

# Parkinson's and Thinking Problems

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Updates in Parkinson's Disease  
March 16, 2012

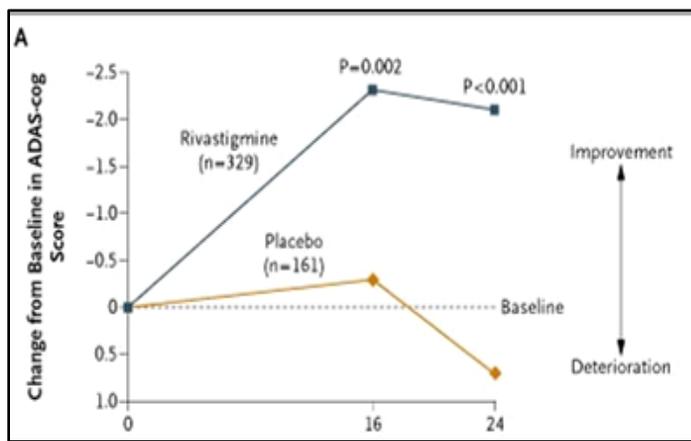
## Thinking impairment in Parkinson's disease:

- Early in Parkinson's, people often have problems with attention and concentration
- Later in Parkinson's disease, people sometimes progress to more severe thinking problems, described as "dementia."

## Types of thinking problems in Parkinson's vs Alzheimer's

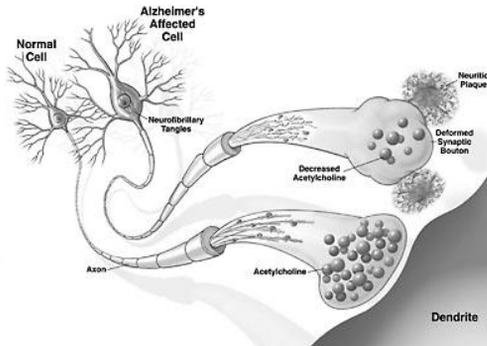
	Alzheimer's	PD Dementia
Attention	++	++++
Memory	++++	++
Executive	+++	++++
Visuospatial	+++	++++
Language	++++	+

## Treatment of thinking problems in Parkinson's disease:



Emre, NEJM, 2005.

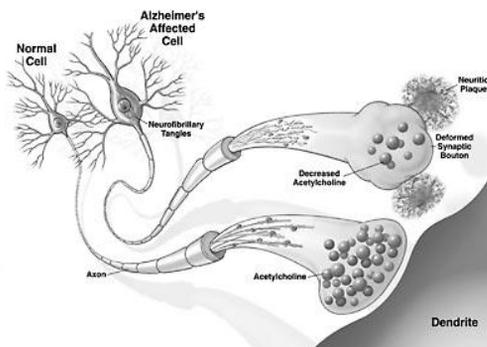
## Treatment of dementia:



Why do the drugs work?

Why don't they work better?

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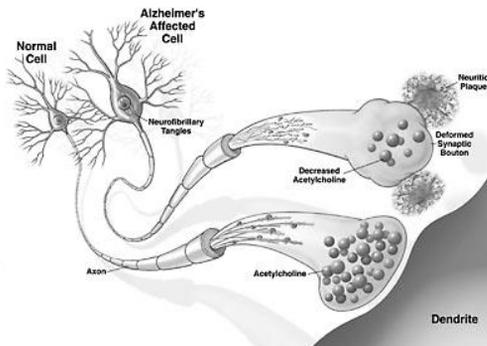


Why do the drugs work?

Because they correct a chemical abnormality in the Alzheimer's brain.

Why don't they work better?

## Treatment of dementia:



Why do the drugs work?

Because they correct a chemical abnormality in the Alzheimer's brain.

Why don't they work better?

Because they don't correct all the abnormalities!

## What do we need to do in order to develop better treatments?

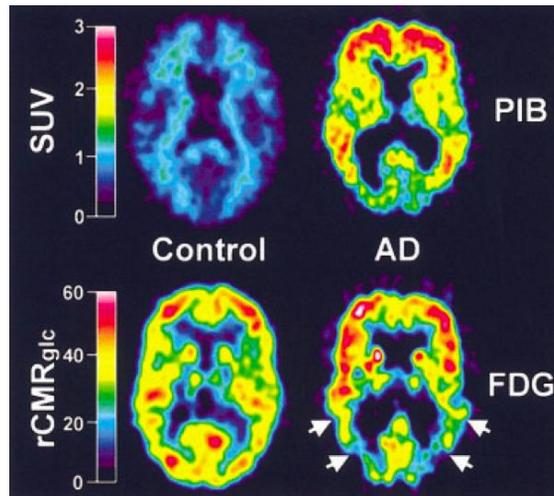
## What do we need to do in order to develop better treatments?

- 1) figure out better ways to monitor brain changes that predict dementia
- 2) figure out the factors that cause some patients with Parkinson's to develop dementia while other patients do not.

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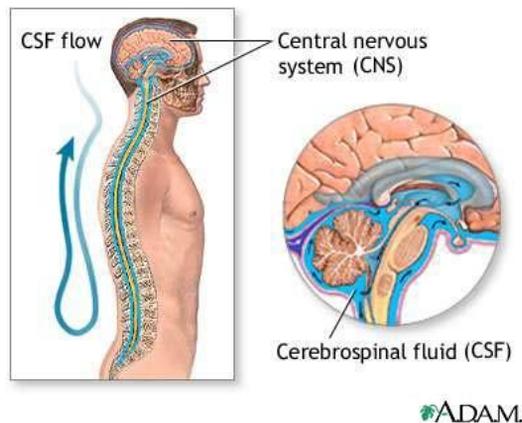
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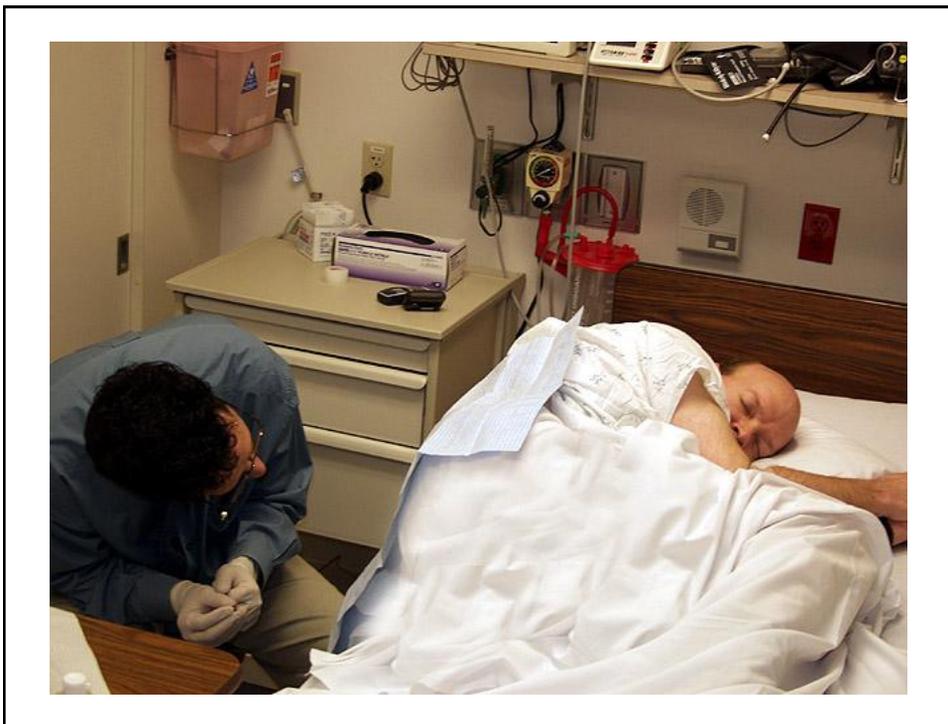
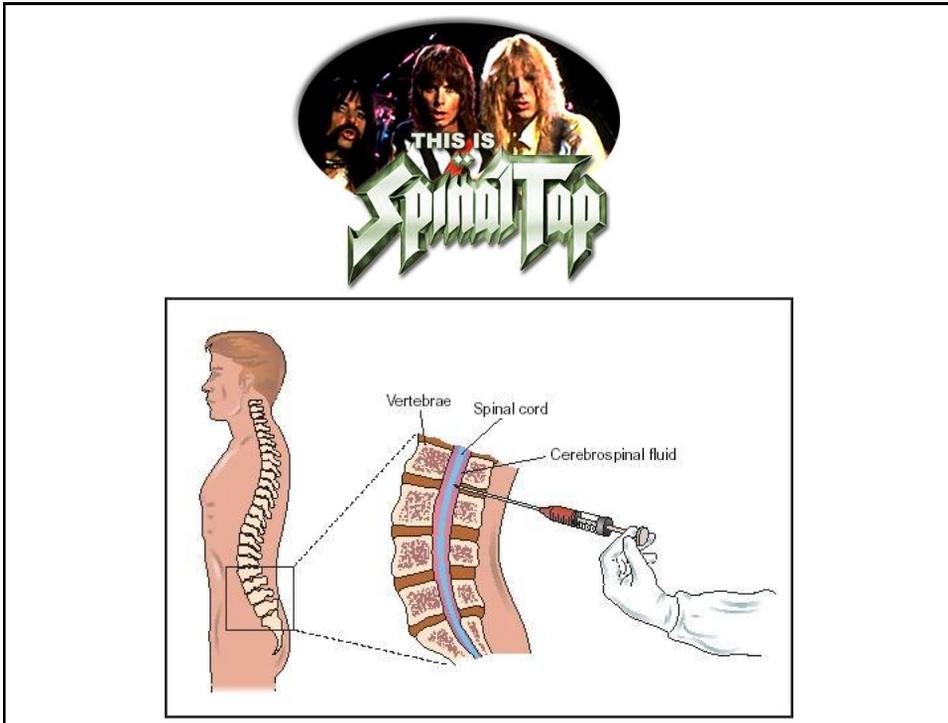
## Better ways to monitor brain changes in Alzheimer's disease:



Klunk W, et al. Ann Neurol. 2004;55:306-319.

## Other ways to monitor brain changes: spinal fluid examination



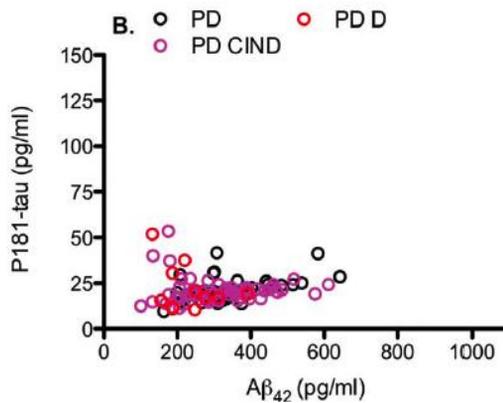




### CSF A $\beta_{42}$ and tau in Parkinson's Disease with Cognitive Impairment

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 Joseph F. Quinn, MD,<sup>2</sup> Elaine R. Peskind, MD,<sup>3,4</sup>  
 Suzanne Craft, PhD,<sup>3,5</sup> Carmen Ginchina, PhD,<sup>1</sup>  
 Kathryn A. Chung, MD,<sup>2</sup> Hojoong Kim, MD,<sup>5,6</sup>  
 Douglas R. Galasko, MD,<sup>7</sup> Joseph Jankovic, MD,<sup>8</sup>  
 Cyrus P. Zabetian, MD, MS,<sup>5,6</sup> James B. Leverenz, MD,<sup>4,6</sup>  
 and Jing Zhang, MD, PhD<sup>1</sup>

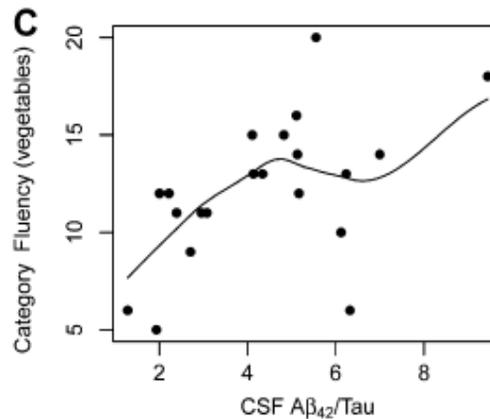
*Movement Disorders, Vol. 25, No. 15, 2010*



## Cerebrospinal fluid biomarkers and cognitive performance in non-demented patients with Parkinson's disease<sup>☆</sup>

James B. Leverenz<sup>a,c,d,e</sup>, G. Stennis Watson<sup>b,e</sup>, Jane Shofer<sup>a</sup>, Cyrus P. Zabetian<sup>b,c,d</sup>, Jing Zhang<sup>f</sup>, Thomas J. Montine<sup>f,\*</sup>

Parkinsonism and Related Disorders 17 (2011) 61–64



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- 1) figure out better ways to monitor brain changes that predict dementia
- **2) figure out the factors that cause some patients with Parkinson's to develop dementia while other patients do not.**

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- Environment:
  - Diet?
  - Exercise?
  - Medications?

## Research on Parkinson's and dementia at the Portland VA Medical Center

- Udall center "core"
  - Neuropsychological testing
  - Blood donation for DNA collection
  - Preliminary study of nutrition is under way
  - Optional CSF donation
- Udall center pilot project
  - "randomized" to one of two different medications
  - Cognitive testing including sophisticated testing of attention