

## Appendix 2

# Federation published standards, guidelines, recommendations, and reports

The Federation has produced a considerable number of reports, assessments, guidelines, standards, recommendations and similar printed products. These have covered technology, education, science, and clinical practice topics. These were generally the product of Federation committees commissioned by the Executive Committee and the General Assembly. All were reviewed by the Executive Committee and other experts in those fields, many were peer-reviewed by the journal, and many were endorsed by the Council or General Assembly.

In addition to the written reports mentioned below, the Federation has produced other reports. Some were not included here because of their generality and brevity. Others were soon superseded

by newer or more complete reports that are included here. Some of the earliest reports are not included for that reason. Our apologies to those who have published reports that were not included in this list. The process of identifying and compiling a list is complex, as there has been no previous such list on which to rely. “In press” citation refers to the time that this book went to press.

The published reports are presented here in three parts:

- Those published in the journal;
- Those published in the 1983 *Practice Guidelines* book;
- Those published in the 1999 *Practice Guidelines* book.

### Journal publications

Safety, ethical considerations, and application guidelines for the use of Transcranial Magnetic Stimulation in clinical practice and research. A consensus statement from the international workshop on present and future of TMS: safety and ethical guidelines. S. Rossi, M. Hallett, P.M. Rossini, A. Pascual-Leone. *Clinical Neurophysiology* 2009;120:2008–2039.

Event-related potentials in clinical research: Guidelines for eliciting, recording, and quantifying mismatch negativity, P300, and N400. C.C. Duncan, R.J. Barry, J.F. Connolly, C. Fischer, P.T. Michie, R. Näätänen, J. Polich, I. Reinvang, C. van Petten. *Clinical Neurophysiology* 2009;120:1883–1908.

The clinical diagnostic utility of transcranial magnetic stimulation: report of an IFCN committee. R. Chen, D. Cros, A. Curra, V. Di Lazzaro, J.P. Lefaucheur, M.R. Magistris, K. Mills, K.M. Rösler, W.J. Triggs, Y. Ugawa, U. Ziemann. *Clinical Neurophysiology* 2008;119:504–532.

Recommendations for the clinical use of somatosensory-evoked potentials. G. Cruccu, M.J. Aminoff, G. Curio, J.M. Guérit, R. Kakigi, F. Mauguère, P.M. Rossini, R.D. Treede, L. García-Larrea. *Clinical Neurophysiology* 2008;119:1705–1719.

- IFCN Standards for digital recording of clinical EEG. M.R. Nuwer, G. Comi, R. Emerson, A. Fuglsang-Fredericksen, J.M. Guérit, H. Hinrichs, A. Ikeda, F.J. Luccas, P. Rappelsberger, *Electroencephalography and Clinical Neurophysiology* 1998;106:259–261.
- IFCN recommended standards for electrophysiologic monitoring in comatose and other unresponsive states. G.E. Chatrian, B. Bergamasco, A. Bricolo, J. Frost, P. Prior, *Electroencephalography and Clinical Neurophysiology* 1996;99:103–126.
- Central EMG and tests of motor control. M. Hallett, A. Berardelli, P. Delwaide, H. Freund, J. Kimura, C. Lüking, J. Rothwell, B. Shahani, N. Yanagisawa. *Electroencephalography and Clinical Neurophysiology* 1994;90:404–432.
- Human reflexes and late responses. J. Kimura, J. Daube, D. Burke, M. Hallett, G. Cruccu, B. Ongerboer de Visser, N. Yanagisawa, M. Shimamura, J. Rothwell, *Electroencephalography and Clinical Neurophysiology* 1994;90:393–403.
- Non-invasive electrical and magnetic stimulation of the brain spinal cord and roots. Basic principles and procedures for routine clinical application. P. Rossini, A.T. Barker, A. Berardelli, M. Caramia, G. Caruso, R. Cracco, M. Dimitrijevic, M. Hallett, C. Lüking, A. Maertens de Noordhout, C. Marsden, N. Murray, J. Rothwell, M. Swash, C. Tomberg. *Electroencephalography and Clinical Neurophysiology* 1994;91:79–92.
- IFCN recommended standards for long-latency auditory event related potentials. D. Goodin, J. Desmedt, K. Maurer, M.R. Nuwer. *Electroencephalography and Clinical Neurophysiology* 1994;91:18–20.
- IFCN recommended standards for brainstem auditory evoked potentials. M.R. Nuwer, M. Aminoff, D. Goodin, S. Matsuoka, F. Mauguère, A. Starr, J.F. Vibert. *Electroencephalography and Clinical Neurophysiology* 1994;91:12–17.
- IFCN recommended standards for short latency somatosensory evoked potentials. M.R. Nuwer, M. Aminoff, J. Desmedt, A. Eisen, D. Goodin, S. Matsuoka, F. Mauguère, H. Shibasaki, W. Sutherling, J.F. Vilbert. *Electroencephalography and Clinical Neurophysiology* 1994;91:6–11.
- IFCN guidelines for topographic and frequency analysis of EEGs and EPs. M.R. Nuwer, D. Lehmann, F.H. Lopes da Silva, S. Matsuoka, W. Sutherling, J.F. Vibert. *Electroencephalography and Clinical Neurophysiology* 1994;91:1–5.
- Long-term monitoring for epilepsy. J. Engel, J. Burchfield, J. Ebersole, J. Gates, J. Gotman, R. Homan, J. Ives, D. King, J. Lieb, S. Sato, R. Wilkus. *Electroencephalography and Clinical Neurophysiology* 1993;87:437–458.
- Recommended standards for electroretinograms and visual evoked potentials. G. Celesia, I. Bodis-Wollner, G. Chatrian, G. Harding, S. Sokol, H. Spekreijse. *Electroencephalography and Clinical Neurophysiology* 1993;87:421–436.
- Neuromonitoring during surgery. M.R. Nuwer, J. Daube, C. Fischer, J. Schramm, C. Yingling. *Electroencephalography and Clinical Neurophysiology* 1993;87:263–276.
- Basic mechanisms of cerebral rhythmic activities. M. Steriade, P. Gloor, R.R. Llinás, F.H. Lopes da Silva, M. Mesulam. *Electroencephalography and Clinical Neurophysiology* 1990;76:481–408.

- Kindling: basic mechanisms and clinical validity. M. Sato, R. Racine, D. McIntyre. *Electroencephalography and Clinical Neurophysiology* 1990;76:459–472.
- Committee on standards of clinical practice of EEG and EMG. O. Magnus, J. Daube, S. Gomes Lins, I. Hausmanowa-Petrusewicz, F. Isch, D. Klass, S. Kubicki, J. Kugler, K. Mechelse, J. Payan, G. Scollo-Lavizzari, E. Stålberg. *Electroencephalography and Clinical Neurophysiology* 1982;54:9–10.
- Committee on quantification in electromyography. R.G. Willison, I. Petersén, M. Meyer, P. Pinelli, J.E. Desmedt, K. Kunze, R.G. Lee, I. Hausmanowa-Petrusewicz, F. Isch, A. Arrigo. *Electroencephalography and Clinical Neurophysiology* 1982;54:12–14.
- Report of committee on cessation of cerebral function, in the Xth international congress of electroencephalography and clinical neurophysiology: proceedings of the General Assembly. E. Walker, D.R. Bennett, A. Bricolo, L. Cigánek, A.M. Gurvich, N. Chiofalo. *Electroencephalography and Clinical Neurophysiology* 1982;54:9.
- Appendix A: EEG instrumentation standards (revised 1977): Report of the committee on EEG instrumentation standards of the international federation of societies for electroencephalography and clinical neurophysiology. J.S. Barlow, A. Kamp, H.B. Morton, A. Ripoche, H. Shipton, D.B. Tchavdarov. *Electroencephalography and Clinical Neurophysiology* 1978;44: 144–150.
- Appendix C: EEG instrumentation standards: report of the committee on EEG instrumentation standards of the international federation of societies for electroencephalography and clinical neurophysiology. J.S. Barlow, A. Kamp, H.B. Morton, A. Ripoche, H. Shipton. *Electroencephalography and Clinical Neurophysiology* 1974;37:549–553.
- Appendix B: A glossary of terms most commonly used by clinical electroencephalographers. G.E. Chatrian, L. Bergamini, M. Dondey, D.W. Klass, M. Lennox-Buchthal, I. Petersén. *Electroencephalography and Clinical Neurophysiology* 1974;37:538–548.
- Report of the committee on EMG instrumentation, in the VIIIth international congress of electroencephalography and clinical neurophysiology, proceedings of the General Assembly. R.G. Willison. *Electroencephalography and Clinical Neurophysiology* 1974;37:532–534.
- Report of the committee on EMG instrumentation: technical factors in recording electrical activity of muscle and nerve in man, submitted to the General Assembly, VIIth international congress of IFSECN. C. Guld, A. Rosenfalck, R.G. Willison. *Electroencephalography and Clinical Neurophysiology* 1970;28:399–433.
- Terminology of electromyography. J.A. Simpson. *Electroencephalography and Clinical Neurophysiology* 1969;26:224–226.
- Appendix A: Proposal for an EEG terminology by the terminology committee of the International Federation of Societies for Electroencephalography and Clinical Neurophysiology. W. Storm van Leeuwen, R. Bickford, M. Brazier, W.A. Cobb, M. Dondey, H. Gastaut, P. Gloor, C.E. Henry, R. Hess, J.R. Knott, J. Kugler, G.C. Lairy, C. Loeb, O. Magnus, L. Oller Daurella, H. Petsche, R. Schwab, W.G. Walter, L. Widén. *Electroencephalography and Clinical Neurophysiology* 1966;20: 306–310.

Report of the committee on apparatus: recommendations to manufacturers, in the proceedings of the IVth international EEG congress. J.R. Knott, H.W. Shipton, F. Buchthal, C. Henry, C. Marshall, W. Storm van Leeuwen, A. Rémond. *Electroencephalography and Clinical Neurophysiology* 1958;10:378–380.

Appendix: The ten–twenty electrode system of the International Federation. H. Jasper. *Electroencephalography and Clinical Neurophysiology* 1958;10:371–375.

Report of the committee on methods of clinical examination in electroencephalography, 1957. W. Cobb, C. Ajmone-Marsan, H. Gastaut, R. Hess Jr., R. Jung, J.R. Knott, O. Magnus, H. Petsche, R. Schwab, H. Terzian, L. Widén. *Electroencephalography and Clinical Neurophysiology* 1958;10:370–371.

### **Published in the 1983 practice guidelines book**

*Recommendations for the Practice of Clinical Neurophysiology*. International Federation of Societies for Electroencephalography and Clinical Neurophysiology. Elsevier, 1983.

#### *Electroencephalography*

The ten–twenty electrode system of the International Federation  
H.H. Jasper

A glossary of terms most commonly used by clinical electroencephalographers  
G.E. Chatrian, L. Bergamini, M. Dondey, D.W. Klass, M. Lennox-Buchthal and I. Petersén

EEG instrumentation standards (revised 1977): report of the Committee on EEG Instrumentation Standards of the International Federation of Societies for Electroencephalography and Clinical Neurophysiology  
J.S. Barlow (Chairman), A. Kamp, H.B. Morton, A. Ripoche, H. Shipton and D.B. Tchavdarov

Report of committee on cessation of cerebral function  
A.E. Walker (Chairman), D.R. Bennett, A. Bricolo, L. Cigánek, A.M. Gurvich and N. Chiofalo.  
Committee on standards of clinical practice of EEG and EMG

#### *Appendix I. Standards of clinical practice of EEG*

IA: Standards of clinical practice in the EEG department

IB: Standards of clinical practice of EEG of newborns

Standards of clinical practice of EEG of newborns—Annex. The 12.5–25 system of electrode positions

IC: Standards of clinical practice of EEG in intensive care units

ID: EEG monitoring during open-heart and carotid artery surgery. A.J.R. Simon

IE: Standards of clinical practice of EEG in cases of suspected “cerebral death”. G.E. Chatrian

IF: Standards of clinical practice for the recording of evoked potentials (EPs). M. Halliday

*Electromyography*

Report of the committee on EMG instrumentation. Technical factors in recording electrical activity of muscle and nerve in man

C. Guld, A. Rosenfalck and R.G. Willison

Report of the committee on EMG instrumentation

C. Guld, A. Rosenfalck and R.G. Willison

Committee on quantification in electromyography

R.G. Willison (Chairman), I. Petersén, M. Meyer, P. Pinelli, J.E. Desmedt, K. Kunze, R.G. Lee, I. Hausmanowa-Petrusewicz, F. Isch and A. Arrigo

*Appendix II. Committee on standards of clinical practice of EMG*

IIA: Principles of clinical practice of EMG

IIB: Standards of instrumentation and application of EMG

IIC: EMG terminology

*The Constitution*

Constitution de la Fédération Internationale des Sociétés d'Electroencéphalographie et de Neurophysiologie Clinique

**Published in the 1999 practice guidelines book**

*Recommendations for the Practice of Clinical Neurophysiology: Guidelines of the International Federation of Clinical Neurophysiology (2nd Revised and Enlarged Edition)*. Edited by Günther Deuschl and Andrew Eisen. *Electroencephalography and Clinical Neurophysiology Supplement*, Vol. 52, Elsevier, 1999

*Section 1. EEG (technical standards and glossary)*

The ten-twenty electrode system of the International Federation

G.H. Klem, H.O. Lüders, H.H. Jasper and C. Elger

EEG instrumentation

A. Ebner, G. Sciarretta, C.M. Epstein and M.R. Nuwer

IFCN standards for digital recording of clinical EEG

M.R. Nuwer, G. Comi, R. Emerson, A. Fuglsang-Frederiksen, J.-M. Guérit, H. Hinrichs, A. Ikeda, F.J.C. Luccas and P. Rappelsberger

IFCN guidelines for topographic and frequency analysis of EEGs and EPs

M.R. Nuwer, D. Lehmann, F. Lopes da Silva, S. Matsuoka, W. Sutherling and J.F. Vibert

A glossary of terms most commonly used by clinical electroencephalographers and proposals for the report for the EEG findings

S. Noachtar, C. Binnie, J. Ebersole, F. Mauguière, A. Sakamoto and B. Westmoreland

*Section 2. Evoked potentials (technical standards and glossary)*

Recommended standards for electroretinograms

G.G. Celesia, M.G. Brigell and N. Peachey

Recommended standards for pattern electroretinograms and visual evoked potentials

G.G. Celesia and M.G. Brigell

Short-latency auditory evoked potentials

H. Pratt, M. Aminoff, M.R. Nuwer and A. Starr

Somatosensory evoked potentials

F. Mauguière, T. Allison, C. Babiloni, H. Buchner, A.A. Eisen, D.S. Goodin, S.J. Jones, R. Kakigi, S. Matsuoka, M.R. Nuwer, P.M. Rossini and H. Shibasaki

Cognitive event-related potentials

H.J. Heinze, T.F. Münte, M. Kutas, S.R. Butler, R. Näätänen and D.S. Goodin

*Magnetic stimulation*

Magnetic stimulation: motor evoked potentials

J.C. Rothwell, M. Hallett, A. Berardelli, A. Eisen, P. Rossini and W. Paulus

Repetitive transcranial magnetic stimulation

M. Hallett, E.M. Wassermann, A. Pascual-Leone and J. Valls-Solé

*Section 3. Specific applications of EEG, evoked potentials and cortical stimulation*

Standards of clinical practice of EEG and EPs in comatose and other unresponsive states

M. Guérit, C. Fischer, E. Facco, P. Tinuper, L. Mum, E. Ronne-Engström and M.R. Nuwer

Intraoperative monitoring

D. Burke, M.R. Nuwer, J. Daube, C. Fischer, J. Schramm, C.D. Yingling and S.J. Jones

Neonatal EEG

A.W. De Weerd, P.A. Despland and P. Plouin

Recording sleep and wake

A.W. De Weerd and P. Clarenbach

Applications of magnetic cortical stimulation

P.M. Rossini, A. Berardelli, G. Deuschl, M. Hallett, A. Maertens de Noordhout, W. Paulus and F. Pauri

*Section 4. Electromyography*

Clinical EMG and glossary of terms most commonly used by clinical electromyographers

G. Camso, A. Eisen, E. Stålberg, J. Kimura, B. Mamoli, R. Dengler, L. Santoro and H.C. Hopf

Standards of instrumentation of EMG

C. Bischoff, A. Fuglsang-Frederiksen, L. Vendelho and A. Sumner

Standards for quantification of EMG and neurography

E. Stålberg, B. Falck, A. Gilai, J. Jahre, M. Sonoo and K. Todnem

*Section 5. Electrooculography*

Electrooculography: technical standards and applications

W. Heide, E. Koenig, P. Trillenber, D. Kömpf and D.S. Zee

*Section 6. Reflexes, late responses and central motor control*

The jaw reflexes

G. Cruccu and B.W. Ongerboer de Visser

The orbicularis oculi reflexes

A. Berardelli, G. Cruccu, J. Kimura, B. Ongerboer de Visser and J. Valls-Solé

The F-wave

A. Eisen and M. Fisher

H reflexes from the tibial and median nerves

D. Burke, M. Hallett, P. Fuhr and E. Pierrot-Deseilligny

Long-latency reflexes following electrical nerve stimulation

G. Deuschl and A. Eisen

EMG–EEG correlation

H. Shibasaki and J. Rothwell

*Section 7. Tests of autonomic functions*

Sympathetic skin response

D. Claus and R. Schondorf

Heart rate variability

R. Baron and D.J. Ewing

Assessment of blood pressure regulation

S. Braune, M. Elam, R. Baron and P.A. Low