

Neural networks were also explored as a means of distinguishing attended vs. ignored flashes. To date, these have been able to discriminate data much more effectively than the SWDA approach used by Donchin and his colleagues, more than doubling the effective communication rate of such a system. We will present a comparison of different types of networks and their performance. As this is an ongoing project, future studies will explore other pattern recognition approaches, and hopefully the results of this work will be available at next year's conference.

Figure 1: This graphs shows the grand averaged response to attended vs. ignored trials at the slowest presentation speed (500 ms ISI). The blue line shows attended trials, and the red line is for ignore trials.

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page A2

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Support: This work was supported by a grant from the National Institutes of Health.

## THE APALLIC SYNDROME, A SAMPLE FOR REORGANIZATION OF BRAIN FUNCTIONS

Wednesday 10:00

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The apallic syndrome belongs to the severest neurological diseases. The number of patients has increased in recent years. Due to the improvements in neurological rehabilitation, most cases can be treated successfully.

The definition of the traumatic apallic syndrome is based on the first publication of Kretschmer (1940). The term apallic was chosen to indicate that this syndrome is a functional disturbance of the brain and not caused by a cortical and/or subcortical damage of brain tissue. Principally there are two ways to develop an apallic syndrome, a severe acute damage of the brain (traumatic, hypoxic, etc.) or the final stage of a diffuse and progressive process of the brain (Creutzfeldt-Jakob disease, Huntingtons Chorea, etc.).

The patients with apallic syndrome after an acute damage of brain passes an initial phase (acute midbrain syndrome), developing after a transitory stage, the full stage of an apallic syndrome, followed by a remission stage which can be observed in 80 %. The resocialization rate is 30 %. The remission stage occurs in 8 phases (Innsbruck-Remission-Scale). The remission course might stop in the first two stages.

The full stage of an apallic syndrome shows the symptoms of disinhibition of the brainstem with flexed stretched position of extremities (new born position), inability of optic fixation, motoric primitive patterns (suckling, grasping reflexes etc.), coma vigile, awake-sleep phases (new born) no cognitive contact to the surrounding. The neurological symptoms of an apallic syndrome are fully comparable with the neurophysiological status of a newborn child. The remission course of the apallic syndrome resembles in the first five stages the development of a human infant.





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**ABSTRACTS**

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ARGESIM/ASIM Verlag ISBN 3-901608-20-6

Title: World Congress on Neuroinformatics 2001  
Part I Abstracts  
Part II Proceedings

Editor: Frank Rattay

Publisher: ARGESIM / ASIM - Verlag, Vienna, 2001  
Series: ARGESIM Report no. 20

ISBN 3-901608-20-6

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