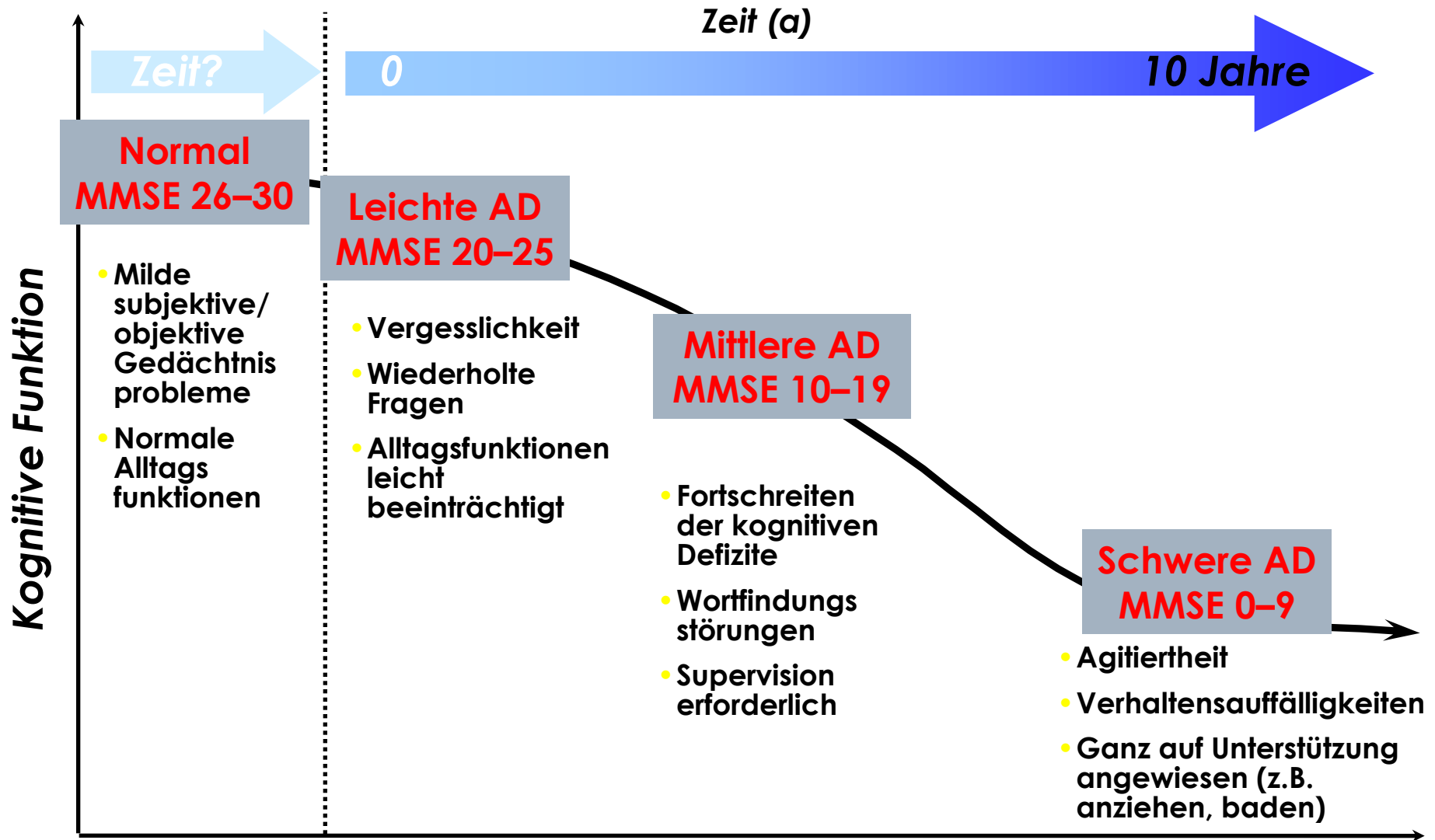




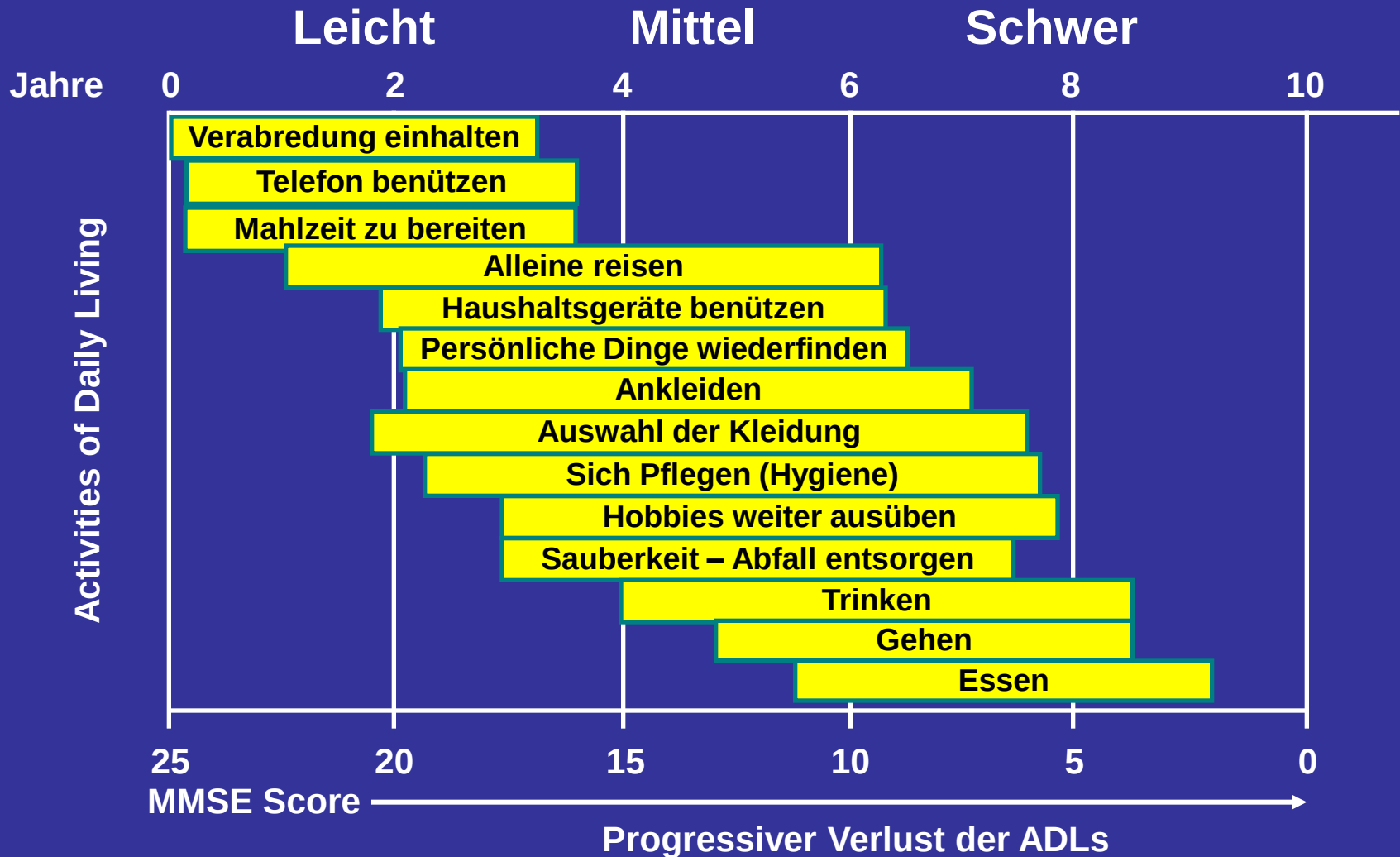
Diskussionspunkte

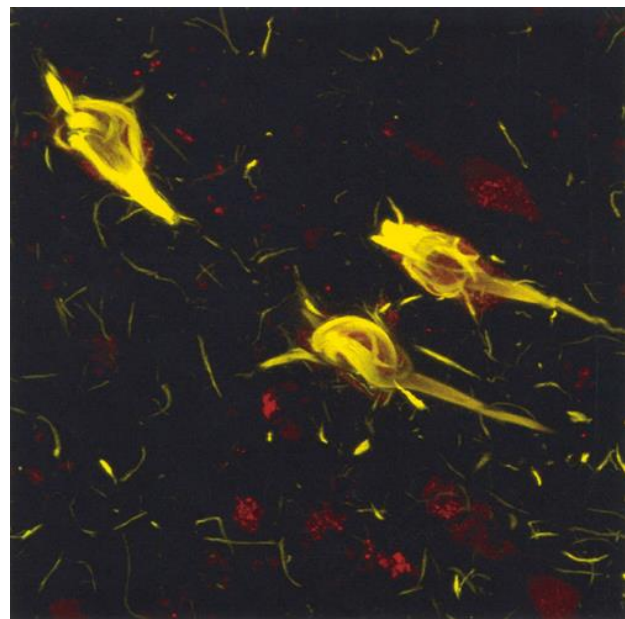
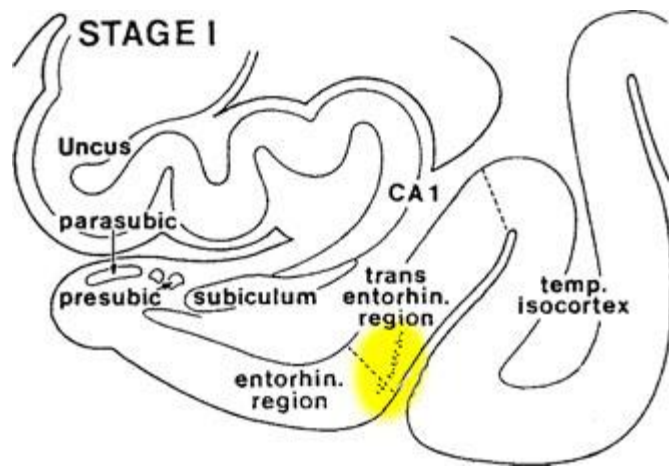
- Epidemiologie
- Pathologie
- **Krankheitsverlauf**
- Diagnose
- Therapie
- Erfolgreiches Altern

Klinischer Verlauf der Alzheimer Krankheit (AD)



Fortschreitende Beeinträchtigung der Alltagsaktivitäten

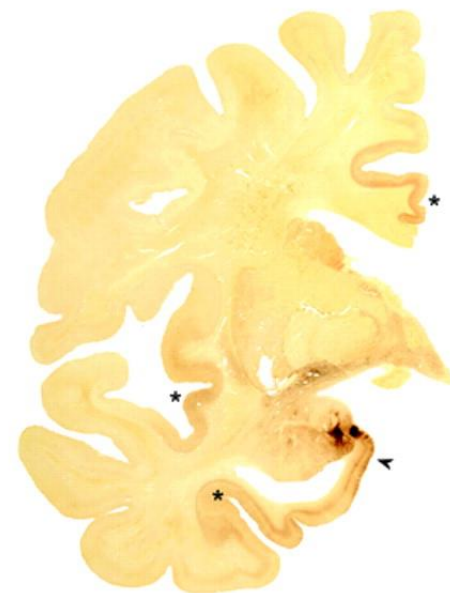




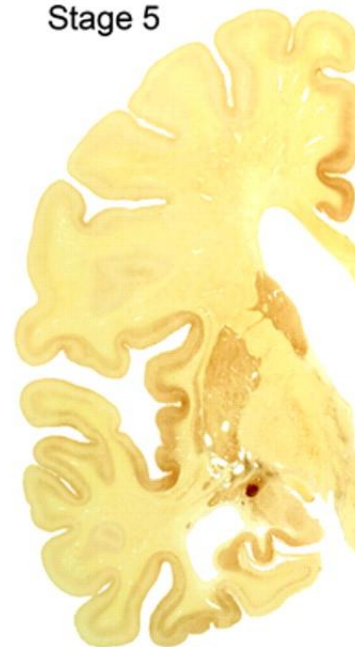
A Stage 3



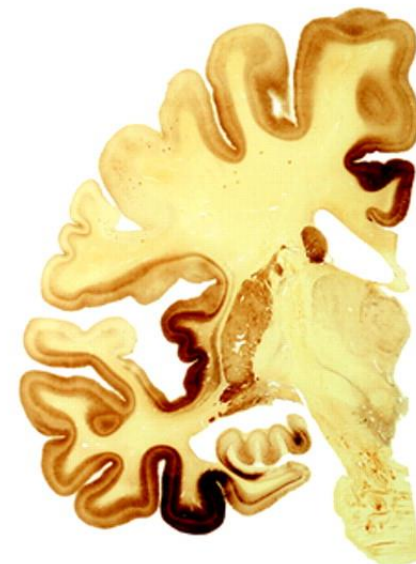
B Stage 4



C Stage 5



D Stage 6



Bei Alzheimer beginnt in und um den Hippocampus
(dunkel eingefärbt) das Zellsterben



Alzheimer zu Beginn und im Endstadium: Das Zellsterben hat sich über die ganze Großhirnrinde ausgebreitet





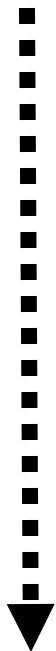
Der Vater hält die Hand von Toledanos Ehefrau
Carla.

Diskussionspunkte

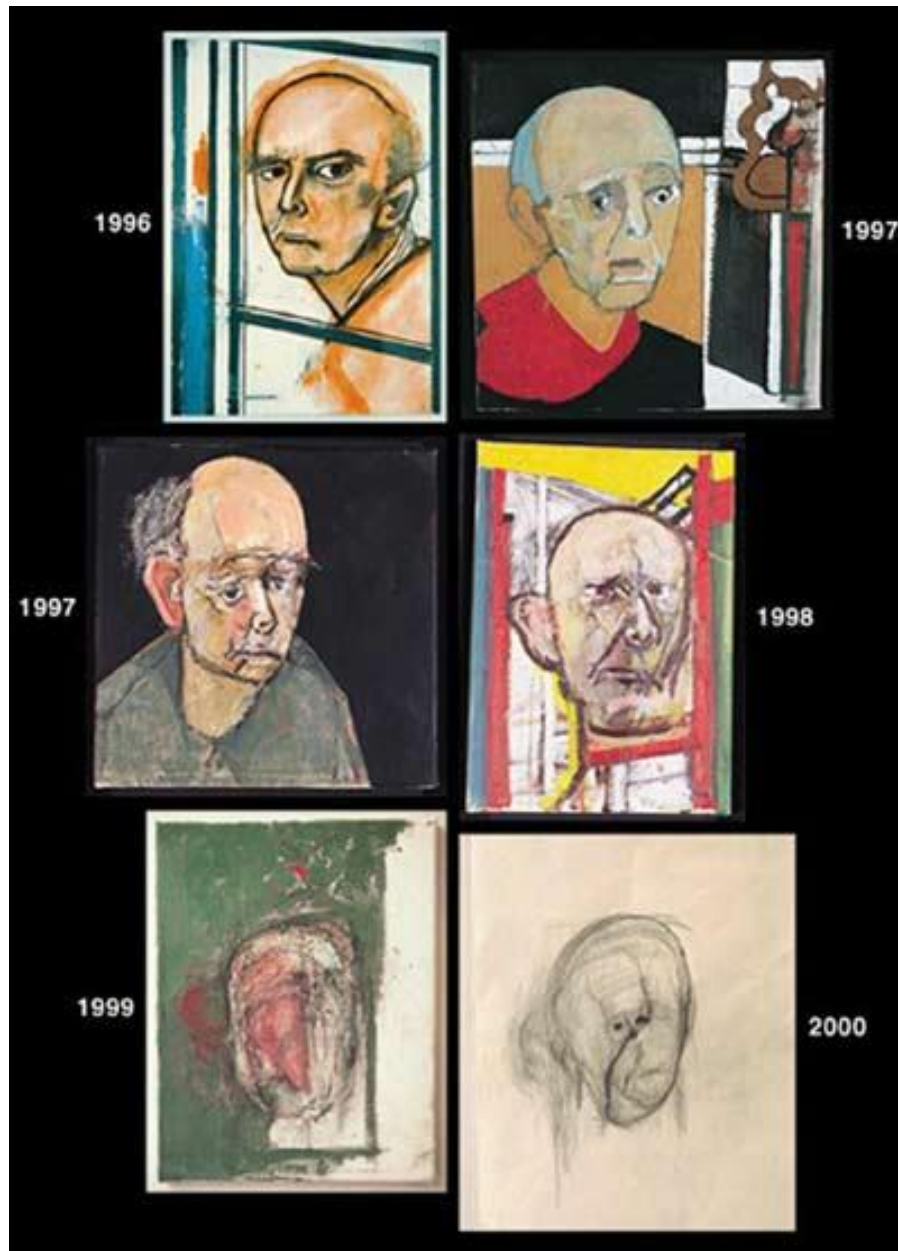
- Epidemiologie
- Pathologie
- Krankheitsverlauf
- **Diagnose**
- Therapie
- Erfolgreiches Altern

A self-portrait of William Utermohlen

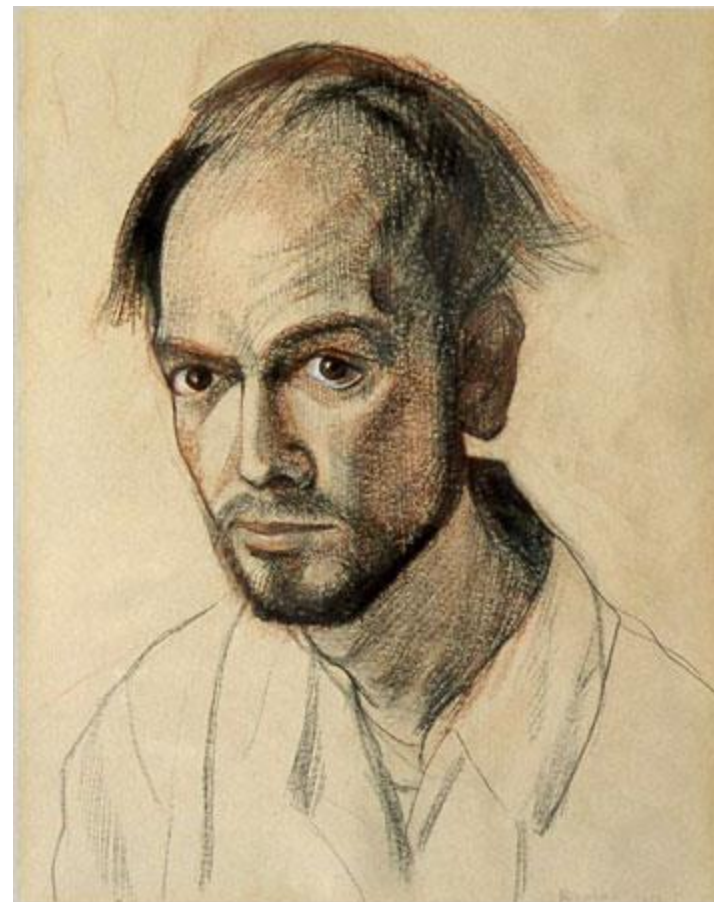
1995



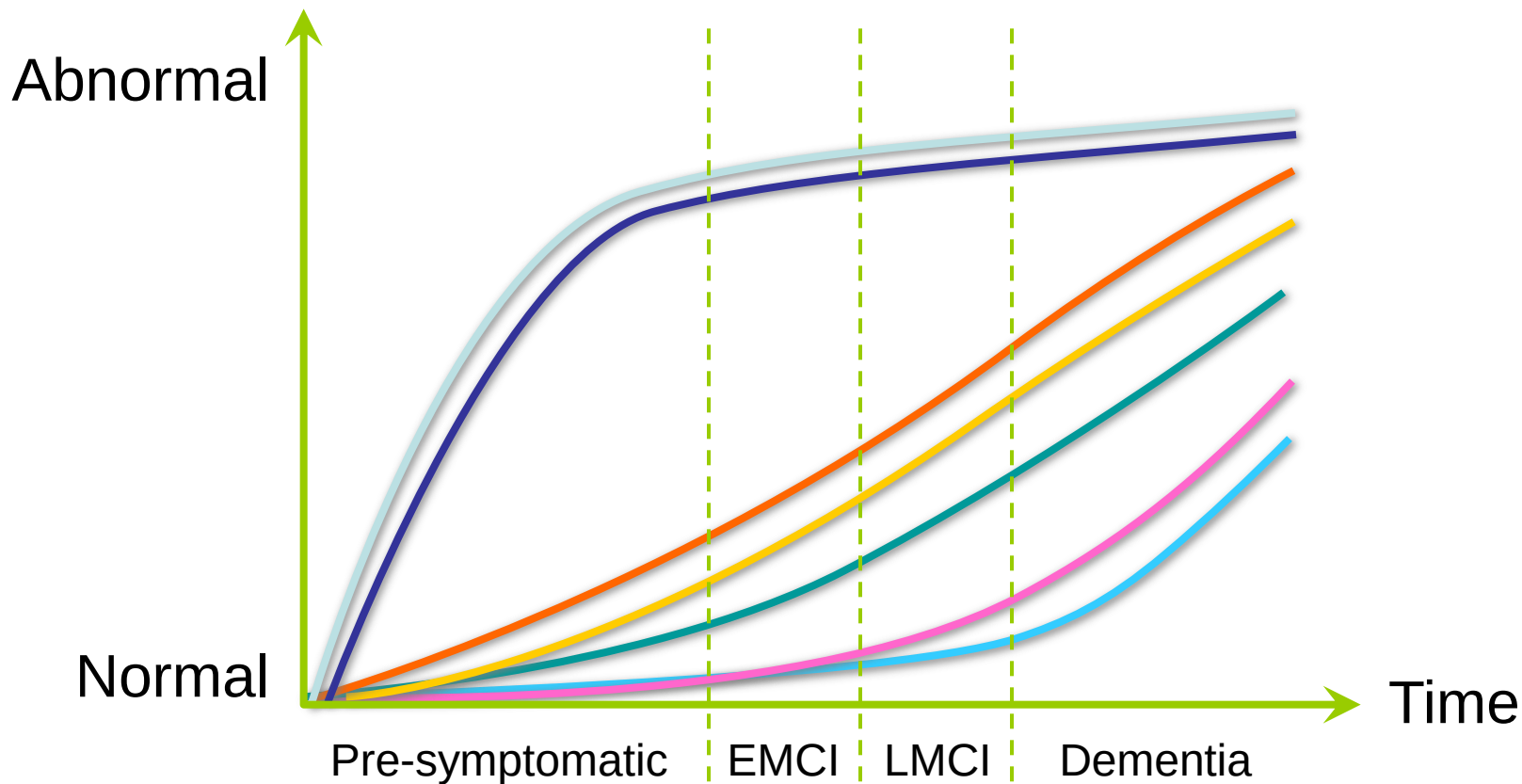
2000



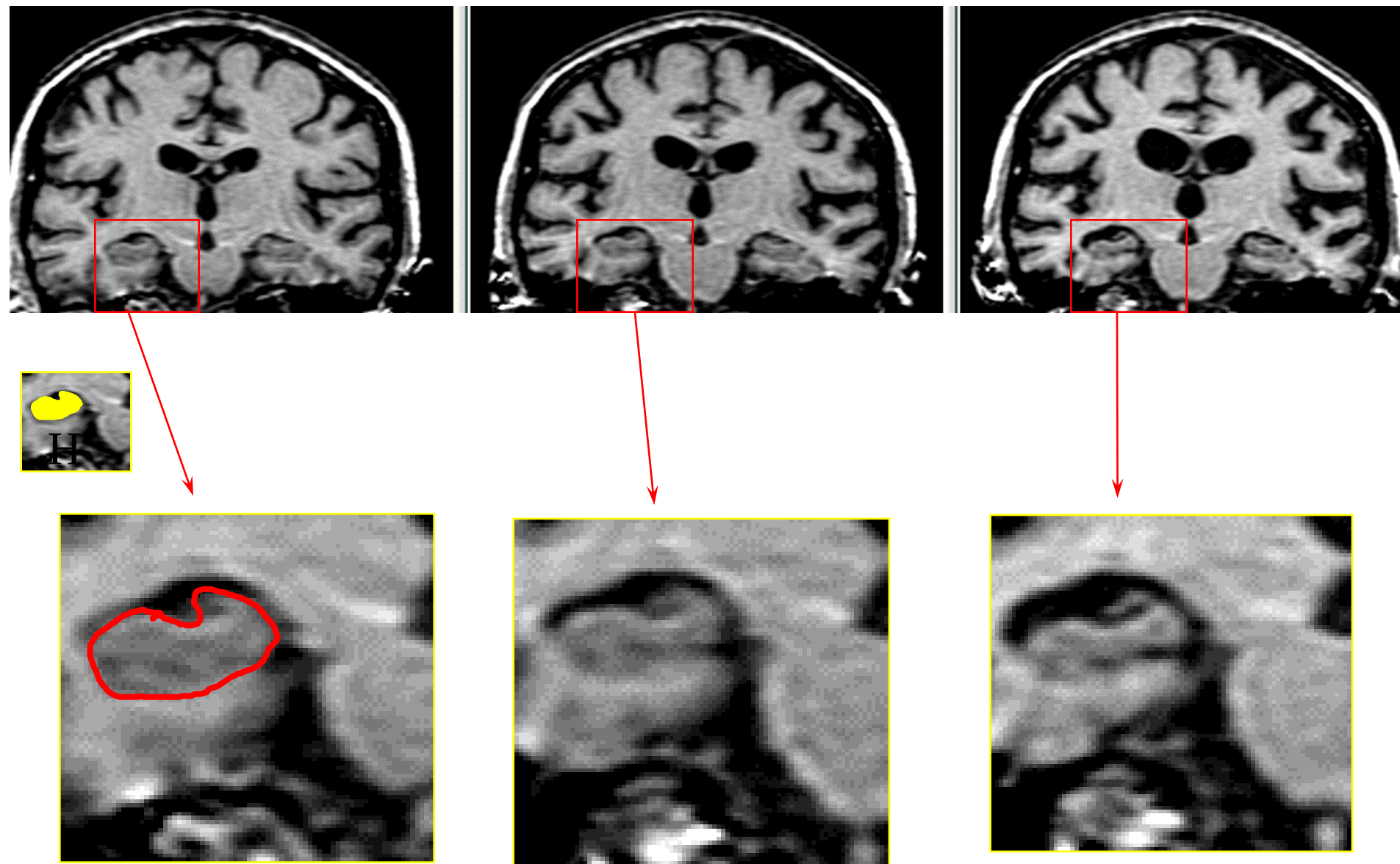
1967



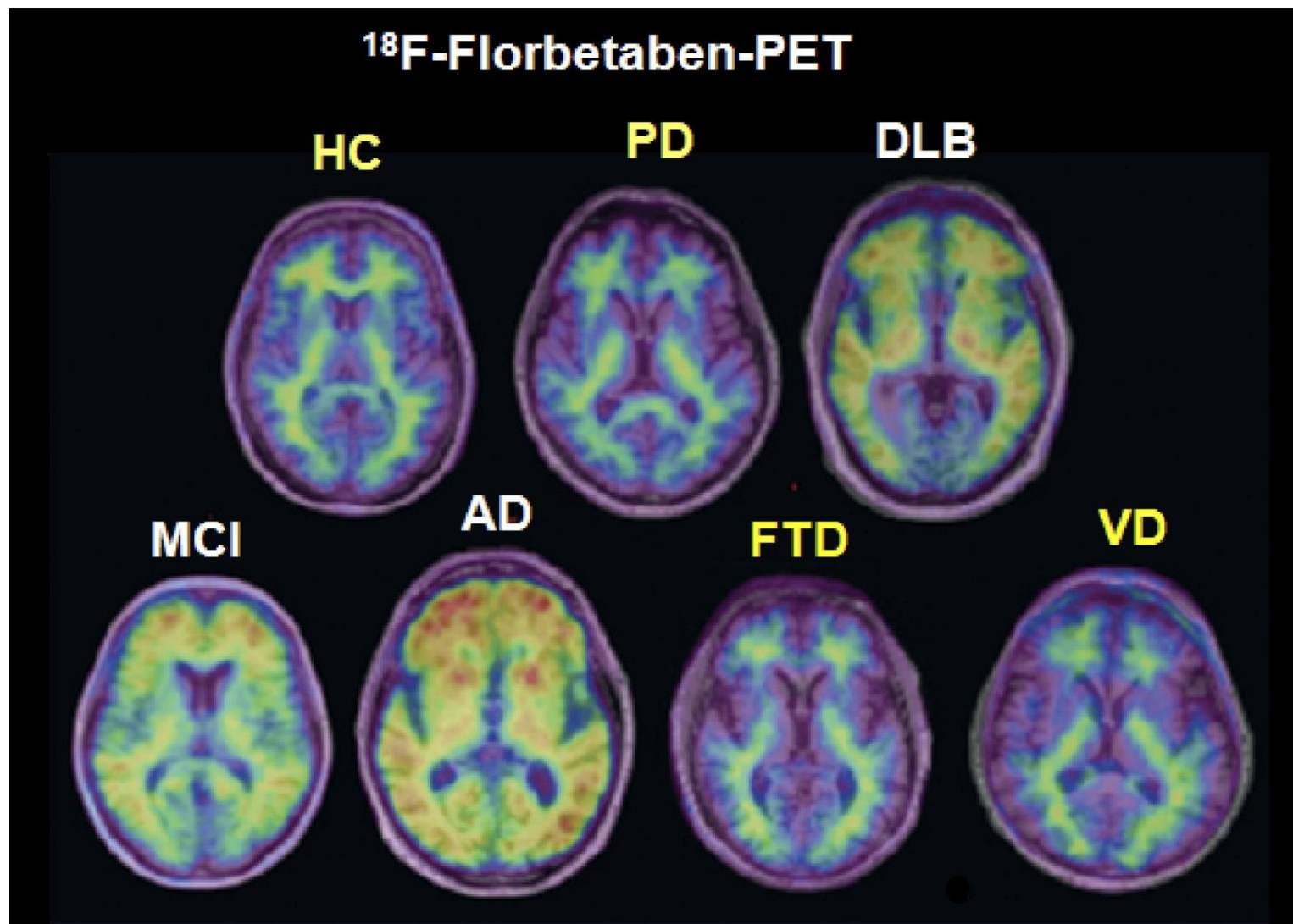
AD Progression



- | | | |
|-----------------|------------------------|----------------|
| CSF abeta42 | MRI hippocampal volume | Function (ADL) |
| Amyloid imaging | CSF Tau | |
| FDG PET | Cognitive performance | |



Koronare Schnitte von einem Patienten
mit beginnender Alzheimer Krankheit



^{18}F -Florbetaben-PET in differential diagnosis of dementia. VD, pure vascular dementia.

Society of Nuclear Medicine from Rowe.

Diskussionspunkte

- Epidemiologie
- Pathologie
- Krankheitsverlauf
- Diagnose
- **Therapie**
- Erfolgreiches Altern

Menschen mit Demenz

- Menschen mit besonderen Bedürfnissen



**2.5 andere
chronische
Erkrankungen**

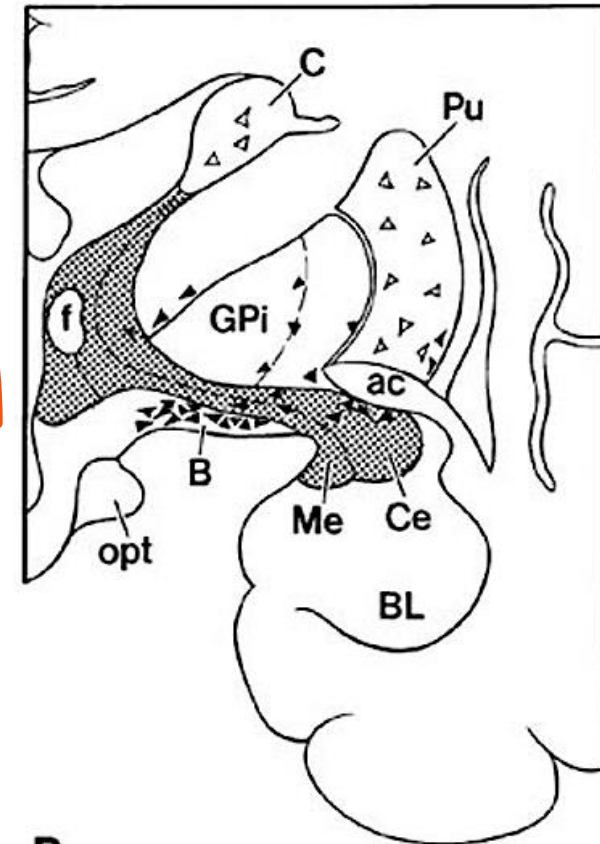
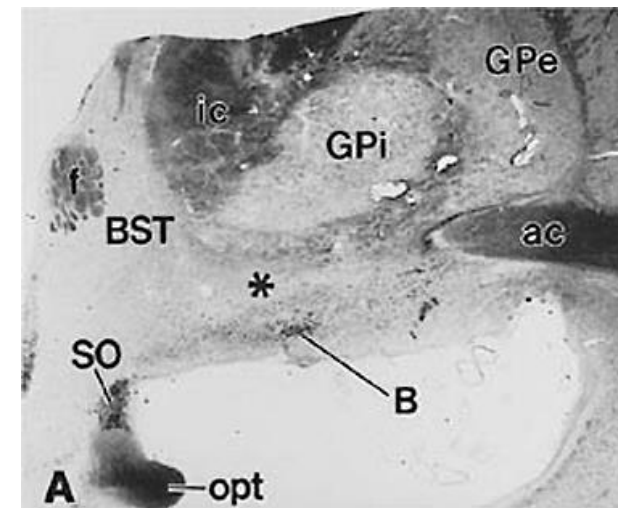
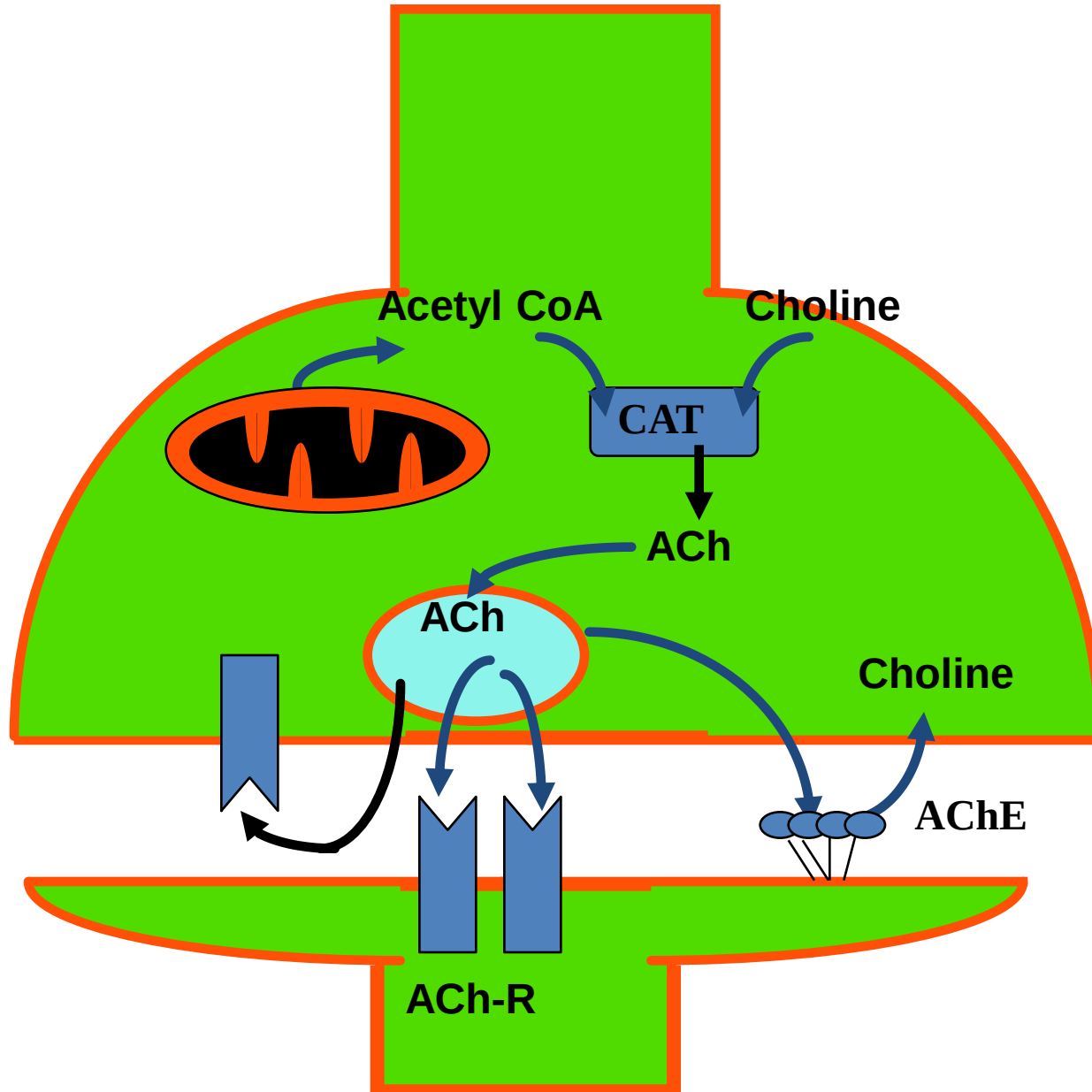


**5+
Medikamente**



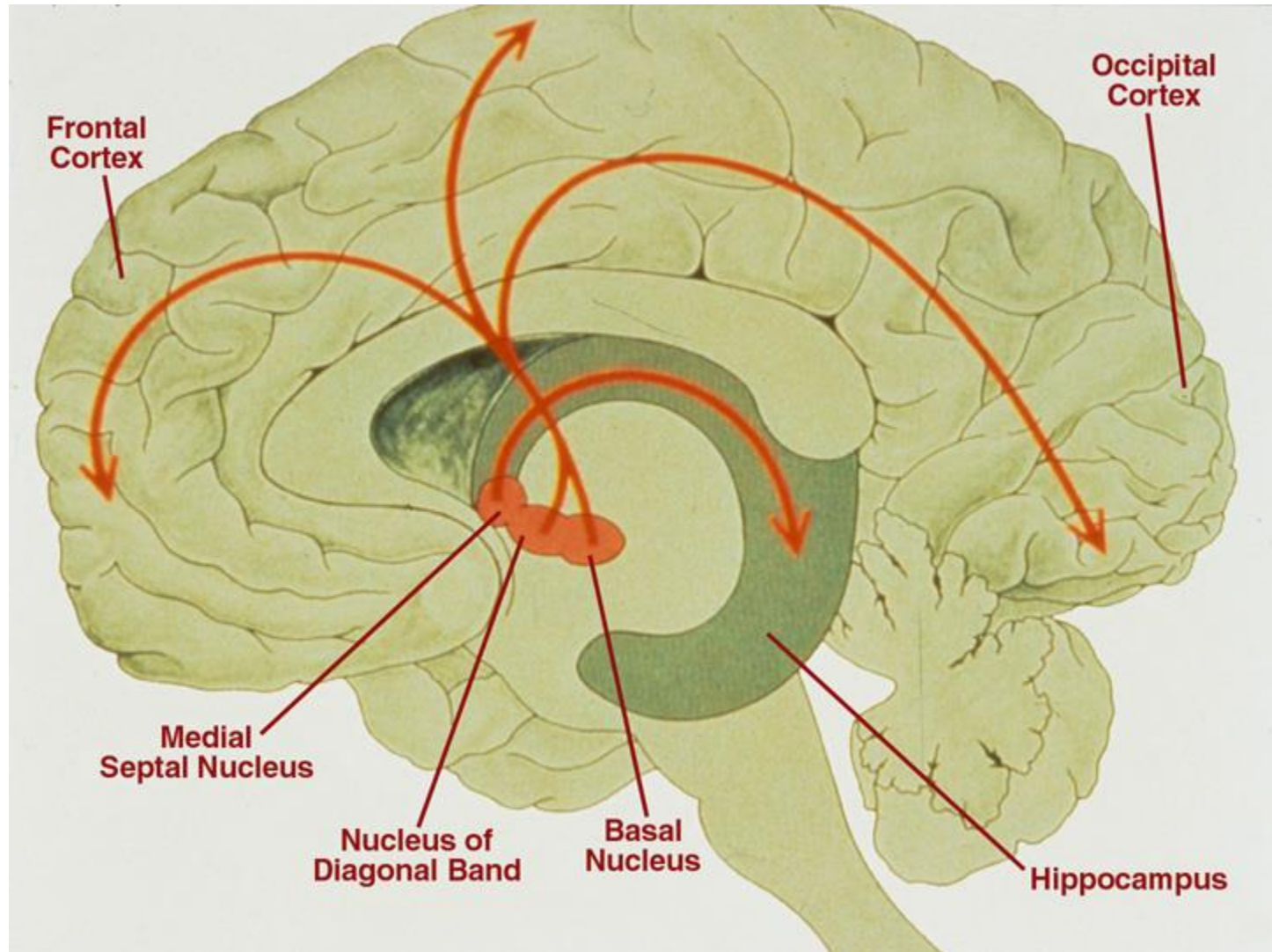
**3x öfter im
Krankenhaus**

Cholinergic terminal

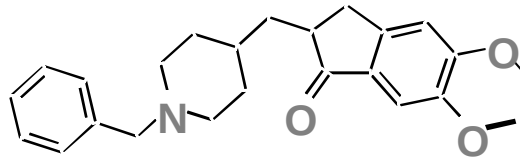


B

Nucleus Basalis – cholinergic System

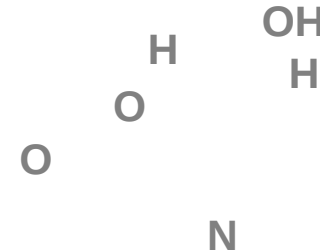


Cholinesterase Hemmer



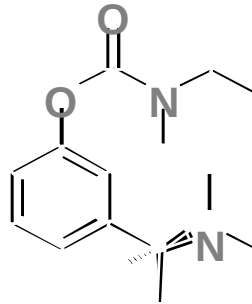
Donepezil

Mechanism: AChE-I
Inhibition: reversible



Galantamin

Mechanism: AChE-I
Inhibition: reversible

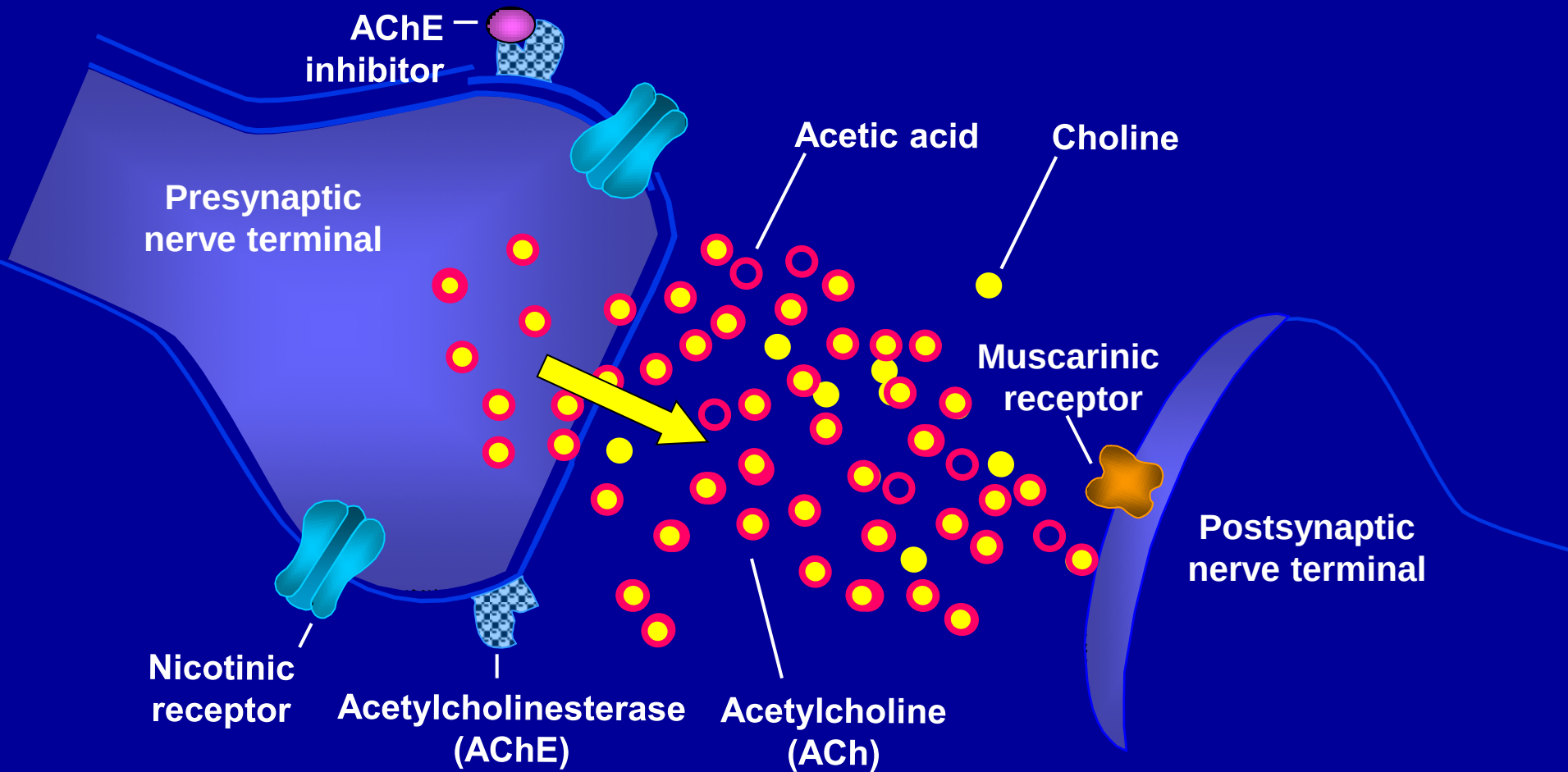


Rivastigmin

Mechanism: AChE/BuChE-I
Inhibition: pseudo-irreversible

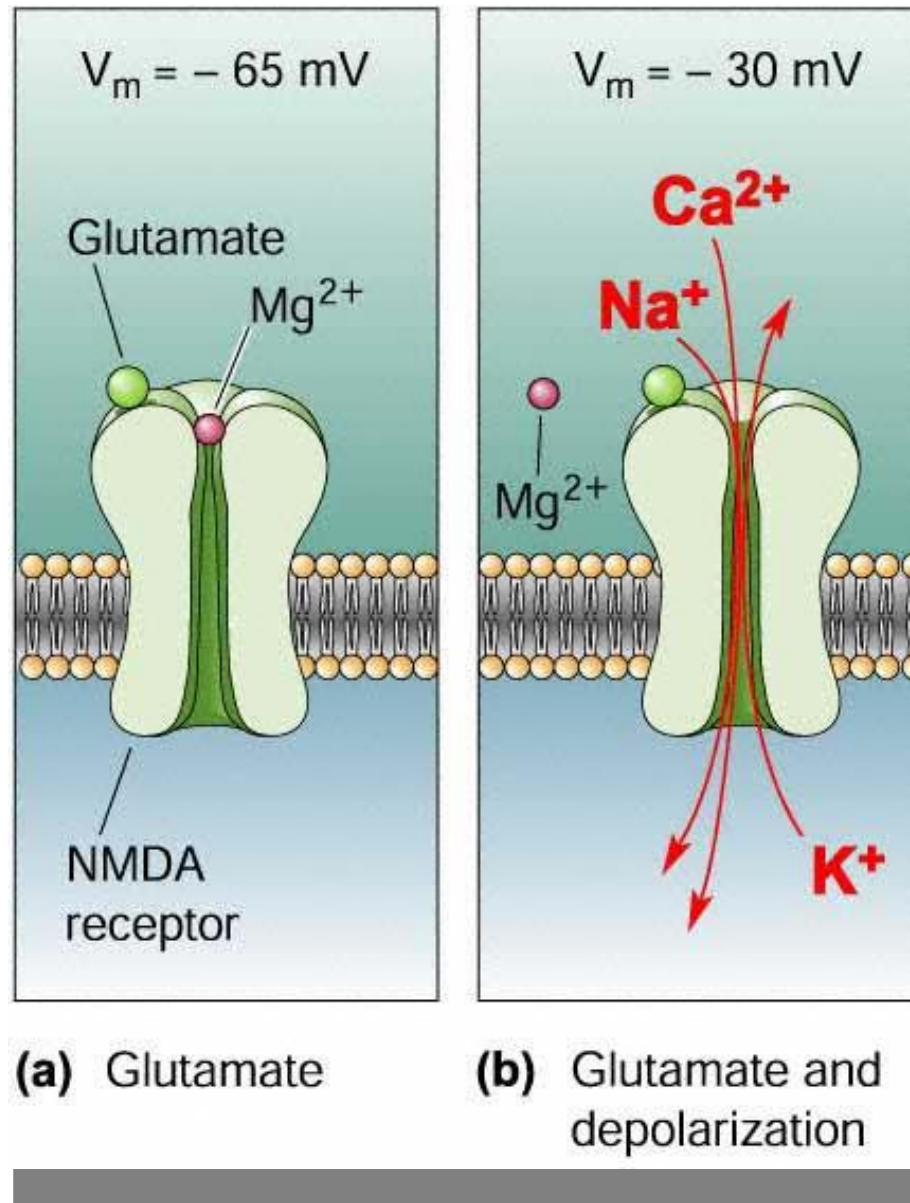


Nervenzelle und Acetylcholin



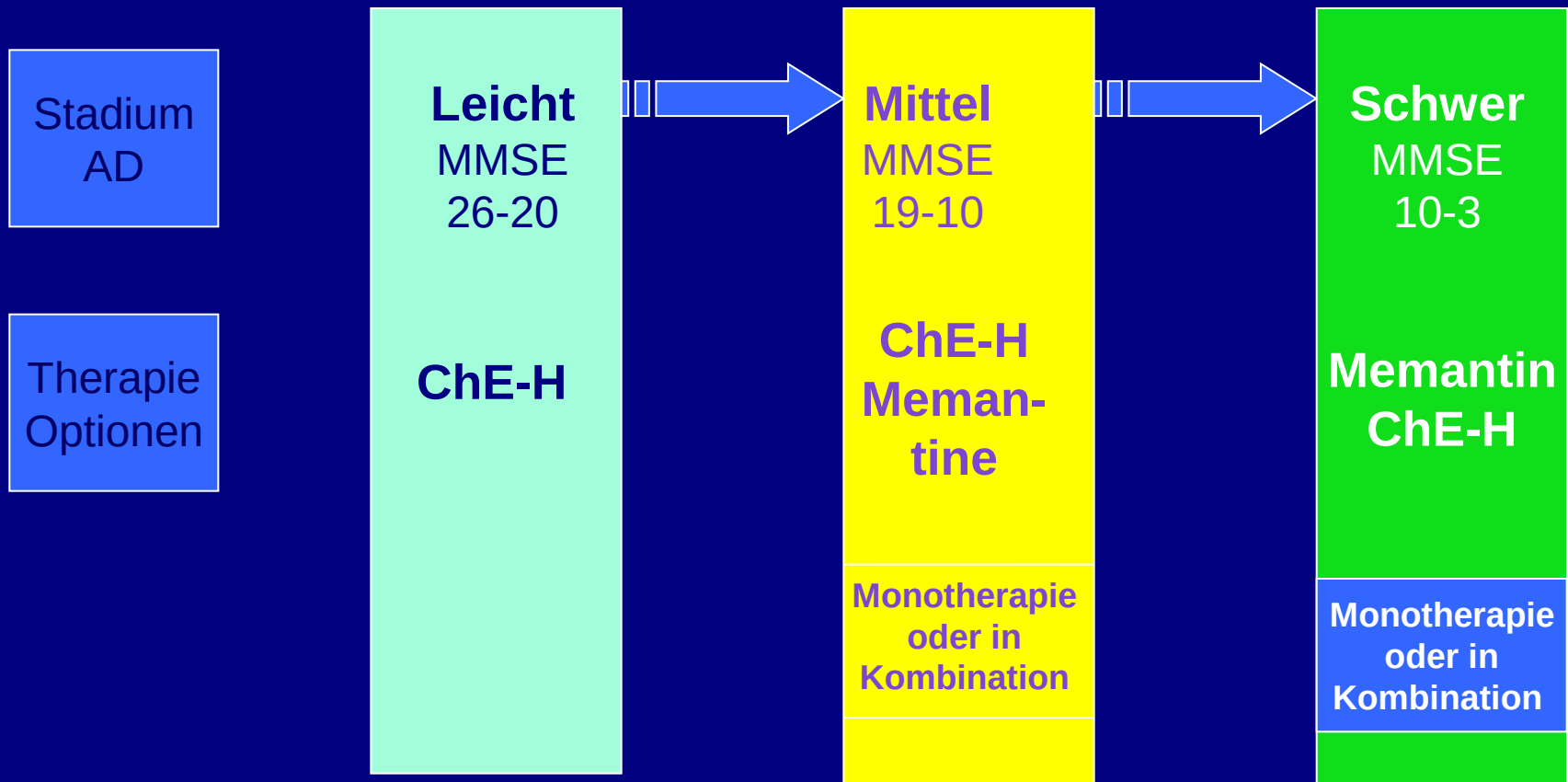


Glutamat - NMDA receptor





Therapie Algorithmus Alzheimer Demenz



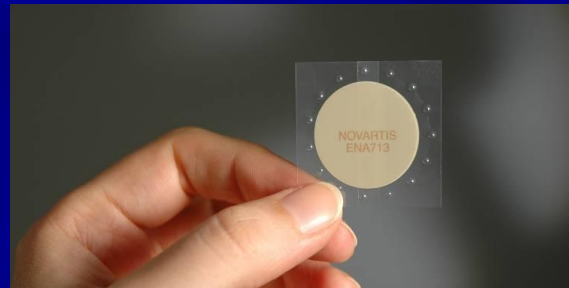
Neue Darreichungsformen als Möglichkeit zur Compliance-Verbesserung

■ Anforderungen:

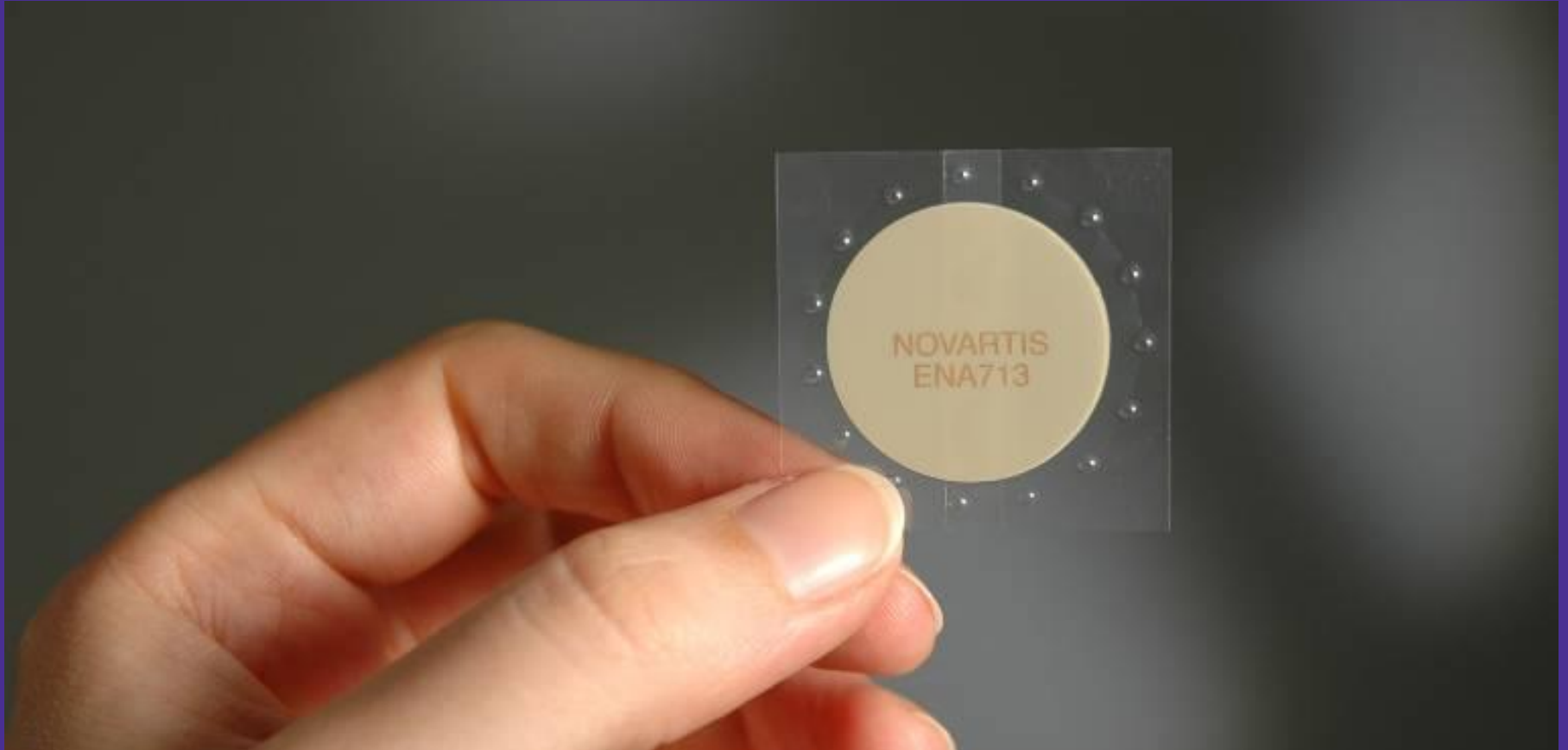
- 1x täglich
- Einfache Anwendung
- Kein zusätzlicher Aufwand
- Erwiesene Wirksamkeit und Verträglichkeit

■ Neue Formen:

- Pflaster
- Schmelztablette



Das erste Alzheimer Pflaster

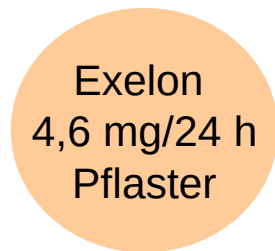


EXELON® transdermales Pflaster



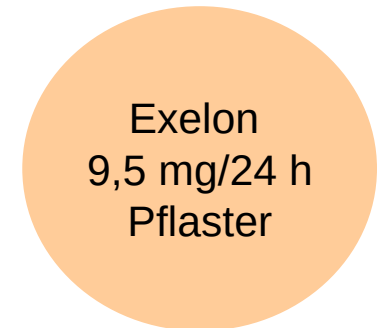
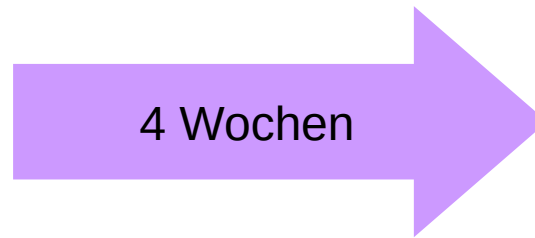
Einfacher Therapiebeginn: bereits nach 4 Wochen wirkstärkste Dosis erreicht

Nur ein Schritt zur Zieldosis



Anfangsdosis

1 x täglich



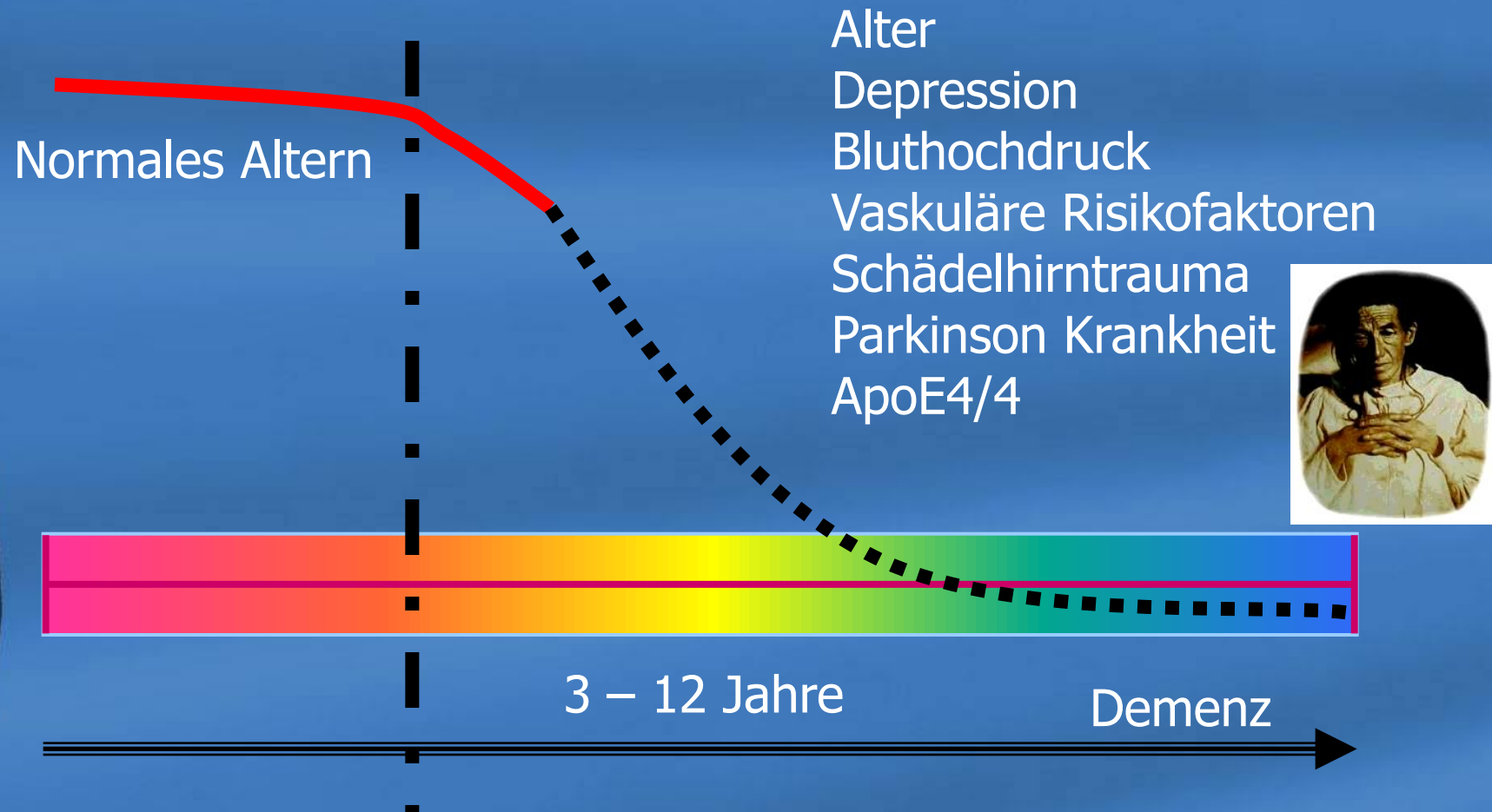
Erhaltungsdosis

1 x täglich

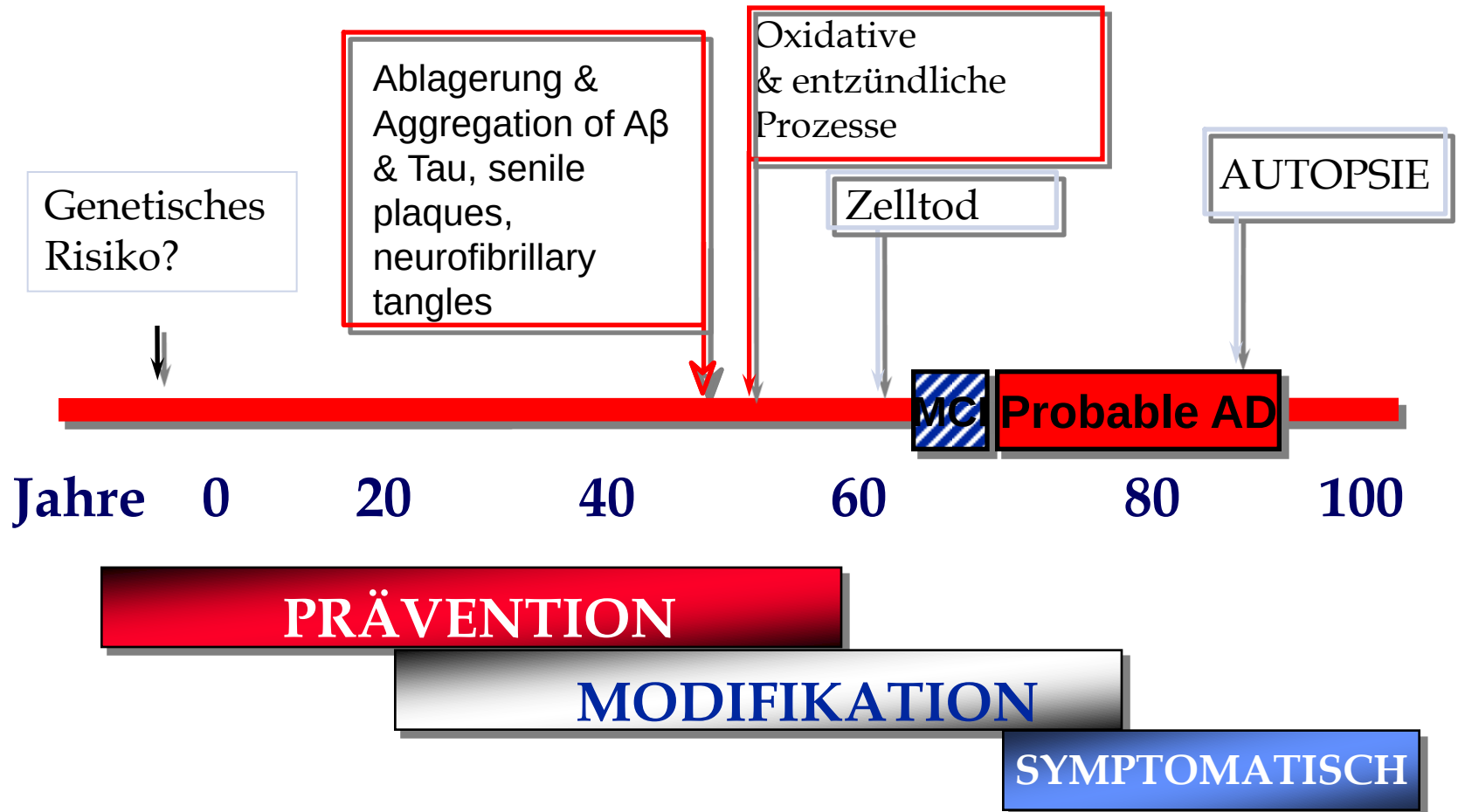
Diskussionspunkte

- Epidemiologie
- Pathologie
- Krankheitsverlauf
- Diagnose
- Therapie
- **Erfolgreiches Altern**

Risikofaktoren für dementielle Erkrankungen



ALZHEIMER Krankheit



**Kausale Gene
(21, 14, 1)**

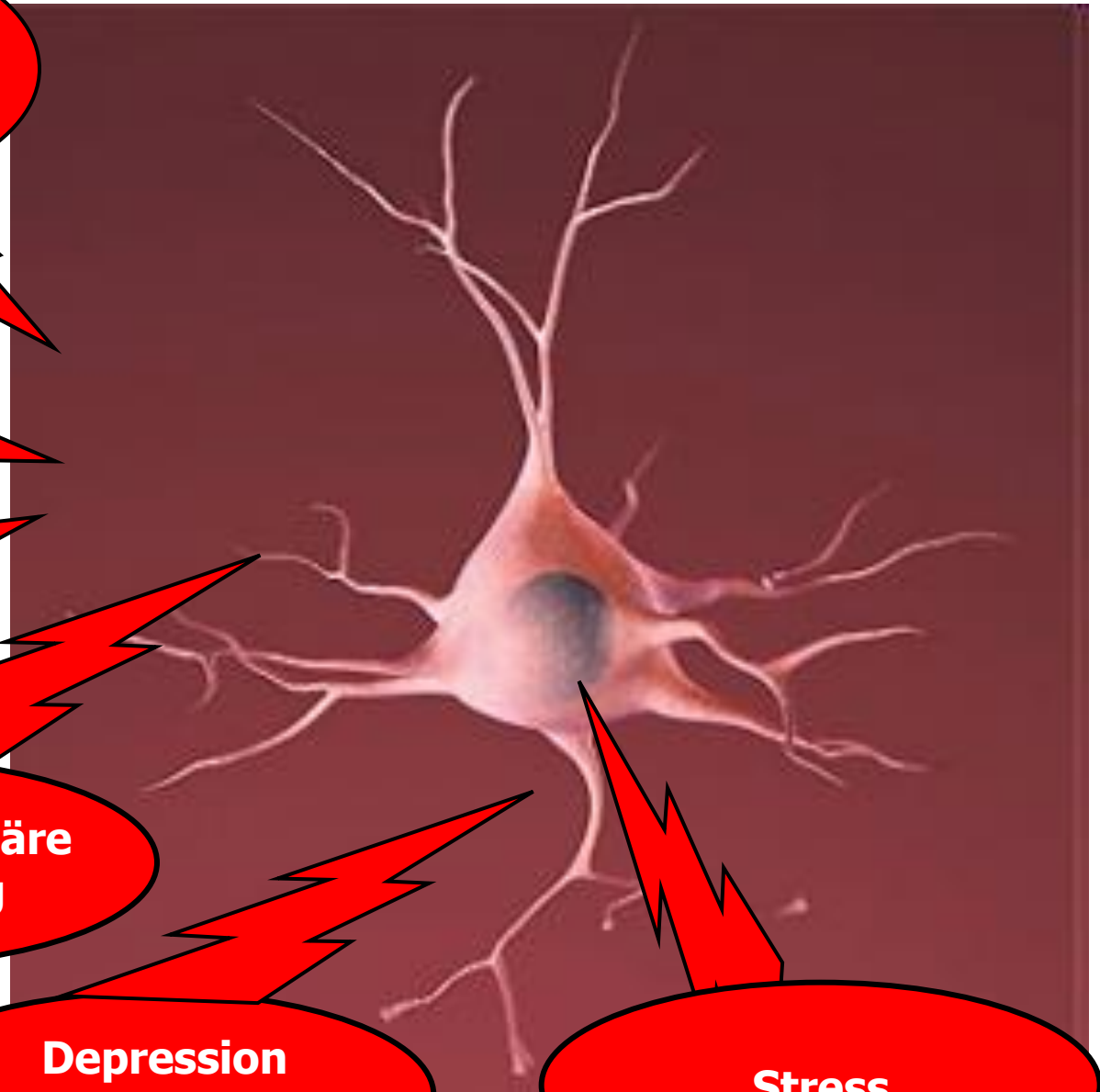
**Risiko Gene
(Apo E)**

**Schädelhirn
Trauma**

**Cerebrovaskuläre
Erkrankung**

Depression

Stress



Diskussionspunkte - Zusammenfassung

- **Epidemiologie**
- **Pathologie**
- **Krankheitsverlauf**
- **Diagnose**
- **Therapie**
- **Erfolgreiches Altern**

**Vielen Dank für
Ihre Aufmerksamkeit!**

