

P31242

Understanding of typed text by patients after stroke and healthy volunteers: does typography matter?

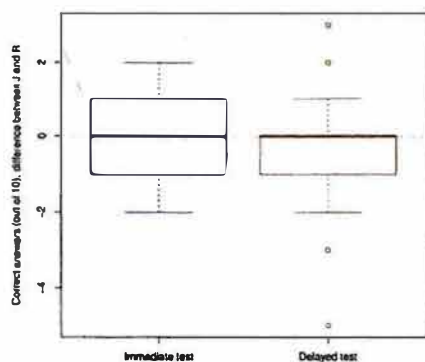
R. Gizatullin¹, L. Akhmadeeva¹, L. Nurtdinova¹, B. Veytsman²

¹Ufa, Russian Federation, ²Computational Sciences, George Mason University, Fairfax, USA

Background and aims: Many neurological patients and their caregivers get printed texts with instructions or information during rehabilitation process. We report the study of two parameters: whether serifs (small lines attached to the end of letters) and word splitting (hyphenation) matter for speed of reading or reading comprehension.

Methods: We showed the participants two versions of several texts typeset with the computer program TeX under different typographical conventions. After this participant answered 10 multiple choice questions to measure the reading comprehension twice (right after reading and in 60 minutes). We also calculated the speed of reading for each participant. Each subject got several texts with randomly assigned typographical conventions. Paired t-tests were performed to check for the differences. In experiment I n=38 post-stroke patients were shown texts with serif and without them. In experiment II n=50 healthy participants were shown texts either typeset flush right (with hyphenated words) or ragged right (without hyphenation).

Results: In experiment I serifs or their absence did not influence reading speed or comprehension (p=0.9). In experiment II we found a very small improvement of reading comprehension for unhyphenated texts on delayed test (p=0.043). On the graph below the difference in correct answers between ragged right (R) and justified (J) is shown. The slight difference for delayed text is visible. This may confirm the theory that reading involves recognition of word images rather than separate letters.



Conclusion: Typographic conventions are probably based on aesthetics rather than improved text cognition. This might be useful for neurorehabilitation and requires future studies.

Disclosure: L. Akhmadeeva got a travel grant from TeX Users Group to attend its meeting. It allowed her to discuss some ideas about typesetting with professionals from different countries.

P31243

Long-term coma-state and the bedrest-syndrome

S. Golaszewski¹, B. Wutzl¹, C. Florea¹, A.B. Kunz¹, M. Seidl¹, K. Schwenker¹, R. Nardone¹, E. Trinka¹, F. Gerstenbrand²

¹Department of Neurology, Paracelsus Medical University Salzburg, Salzburg, Austria, ²Karl Landsteiner Institute for Neurorehabilitation and Space Neurology, Vienna, Austria

Background and aims: Patients with prolonged coma-state such as Apallic-Syndrome (AS) develop secondary complications. These include changes in the central and peripheral nervous system, the musculoskeletal, cardiovascular and other body systems. The aim of the study is to investigate the characteristics and progression of these degenerative processes because of the long-term immobilization. The results of this explorative study should provide a clearer picture of the symptomatology and a better understanding of the pathophysiological changes following this so-called Bedrest-Syndrome (BRS).

Methods: 20 patients are enrolled in the study. Electrophysiological investigation includes EEG, SSEP, MEP, ENG, F-waves, EMG, ECG and heart rate variability. Imaging comprises CT-based osteodensitometry and MRI of the neuroaxis. Investigation of the cardiovascular system comprises Holter-ECG and N-terminal B-type natriuretic peptide (NT-proBNP).

Results: Patients show decreased MEP-amplitudes and especially a prolongation of the latency. EEG shows general slowing and ECG an increased incidence of arrhythmia, unspecific ST-depression and left-bundle-branch-block. SSEP show a prolongation and reduction of the N20 with partial absence. ENG shows a reduced nerve-conduction-velocity. F-waves have an increased latency and a decrease of the persistence. In EMG spontaneous muscle activity is increased and there is a clearing of the interference pattern. Imaging detects frequent pathological fractures. MRI shows loss of brain and myelon volume. Holter-ECG frequently reveals bradycardia and arrhythmia. Blood-NT-pro-BNP-levels are elevated.

Conclusion: Patients in AS with long-term bedrest develop severe secondary degenerative changes called Bedrest-Syndrome that often prevents further remission from the AS. Thus, research is needed to clarify the underlying pathophysiological processes to develop efficient strategies against the BRS.

Disclosure: Nothing to disclose

EUROPEAN JOURNAL OF NEUROLOGY

Volume 23, Supplement 2, June 2016

Abstracts of the 2nd Congress of the European Academy of Neurology

Copenhagen, Denmark

Disclaimer:

This abstract volume has been produced using author-supplied copy. Editing has been restricted to some corrections of spelling and style where appropriate. No responsibility is assumed for any claims, instructions, methods or drug dosages contained in the abstracts: it is recommended that these are verified independently.



HEAD OFFICE: Breite Gasse 4/7
1070 Vienna, Austria

PHONE: +43 1 889 05 03
FAX: +43 1 889 05 03 13
E-MAIL: headoffice@eaneurology.org
WEB: www.eaneurology.org

ISSN 1351-5101(201505)23:5+1



2nd EAN Congress 2016

European Academy of Neurology

May 28-31 | 2016
Copenhagen | Denmark

www.swissneuro.ch/Sponsorpool



15th SNS Sponsorpool Project