

A large, searchable, web-based database of aphasic performance on picture naming and other tests of cognitive function

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Moss Rehabilitation Research Institute

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Einstein

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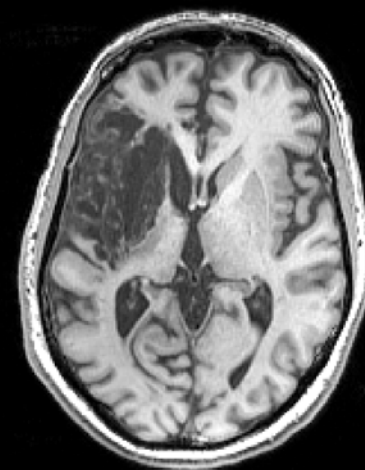
Why build a database?

- Studies of system breakdowns provide unique insights into cognitive function
- Understanding breakdowns is important for rehabilitation strategies
- Certain questions can only be answered by testing a large and diverse set of patients: the “Case Series” method (Patterson & Plaut, 2009; Schwartz & Dell, 2010)
- **Access and resources for testing a large group of patients are very hard to find**

What is inside?

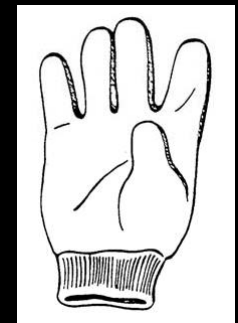
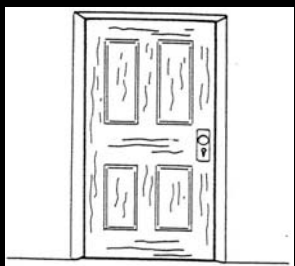
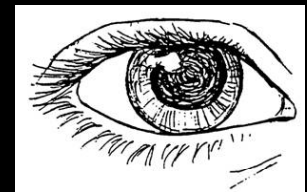
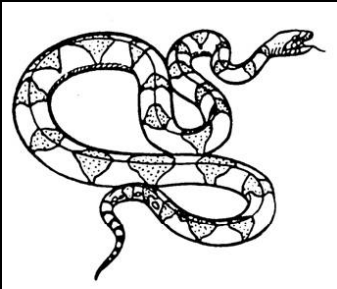
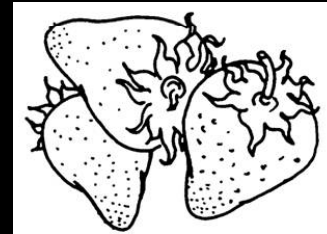
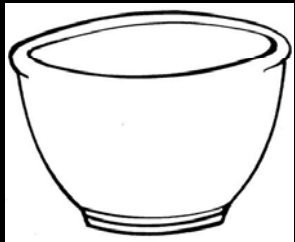
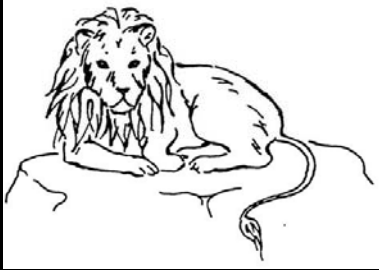
- Patients
- PNT/PRT
- Additional tests
- Disclaimers
 1. The test battery has evolved, so not all patients have completed all tests
 2. The theory underlying the scoring system has been consistent, but our perspective on how best to implement that theory has evolved slightly also
 3. Data collection is continuing, so the data on the website will be updated periodically

Patients



- 178 patients diagnosed with aphasia
- Left hemisphere stroke
- Mostly in chronic stage (> 6 MPO)
- Unselected
 - Wide range of severity (WAB AQ: 33.3 – 97.8)
 - By clinical criteria, some would be considered recovered
 - Diverse subtypes (mostly Anomic, Broca's, Conduction, and Wernicke's)
- Demographic data: Age (18-80), ethnicity, years of education
- Basic neurological data: MPO, aphasia subtype and severity, apraxia of speech

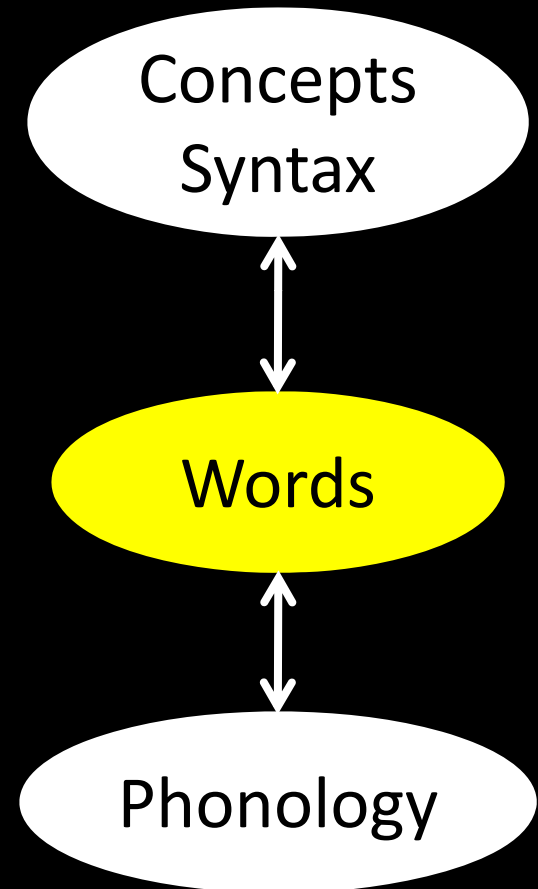
Philadelphia Naming Test (PNT)



- 175 items (+12 practice)
- Black-and-white line drawings
- Minimal complexity, confusability
- Targets are all basic-level single-word concepts
- Vary in length, word frequency, semantic category
- PRT: Word repetition test with the same items

Why Picture Naming?

- Picture naming is a primary test of lexical processing
- Some difficulty in nearly all aphasic individuals
- Key features of the PNT
 - Well-established as a test of aphasic word production (Dell, Schwartz, and colleagues) and linked to a computational model
 - Also been used to study...
 - Conceptual representations, short-term memory, treatment effects
 - Publicly available (www.ncrrn.org)



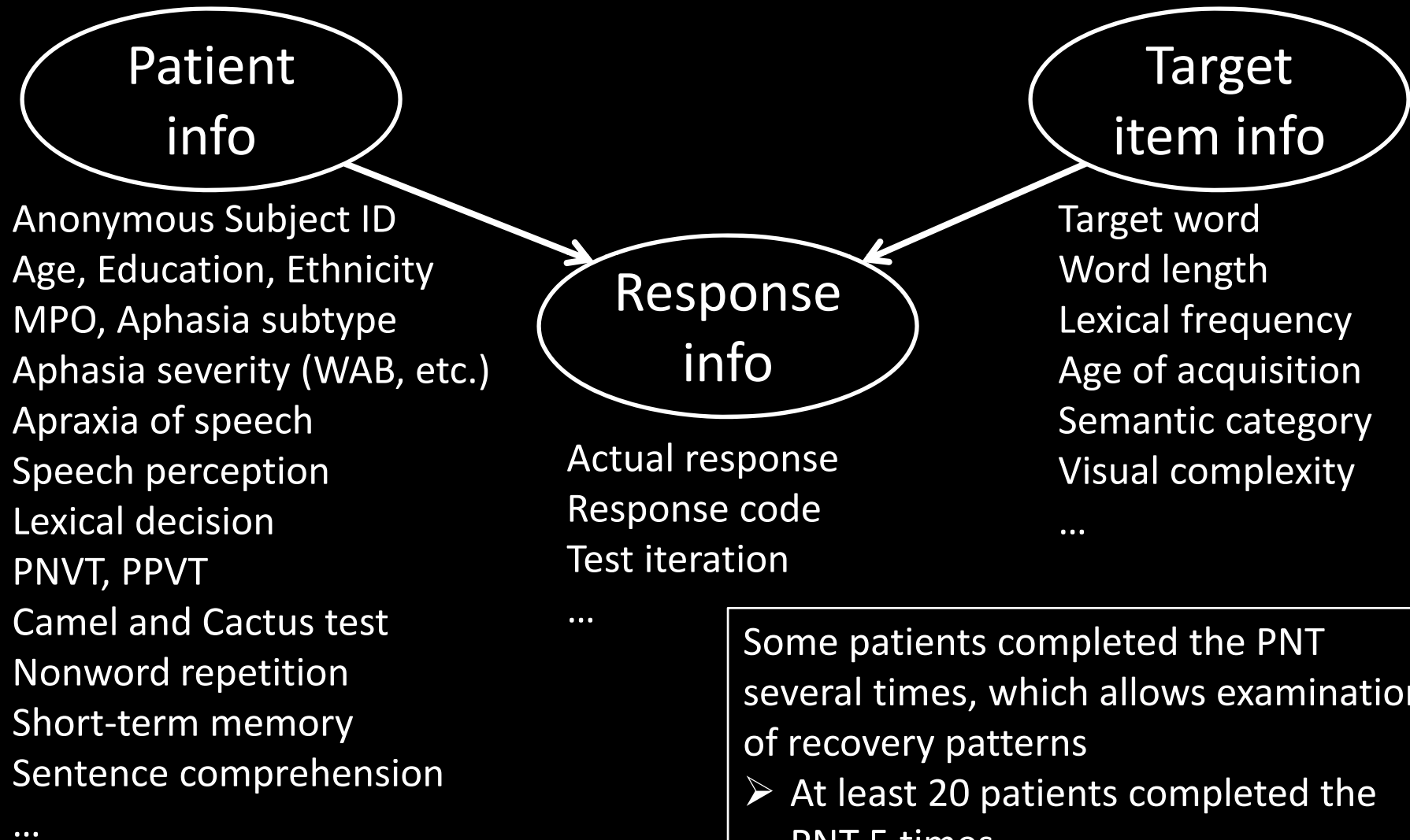
Outcomes of picture naming

- Actual response (orthographic, phonetic transcription)
- Response type
 - “Model” code: Correct, Semantic, Formal, Mixed, Unrelated, Nonword (Dell et al., 1997; Schwartz et al., 2006)
 - Also formatted for easy averaging summary
 - “Conventional” code: + Description, Picture Part, Perseveration, Blend, etc.
 - Elaborate two-level coding system

Additional tests

- Aphasia diagnostic
 - **Western Aphasia Battery** (AQ, Fluency, Comprehension), Boston Diagnostic Aphasia Examination, Boston Naming Test, **Dabul Apraxia of Speech Battery**
- Semantics
 - **PNT Picture Name Verification Test**, Synonymy triplets (Nouns, Verbs, Total), **Peabody Picture Vocabulary Test**, Semantic category discrimination, **Camel and Cactus Test**, Pyramids and Palm Trees Test
- Speech perception and spoken word recognition
 - **Phoneme discrimination** (No delay, 5sec delay), Rhyme discrimination, Lexical decision
- Nonword repetition
- Short-term memory
 - **Immediate Serial Recall Span** for Words, Semantic-Category Probe Test (Semantic STM), Rhyme Probe Test (Phonological STM)
- **Sentence comprehension**
 - Lexical foils, reversible foils

Data Structure



Some patients completed the PNT several times, which allows examination of recovery patterns

- At least 20 patients completed the PNT 5 times

What can I do with it?

- Search criteria
 - Patient characteristics
 - Item characteristics
 - Response characteristics
- Output
 - Individual trial data
 - Averaged data

Example research questions

1. Do distributions of picture naming errors differ as a function of aphasia subtype?
2. What are the patterns within aphasic nonword errors?
3. Do error types differ between semantic categories such as animals and vehicles?
4. How strong is the relationship between word recognition and short-term memory?

A real example

(Nozari, Kittredge, Dell, & Schwartz, in press, *Journal of Memory and Language*)

- Does word repetition engage lexical representations?
 - If it does, then word repetition and picture naming should show equivalent effects of word frequency
 - If it does not, then frequency effects should be substantially reduced in word repetition
- Method: Compare the effect of word frequency on picture naming and word repetition
 - Critical measure: likelihood of nonword error
- Result: frequency has an equally strong effect (reduced nonword errors) in both tasks
- Conclusion: Word repetition engages lexical representations

Recommended Use: “Study 1”

- The database is ideal as an initial hypothesis test or exploratory tool to formulate a hypothesis
- “Study 2” can be...
 - Computational model (e.g., Schwartz et al., 2006; Dell et al., 2007; Kittredge et al., 2008; Nozari et al., in press)
 - Experiment with healthy adults (Mirman et al., 2010; Mirman, in press)
 - Focused comparison of small groups of patients
 - Lesion analysis or neuroimaging study
 - Treatment study
 - Etc.

- 1 Fill out form
- 2 Confirm email
- 3 Welcome

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Search

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To access the private area of this site, please log in.

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Password

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- Forgot your Password?
- Forgot your Username?
- Register**

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Copyright



Registration

Name: *

Username: *

Email: *

Password: *

Minimum number of characters is 6

Verify Password: *

Affiliation: *

Position (grad student, faculty, etc): *

What do you want to use MAPPD for?: *

How did you hear about MAPPD?: *

Terms:

This database will be used to study how the ability to produce and understand language is affected by a neurological event like stroke or head injury.

ganzabo you've

Register



stop spam. read books.

Fields marked with an asterisk (*) are required



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>> Constrain by performance outcomes

>> Constrain by data from specific publication(s)

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>> Constrain by data set

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>> Output settings

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Submit Clear

>> Scope of search

Philadelphia Naming Test Philadelphia Repetition Test

>> Constrain by patient characteristics

AND Months Post Onset (at test time) greater than 6

Tip: # Months since onset of condition at time of testing. Range: [1,127]. Mean=30.

Add

>> Constrain by test items

>> Constrain by performance outcomes

>> Constrain by data from specific publication(s)

>> Output settings

>> Constrain by data set

Submit Clear



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>> Output settings

Select which data fields to display in the result

[Click for tips in selecting fields to display.](#)

> Patient Info

> Stimulus Info

> Test performance info

Limit number of results per page

10 ▾

Output Type

[Click for tips on how to use output types and averaging options.](#)

- Individual responses
- Average by (first order)
- Average by (second order)

Display data as...

- Normal
- Simple text

Open new window

Display results in a new window

Filter out null values

Exclude all rows that contain one or more null values.

Sort results by... (optional)

[Click for tips on how to use sorting options.](#)

Sort by... ▾

Ascending ▾

>> Constrain by data set

>> Output settings

> Patient Info

Select Basic set Select all Select none

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> Test iteration | <input checked="" type="checkbox"/> Diagnosis | <input type="checkbox"/> JML | <input type="checkbox"/> Dell et al., 1997 |
| <input type="checkbox"/> Schwartz & Brecher, 2000 | <input type="checkbox"/> Schnur et al., 2006 | <input type="checkbox"/> Weight strength | <input type="checkbox"/> Decay rate |
| <input type="checkbox"/> S weight | <input type="checkbox"/> P weight | <input type="checkbox"/> Anonymous subject id | <input checked="" type="checkbox"/> WAB Aphasia Quotient |
| <input type="checkbox"/> WAB Fluency | <input type="checkbox"/> WAB Comprehension | <input type="checkbox"/> BDAE Severity | <input type="checkbox"/> BNT |
| <input type="checkbox"/> Ethnicity | <input type="checkbox"/> Education level | <input type="checkbox"/> Age when tested | <input checked="" type="checkbox"/> Months Post Onset (at test time) |

Limit number of results per page

10 ▾

Output Type

[Click for tips on how to use output types and averaging options.](#)

- Individual responses
- Average by (first order)
- Average by (second order)

Display data as...

- Normal
- Simple text

Open new window

Display results in a new window

Filter out null values

Exclude all rows that contain one or more null values.

Sort results by... (optional)

[Click for tips on how to use sorting options.](#)

Sort by... ▾

Ascending ▾

Output Type

[Click for tips on how to use output types and averaging options.](#)

- Individual responses
 - Average by (first order)
- Diagnosis ▾
- Average by (second order)

>> Constrain by data set

Documentation!

Moss Aphasia Psycholinguistics Project Database

Search About Docs Q&A

User Documentation

- [Mirman, D., Strauss, T.J., Brecher, A., Walker, G.M., Sobel, P., Dell, G.S., and Schwartz, M.F. \(under review\). A large, searchable, web-based database of aphasic performance on picture naming and other tests of cognitive function.](#)
- [User manual](#)
- [Step-by-step instructions to accomplish specific search tasks](#)
- [Glossary](#) - explains each of 88 data fields
- [Detailed Guide to PNT Scoring](#)
- [Questions & answers](#) about specific issues

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