

# MLSE.CZ

ČESKÁ ADAPTACE SCREENINGU  
PRIMÁRNÍ PROGRESIVNÍ  
AFÁZIE



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# MLSE– nástroj pro diagnostiku

## (Mini Language State Examination, Patel et al. 2019)

byl vyvinut na univerzitě St George's v Londýně ve spolupráci s dalšími institucemi, včetně University of Cambridge a University Institute for Advanced Studies IUSS v Pavii v Itálii.

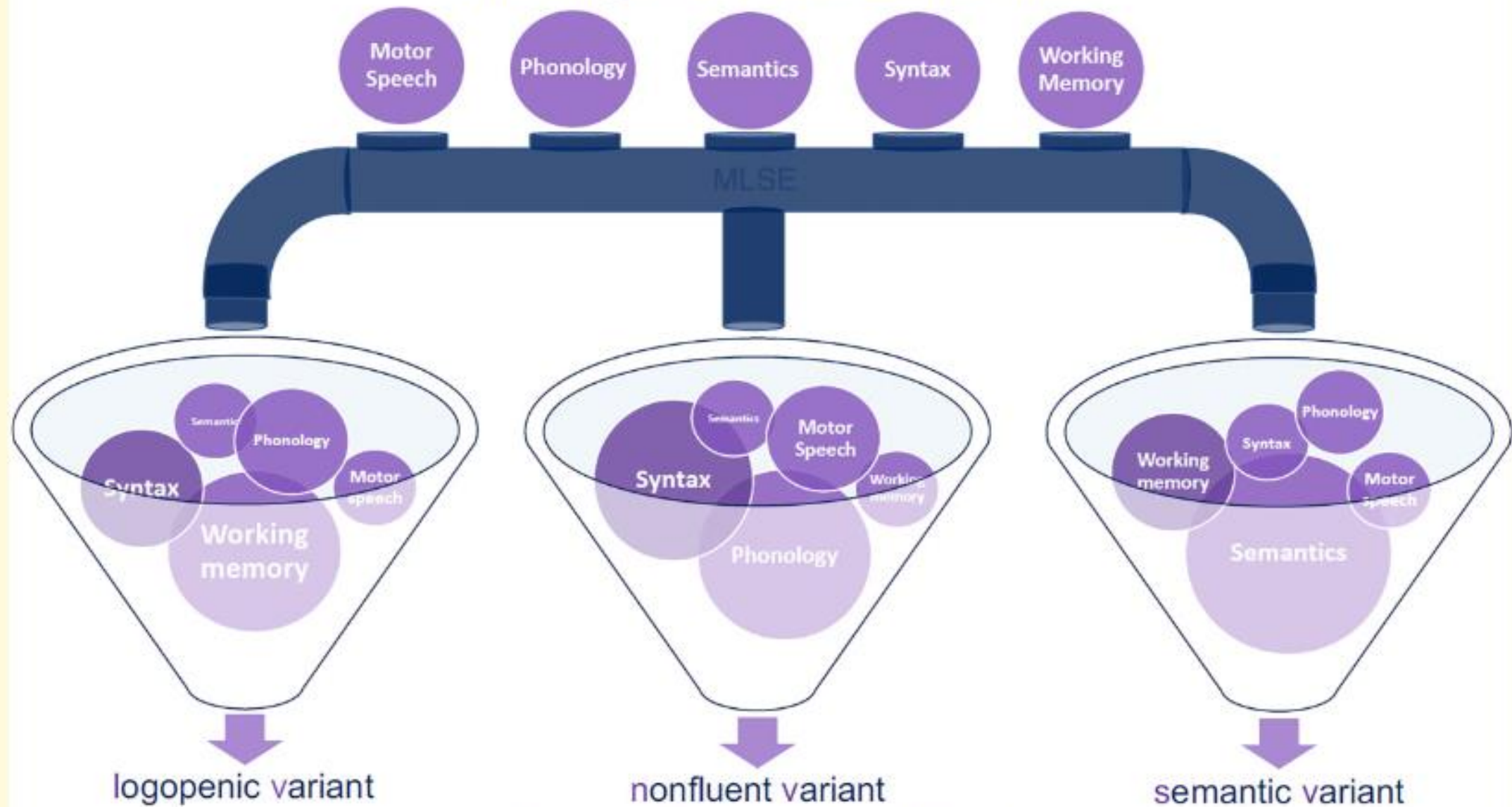
- Neexistuje specifický nástroj pro diagnostiku PPA v ČJ
- MLSE - screening
  - Primárně určen pro lékaře, psychology a logopedy (nejen pro odborníky na PPA)
  - Přehledná tabulka kvantifikuje projevy a umožní objektivizovat nález
  - nyní překlad mimo ČJ do dalších 15 jazyků světa (setkávání konsorcia odborníků)

## BRAIN COMMUNICATIONS

### A 'Mini Linguistic State Examination' to classify primary progressive aphasia

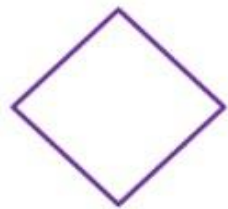
 Nikil Patel,<sup>1</sup>  Katie A. Peterson,<sup>2</sup>  Ruth U. Ingram,<sup>3</sup>  Ian Storey,<sup>1</sup>  Stefano F. Cappa,<sup>4,5</sup>  Eleonora Catricala,<sup>4</sup>  Ajay Halai,<sup>2,6</sup>  Karalyn E. Patterson,<sup>2,6</sup>  Matthew A. Lambon Ralph,<sup>6</sup>  James B. Rowe<sup>2,6</sup> and  Peter Garrard<sup>1</sup>

# Mini Linguistic State Examination



Primary Progressive Aphasia

## Typy chyb, které hodnotíme během vyšetřování a jejich grafické znázornění:



Motor speech



Phonological structure



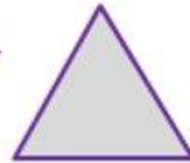
Semantic knowledge



Syntax



Working memory

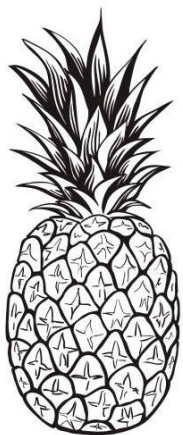


No response

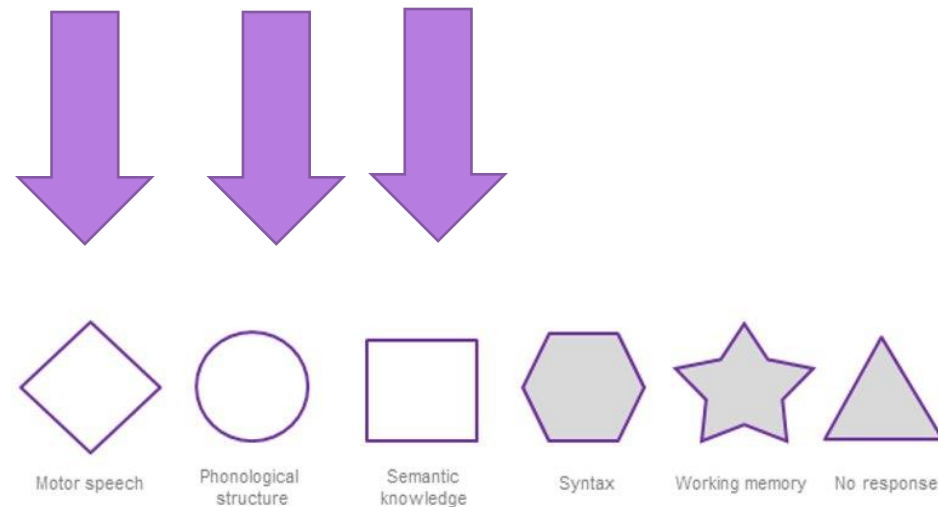
Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	×	×	×		
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
Non-word repetition	14	3	3	×	×	×	6		
Semantic association	16	×	×	2	×	×	×		
	18	×	×	2	×	×	×		
Sentence comp - I	20	×	×	×	4	×	×		
Sentence comp - II	22	×	×	×	2	×	×		
	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		

# 1. úloha: Pojmenování

Konfrontační  
pojmenování s  
náповědou první slabiky



Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	X	X	X		
	4	3	3	3	X	X	X		
Syllabic repetition	6	3	3	X	X	X	6		
Repeat & point	8	1	1	1	X	X	2		
	10	1	1	1	X	X	2		
	12	1	1	1	X	X	2		
Non-word repetition	14	3	3	X	X	X	6		
Semantic association	16	X	X	2	X	X			
	18	X	X	2	X	X			
Sentence comp - I	20	X	X	X	4	X			
Sentence comp - II	22	X	X	X	2	X			
	24	X	X	X	2	X			
Reading	26	10	10	5	X	X	25		
Sentence repetition	28	4	4	X	X	10	18		
Writing	30	X	X	X	1	X			
Picture description	32	1	1	2	1	X	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		



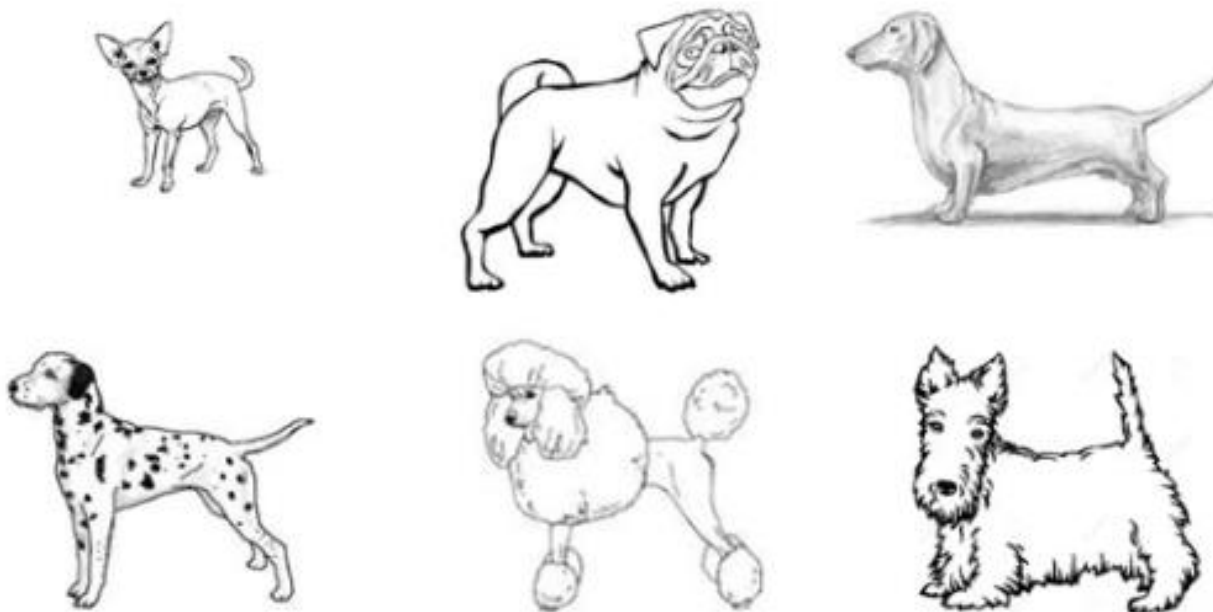
## 2. úloha: Opakování slabik a slov

- HA
- PA TA KA
- KATASTROFA
- KATASTROFA, KATASTROFA, KATASTROFA

Test	Page	◇	○	□	⬡	☆	△		
Naming	2	3	3	3	×	×	×	Total X's per page	
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
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Semantic association	16	×	×	2	×	×	×		
	18	×	×	2	×	×	×		
Sentence comp - I	20	×	×	×	4	×	×		
Sentence comp - II	22	×	×	×	2	×	×		
	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
Total errors		◇	○	□	⬡	☆	△		

### 3. úloha: Opakování slova a porozumění

1. Část úlohy: "Zopakujte po mně slovo dalmatin"
2. Část úlohy: "Nyní ukažte, který z nich to je"



Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	×	×	×		Total X's per page
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
Non-word repetition	14	3	3	×	×	×	6		
Semantic association	16	×	×	2	×	×	×		
	18	×	×	2	×	×	×		
Sentence comp - I	20	×	×	×	4	×	×		
Sentence comp - II	22	×	×	×	2	×	×		
	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		

## 4. úloha: Opakování pseudoslov

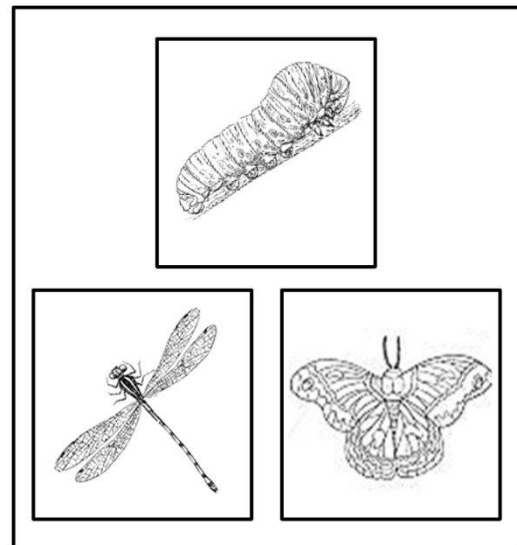
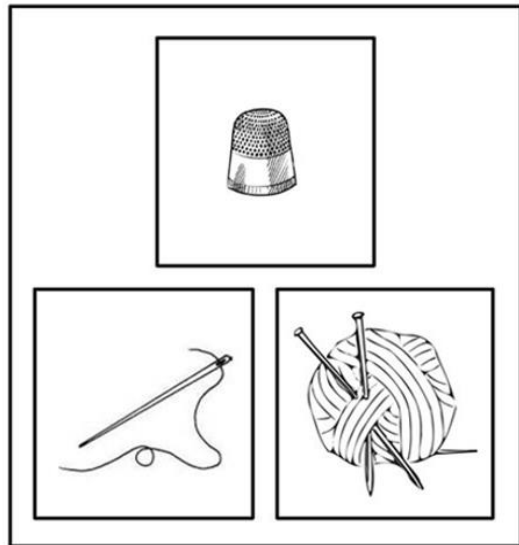
"Opakujte slova, která vám povím. Toto nejsou reálná slova, jsou to slova vymyšlená."

- FRAPÁK
- ŠEVROSNYK
- BRÁZDENČINA

Test	Page	◇	○	□	⬡	☆	△	
Naming	2	3	3	3	×	×	×	Total X's per page
	4	3	3	3	×	×	×	
Syllabic repetition	6	3	3	×	×	×	6	
Repeat & point	8	1	1	1	×	×	2	
	10	1	1	1	×	×	2	
	12	1	1	1	×	×	2	
Non-word repetition	14	3	3	×	×	×	6	
Semantic association	16	×	×	2	×	×	×	
	18	×	×	2	×	×	×	
Sentence comp - I	20	×	×	×	4	×	×	
Sentence comp - II	22	×	×	×	2	×	×	
	24	×	×	×	2	×	×	
Reading	26	10	10	5	×	×	25	
Sentence repetition	28	4	4	×	×	10	18	
Writing	30	×	×	×	1	×	×	
Picture description	32	1	1	2	1	×	5	
Total errors		◇	○	□	⬡	☆	△	

# 5. úloha: Sémantická asociace

„Prohlédněte si tyto obrázky. Který z těchto dvou (ukažte dva dolní obrázky) souvisí víc s tímto (ukažte horní obrázek)!“



Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	×	×	×		Total X's per page
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
Non-word repetition	14	3	3	×	×	×	6		
Semantic association	16	×	×	2	×	×	×		
	18	×	×	2	×	×	×		
Sentence comp - I	20	×	×	×	4	×	×		
Sentence comp - II	22	×	×	×	2	×	×		
	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		

## 6. úloha: Porozumění větám I

Zácvik: Lev sežral tygra. Kdo přežil?

Testovací věty: Josef byl okradený Annou. Kdo byl zloděj?



Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	×	×	×		Total X's per page
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
Non-word repetition	14	3	3	×	×	×	6		
Semantic association	16	×	×	2	×	×	×		
	18	×	×	2	×	×	×		
Sentence comp - I	20	×	×	×	4	×	×		
Sentence comp - II	22	×	×	×	2	×	×		
	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		

# 7. úloha: Porozumění větám II

➤ „Jen muž, který drží za ruku dítě, je tlačení ženou.“



Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	×	×	×		Total X's per page
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
Non-word repetition	14	3	3	×	×	×	6		
Semantic association	16	×	×	2	×	×	×		
	18	×	×	2	×	×	×		
Sentence comp - I	20	×	×	×	4	×	×		
Sentence comp - II	22	×	×	×	2	×	×		
	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		

## 8. úloha: čtení slov a pseudoslov

- Slova:

VZTAH, DŽBÁN, DĚTSTVÍ...

- Pseudoslova:

VRSTLA, PALOUNÍK, MERČOVINA ...

Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	×	×	×		Total X's per page
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
Non-word repetition	14	3	3	×	×	×	6		
Semantic association	16	×	×	2	×	×	×		
	18	×	×	2	×	×	×		
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Sentence comp - II	22	×	×	×	2	×	×		
	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
Total errors		◇	○	□	⬡	☆	△		

# 9. úloha: Opakování vět

Ukázka věty: Do jejich nové drahé chaty se po půl roce vloupali zloději.

CORRECT WITHOUT ERRORS	If ERRORS, indicate error type(s):			
	Distorted	Phonological error	Mark 'X' if 2 or more words incorrect or omitted	No response
—				
—	◇	○	☆ x4	△ x6
—	◇	○	☆ x3	△ x5
—	◇	○	☆ x2	△ x4
—	◇	○	☆ x1	△ x3

[Practice item – do not score]

Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	⊗	⊗	⊗		
	4	3	3	3	⊗	⊗	⊗		
Syllabic repetition	6	3	3	⊗	⊗	⊗	6		
Repeat & point	8	1	1	1	⊗	⊗	2		
	10	1	1	1	⊗	⊗	2		
	12	1	1	1	⊗	⊗	2		
Non-word repetition	14	3	3	⊗	⊗	⊗	6		
Semantic association	16	⊗	⊗	2	⊗	⊗	⊗		
	18	⊗	⊗	2	⊗	⊗	⊗		
Sentence comp - I	20	⊗	⊗	⊗	4	⊗	⊗		
Sentence comp - II	22	⊗	⊗	⊗	2	⊗	⊗		
	24	⊗	⊗	⊗	2	⊗	⊗		
Reading	26	10	10	5	⊗	⊗	25		
Sentence repetition	28	4	4	⊗	⊗	10	18		
Writing	30	⊗	⊗	⊗	1	⊗	⊗		
Picture description	32	1	1	2	1	⊗	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		

## 10. úloha: Psaní - popis činnosti

"Do tohoto čtverce napište pár vět, které někomu vysvětlí, jak si má čistit zuby. Po dvou minutách vás zastavím. Jste připravený/á? Můžete začít teď."

Test	Page	◇	○	□	⬡	☆	△	
Naming	2	3	3	3	×	×	×	Total X's per page
	4	3	3	3	×	×	×	
Syllabic repetition	6	3	3	×	×	×	6	
Repeat & point	8	1	1	1	×	×	2	
	10	1	1	1	×	×	2	
	12	1	1	1	×	×	2	
Non-word repetition	14	3	3	×	×	×	6	
Semantic association	16	×	×	2	×	×	×	
	18	×	×	2	×	×	×	
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Sentence comp - II	22	×	×	×	2	×	×	
	24	×	×	×	2	×	×	
Reading	26	10	10	5	×	×	25	
Sentence repetition	28	4	4	×	×	10	18	
Writing	30	×	×	×	1	×	×	
Picture description	32	1	1	2	1	×	5	
<b>Total errors</b>		◇	○	□	⬡	☆	△	

# 11. úloha: Popis obrázku



Test	Page	◇	○	□	⬡	☆	△	Total X's per page	
Naming	2	3	3	3	×	×	×		Total X's per page
	4	3	3	3	×	×	×		
Syllabic repetition	6	3	3	×	×	×	6		
Repeat & point	8	1	1	1	×	×	2		
	10	1	1	1	×	×	2		
	12	1	1	1	×	×	2		
Non-word repetition	14	3	3	×	×	×	6		
Semantic association	16	×	×	2	×	×	×		
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	24	×	×	×	2	×	×		
Reading	26	10	10	5	×	×	25		
Sentence repetition	28	4	4	×	×	10	18		
Writing	30	×	×	×	1	×	×		
Picture description	32	1	1	2	1	×	5		
<b>Total errors</b>		◇	○	□	⬡	☆	△		

# Scoring Instructions

## STEP 2

Calculate MLSE score

Were there any non-responses? 

YES

NO






In cases where non-responses are recorded, **MLSE domain scores become invalid.**

1. Calculate only the MLSE total score out of 100:

$$100 - \left[ \text{diamond} + \text{circle} + \text{square} + \text{hexagon} + \text{star} \right] - \text{triangle} = \boxed{\text{Total MLSE score}}$$

MLSE domain scores and MLSE total score can be calculated

1. Scores per domain:

Motor speech 30 -  = ___	Phonology 30 -  = ___	Semantics 20 -  = ___
Syntax 10 -  = ___	Working memory 10 -  = ___	

Skóre jednotlivých domén

2. MLSE total score out of 100:

$$100 - \left[ \text{diamond} + \text{circle} + \text{square} + \text{hexagon} + \text{star} \right] = \boxed{\text{Total MLSE score}}$$

Celkové skóre

### Guide to syndromes:

**Semantic dementia / svPPA:** clear impairment in semantics; normal or very mildly impaired syntax; normal phonology, motor speech and working memory.

**Progressive non-fluent aphasia / nvPPA:** clear impairment in phonetics (phonology / motor speech) and/or syntax; normal semantics and working memory.

**Logopenic progressive aphasia / lvPPA:** impaired phonology and working memory; mild impairment of semantics and syntax; normal motor speech.

# Poznatky z praxe – kvalitativní hodnocení během testu

- Předtest - Screening zraku a sluchu před testováním
- Zjistit důvod selhání pacienta - např. u opakování vět z důvodu neporozumění úloze x těžké poruše paměti
- Pokud selže u sémantických asociací, zeptejte se poté na důvod jeho výběru (např. záměna náprstku za pletenou čepici)
- Zaznamenání všech druhů selhání s popisem, např. zaznamenání sakadace
- Nahrávání a následný rozbor vyšetření

# Význam MLSE



- Standardizovaný screening
- Vytvořený specificky pro PPA
- Hodnocení kognitivně-lingvistické domény
- „Testový profil“ subtypů PPA
- Kvantifikace: hodnocení míry deficitů, dynamiky změn
- Pro terapeuty možnost i kvalitativního hodnocení pro následné nastavení terapie

# MLSEcz: Czech Adaptation of Primary Progressive Aphasia Screening

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## What is MLSE ?

### Mini Linguistic State Examination

Screening test for neurologists, speech therapists and other clinicians to diagnose Primary progressive aphasia (PPA) and its variants (nfvPPA, svPPA, lvPPA)

### Specifics of the Czech language accepted in the Czech version of MLSE.cz:

- A rich system of grammatical morphemes
- One morpheme often carries more than one meaning
- Relatively free order of verb arguments and their complements
- Much more complex system of conjugation of verbs
- The verb can carry various types of information: person, number, tense, aspect or the gender of the subject
- The spelling of words is very consistent (transparent orthography)
- Language with deep orthography

### Pre-norming phase

Demographic structure of healthy group in Pre-norming Phases :

	quantity	m/f	age	education
Pre-norming 1	42	29/13	72 (35-89)	14 (9-18)
Pre-norming 2	42	32/10	67 (44-87)	14 (9-19)

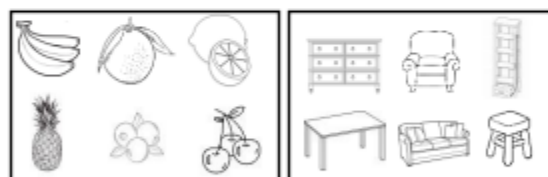
## Which items have been modified from the original?

- ❖ Picture naming – 4 pictures changed (currently cactus, giraffe, pineapple, guitar, hippo, pretzel)



- ❖ Syllabic repetition - the word caterpillar changed to catastrophe (katastrofa)

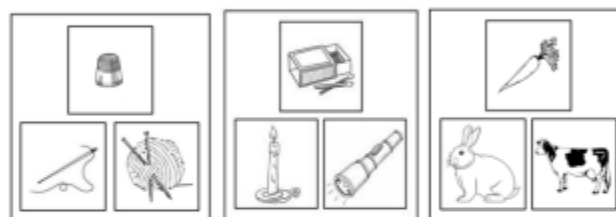
- ❖ Repetition and comprehension – now fruit and furniture instead of the flowers and medical instruments



- ❖ Pseudoword repetition - Frapák, Ševrosnyk, Brázdenčina

- ❖ Word and pseudoword reading – use of irregular word and assimilation

- ❖ Semantic association – reduced size of the thimble in the picture, replace donkey for rabbit, remove harpoon and insert candle with matches



- ❖ Sentence comprehension I. - change the names to typical name for Czechia

- ❖ Sentence comprehension II. - enlarged the pictures and change the order of the sentences according to their difficulty

- ❖ Sentence repetition – change of the sentence order of and two sentences replaced

## What hasn't changed compared to the original?

- ❖ Writing
- ❖ Picture description

## Suggestions for administration and interpretation of results based on our first clinical experience:

- Preliminary visual and auditory screening is required.
- Determine the specific reason for the patient's failure to complete the task (e.g., comprehension vs. memory).
- In the Sentence comprehension section, present images only when the individual is unable to respond verbally; otherwise, the visuals may be distracting.
- If there is an error in semantic association, request an explanation for the individual's choice.

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