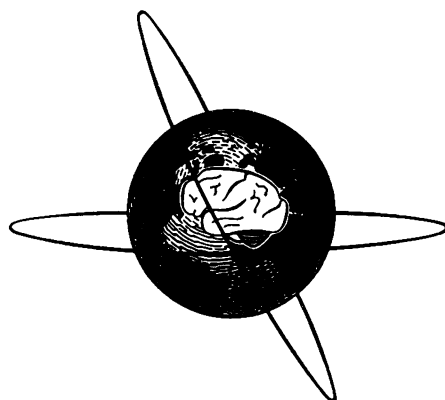


ELECTROENCEPHALOGRAPHY AND CLINICAL NEUROPHYSIOLOGY

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**Abstracts of the XIIIth International
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CONTENTS

Plenary abstracts	S1
Video presentations	S15
Poster sessions	S21
Session 1: Sleep studies in normal subjects	s23
Session 2: Fundamental aspects of auditory evoked potentials	s25
Session 3: Diabetic neuropathy	S27
Session 4: Magnetic stimulation of peripheral nerves	S29
Session 5: SEPs in disease 1	S32
Session 6: Movement disorders 1	S33
Session 7: Cerebral localization employing magnetic stimulation	S35
Session 8: Fundamental aspects of cognitive evoked potentials 1	S38
Session 9: Paediatric epilepsy and EEG 1	S40
Session 10: Experimental EEG	S41
Session 11: Spinal cord disease 1	S44
Session 12: Movement disorders 2	S46
Session 13: Electromyography 1	S48
Session 14: Quantitative EEG 1	S50
Session 15: Studies in cerebrovascular disease 1	S52
Session 16: Double and repetitive magnetic stimulation	S53
Session 17: Visual evoked potentials 1	S55
Session 18: Fundamental aspects of cognitive evoked potentials 2	S56
Session 19: Paediatric epilepsy and EEG 2	S58
Session 20: Topographic electrical brain activity 1	S60
Session 21: Peripheral neuropathy 1	S61
Session 22: Peripheral neuropathy 2	S64
Session 23: Spinal cord disease 2	S66
Session 24: Motor control 1	S67
Session 25: Clinically applied magnetic stimulation 1	S69
Session 26: SEPs in disease 2	S71
Session 27: Visual evoked potentials 2	S73
Session 28: Physiological studies in dementia	S74
Session 29: Clinical EEG 1	S77
Session 30: Topographic electrical brain activity 2	S79
Session 31: Clinically applied magnetic stimulation 2	S81
Session 32: Methods in electrophysiology	S83
Session 33: Motor control 2	S86
Session 34: Mononeuropathies	S87
Session 35: SEP topographical mapping	S89
Session 36: P300 – 1	S91
Session 37: Clinical epilepsy 1	S93
Session 38: Clinical EEG 2	S95
Session 39: Studies in cerebrovascular disease 2	S98
Session 40: Electromyography 2	S99
Session 41: Magnetic stimulation in cerebrovascular disease	S101

Session 42: Neuromuscular transmission and fatigue	S103
Session 43: Intraoperative monitoring 1	S104
Session 44: Sleep studies in disease 1	S106
Session 45: Fundamental aspects of the SEP	S107
Session 46: P300 – 2	S109
Session 47: Clinical epilepsy 2	S111
Session 48: The carpal tunnel syndrome	S113
Session 49: Quantitative EEG 2	S115
Session 50: A potpourri of posters 1	S116
Session 51: The sympathetic skin response	S118
Session 52: Movement disorders 3	S121
Session 53: Sleep studies in disease 2	S122
Session 54: Modifying responses to magnetic stimulation	S124
Session 55: Clinical application of the auditory evoked potential	S126
Session 56: Clinical application of cognitive evoked potentials	S128
Session 57: Clinical epilepsy 3	S131
Session 58: Quantitative EEG 3	S133
Session 59: A potpourri of posters 2	S135
Session 60: Intraoperative monitoring 2	S137
Author index	S139

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40-07 Body Composition Analysis with Bioelectric Impedance Measurement in Neuromuscular Diseases

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Most of generalized neuromuscular diseases show atrophy of muscles and mesenchymal alteration processes. Bioelectric impedance analysis (BA) is a fast and well tolerated procedure for measurement of body composition (fat, water) (Baumgartner, R. N. et al., J. Clin. Nutr. 48: 16, 1988).

BIA was assessed in 207 adult patients (110 males, 97 female) with neuromuscular diseases, confirmed by clinical symptoms, electromyography, and muscle biopsy. The results were compared with those of 118 healthy controls (65 males, 53 females). Using multiple regression and correlation analysis for sex, age, height, and weight normal values with standard deviations (SD) were established for the control group. The median value of relative body fat [% of body weight] in male patients lay 3.8 SD ($p < 0.001$) (Mann-Whitney-U-test), in female patients 1.0 SD ($p < 0.001$) above that of controls, the median value of relative body water [% of body weight] in male patients 2.5 SD ($p < 0.001$), and in females 1.1 SD ($p < 0.001$) below that of the controls. 30.1% of the male and 21.4% of the female patients showed a minimal SD of 3.0 in percent body fat, compared with 7.7% of males and 1.9% of females in the control group. The deviations were highly correlated with the severity of muscle weakness.

In conclusion, BIA seems to be a very simple and fast, but not very sensitive method for assessing the degree of muscle lipomatosis in generalized neuromuscular diseases.