PRACTICE STANDARDS FOR NEUROFEEDBACK:

A POSITION PAPER OF THE INTERNATIONAL SOCIETY FOR NEUROFEEDBACK AND RESEARCH

Donald Moss, PhD (2015)

AAPB Webinar
ORIGINAL PUBLICATION


- To link to this article: http://dx.doi.org/10.1080/10874208.2010.545760
UPDATE

• The 2011 standards were updated in 2012 by an ISNR Task Force including: Randy Lyle, Cory Hammond, Jerry Gluck, Genie Bodenhammer Davis, Deb Stokes, and John Davis.

• The 2012 standards are now the official ISNR document, and are available on the ISNR website.
PURPOSE

• These guidelines are intended to provide a reference for professionals and the public on basic methods for the delivery of neurofeedback (EEG biofeedback)
THE DEFINITION OF NEUROFEEDBACK

- Neurofeedback involves placing sensors on the scalp, and by means of electronic instrumentation, recording the electrical activity of the brain.
- This activity is presented back to the individual, by means of computer displays, videogames, and soundtracks, such that changes in display indicate changes in brain state.
THE DEFINITION OF NEUROFEEDBACK

• This “feedback” enables the individual to change brain function.
• The means in which the signal is displayed and controlled is the responsibility of the neurofeedback practitioner, and should be carried out in accord with the following guidelines.
THE PRACTICE OF NEUROFEEDBACK

• Neurofeedback developed as a multi-disciplinary modality
• It is practiced by wide variety of providers from various disciplines, not all licensed healthcare providers
• The range of neurofeedback applications includes:
  – Assessment and treatment of conditions diagnosed by licensed healthcare providers,
  – Training for optimal performance (athletes, executives, students, performing artists, and other healthy individuals), and
  – Clinical and applied scientific research.
TRAINING AND CREDENTIALS FOR NEUROFEEDBACK PRACTITIONERS

• Membership in ISNR and certification by BCIA demonstrate to the public that a provider is able to provide ethical and competent training.

• When a professional treats a diagnosed mental or other health condition, it is recommended that the provider be a licensed healthcare provider, and that the provider’s scope of practice include assessment and treatment of this condition.
PRACTICE GUIDELINES

• Follow the ethical principles of ISNR and any other professional organization to which one belongs.

• Accurately represent one’s training, professional qualifications, and/or licenses, and disclose relevant limitations.

• Provide neurofeedback training only for those problems or goals for which one is competent, as demonstrated by training, experience, licensure or supervision.
GUIDELINES (CONT.)

• Provide neurofeedback (NFB) training for diagnosed medical or mental conditions only if one is a licensed healthcare practitioner, with a scope of practice and competence including these conditions.

• When an unlicensed NFB provider assesses a client and the severity/complexity of the disorder suggests a diagnosable problem, then it is recommended that the NFB provider discuss this with the client, review the limits of their practice, and encourage the client to consult with their physician or licensed healthcare provider.
GUIDELINES (CONT.)

• Maintain competency through continuing education.
• Seek consultation and supervision for cases in order to assure oneself and the client that training is in keeping with current standards.
• Document the client’s consent to the specifics of training, including where and how the client will be touched, acknowledgement of training benefits, risks, and costs.
• Accurately represent the degree of scientific support in peer-reviewed publications for NFB assessment and training for the presenting problem.
GUIDELINES (CONT.)

- If technicians are used, document the client’s understanding of the technician’s qualifications, role, and degree of supervision.
- Document the client’s consent for their data to be used for research and/or educational purposes, if applicable.
- Document the client’s acknowledgement of the limits of confidentiality.
- Document the client’s acknowledgement that training will not necessarily achieve agreed upon goals, either completely or at all.
GUIDELINES (CONT.)

• Document the client’s acknowledgement that unexpected changes in the client’s experience or behavior may occur during course of training. It is important for the client to inform the NFB provider, so that training methods can be adjusted or discontinued, if necessary, and the unexpected changes can be addressed.

• Provide training regardless of race, creed, color, nationality, gender, sexual orientation, religion, or social affiliation.
GUIDELINES (CONT.)

• Collaborate with clients to develop measurable training goals, a clear plan for training, and methods for measuring progress toward goals. This collaboration should include regular review of progress, with the objective of asking for client’s decision on whether the benefits of continued training merits the cost.

• Carry out effective practices for maintaining good hygiene, applying electrodes, and establishing adequate electrical connection. Maintain software and hardware in good and up-to-date condition.
GUIDELINES (CONT.)

• Use hardware and software that is safe, accurate, and effective for the purpose to which it is applied. Equipment which meets the IEEE (Institute of Electrical and Electronics Engineers) or which has been FDA registered is recommended.

• Plan and carry out NFB training that is based on scientifically validated principles and methods.

• Plan and carry out an organized course of neurofeedback that is adequate for the presenting problem and goal, including a pre-training EEG assessment.
GUIDELINES (CONT.)

• Provide therapeutic support, coaching, and direct supervision during client NFB training, sufficient to achieve agreed upon goals. Document the client’s understanding of the degree to which the trainer will be present during training.
GUIDELINES FOR REMOTE OR HOME TRAINING

• Carefully assess and document the benefits, risks, and abilities of the person who may conduct remote or home training.
• Home training should be discouraged for conditions with a clinical diagnosis.
• Careful attention must be given to training and supervising the person conducting the sessions at the home.
• Full disclosure and informed consent of potential problems should be given, and instructions on how and when to report them.
GUIDELINES FOR REMOTE OR HOME TRAINING (CONT.)

• Methods to resolve potential problems should be discussed, and the client’s understanding documented with a signature.

• Steps to prevent or limit the use of NFB software and hardware beyond their intended purpose should be documented.

• The issues of performing services outside of one’s geographic region of license or certification must be taken into consideration.
THE CONTRIBUTIONS OF SEBASTIAN STRIENDFEL TO BIOFEEDBACK ETHICS

Donald Moss, PhD (2015)

AAPB Webinar
ACKNOWLEDGEMENTS

• Acknowledgements to Sebastian “Seb” Striefel, PhD, who for over a decade tirelessly devoted himself to providing readable, concise articles on practical principles of ethics and standards to the reader of the *Biofeedback* magazine.
MORALS AND MORALITY

- “Morals can be defined as being what people think is right or wrong about character” (Striefel, 2004b).
- “Morality is thus concerned with right and wrong conduct and often involves an evaluation of conduct on the basis of some cultural context or religious standard” (Striefel, 2004b, p. 3).
MORALITY AND CHARACTER

• “In summary one must decide what kind of practitioner and person he or she wants to be and then make a lifelong commitment and effort to develop a sound moral character and to act ethically in all situations” (Striefel, 2004b, p. 7).
ETHICS AND INSTRUMENTATION

- Practitioners are encouraged to buy FDA-approved equipment.
- Practitioners are responsible for ensuring that equipment is properly maintained.
- Practitioners are responsible to obtain adequate skills and training to use equipment in a reliable fashion
  -- Striefel (2002)
INFORMED CONSENT

• “Clients are entitled to all of the information that a reasonable person would want in making decisions about treatment; prioritizing treatment goals; fees, billing, and collections; limits of confidentiality, insurance coverage and limitations, etc.” (Striefel, 2003b, p. 11).
TREATMENT PLANNING

• Accurate assessment can facilitate giving clients a realistic projection of the required length of treatment, and the type of treatment most likely to offer help.

• Responsible providers will conduct a realistic discussion of any discrepancy between the length of treatment required and insurance limits on the number of sessions.

• If insurance specifically excludes coverage for biofeedback, a provider can construct a self-regulation and relaxation oriented treatment that does not utilize biofeedback.
“All clients have a right to expect practitioners to provide them with an effective treatment for their problem(s), to have the treatment approach changed to one that is agreeable to them if treatment is not working, and/or to be referred to another practitioner if a treatment is needed that the practitioner is not competent to provide or that is outside of his or her scope of practice or competence” (Striefel, 2008, p. 46).
TREATMENT PLANNING (CONT).

• “The ethical right of the client includes relief from anxiety and pain in the shortest amount of time possible and using the least intrusive treatment approach that is effective (Cummings, 1998), within the guidelines of having been informed about the treatment options available and the pros and cons of each” (Striefel, 2008, p. 46).
TERMINATION AND ABANDONMENT

• Responsible providers do not “abandon” clients, yet therapists often must end a sequence of treatment or close their practice.

• Termination of treatment should be discussed in advance, allowing clients adequate time to anticipate, make alternative plans for obtaining needed supports, and to reach acceptance of the termination.

• Most clients will show some resourcefulness in finding other supports if given adequate notice.
TERMINATION AND ABANDONMENT: FOUR OPTIONS WHEN LENGTH OF CARE IS LIMITED

• Providers can continue treatment with reduced fees or using a payment plan.
• Providers can continue treatment while appealing the HMO/insurance restriction.
• Providers can terminate care, and take the ethical/legal risk.
• Providers can assist the patient in finding alternative services.
  – Striefel (2003, p. 12)
CHILDREN’S RIGHTS AND BIOFEEDBACK TREATMENT

- Specific competencies are required for pediatric work
- Children are not just smaller adults, and adult-based protocols often will be ineffective with children
- Be aware of state laws, which govern the child or adolescents access to treatment
Children’s Rights and Biofeedback Treatment (Cont.)

- Parental consent is the gold standard for beginning treatment with under-age patients, unless your state gives access to adolescents under carefully prescribed circumstances.
- Parental consent is legally required for treatment, but a teen’s “assent” to treatment is critical for effective therapy
  – Striefel (2003a)
CHILDREN’S RIGHTS AND BIOFEEDBACK TREATMENT (CONT.)

• Discussing guidelines for confidentiality is critical with teen clients and their parents.
  – Full disclosure of teen’s information to parents destroys all trust and stops treatment
  – Yet legally, a therapist will be obliged to disclose suicide or violence risk, or any ongoing physical or sexual abuse by an adult
SEEKING SUPERVISION

• Seeking supervision from a trusted colleague resolves many potential ethical dilemmas

• When one’s competence is in question, for a form of therapy in which one has minimal knowledge and experience, supervision provides the guidance that renders the treatment process ethical.

• When questions arise about a multiple relationship or the use of barter or the acceptance of a gift, a thorough and open discussion in supervision provides perspective and often leads to a favorable resolution.
INTERDISCIPLINARY TREATMENT TEAMS AND ETHICAL PRACTICE

• Integration of treatment within an interdisciplinary team resolves many ethical dilemmas.
• When a question arises, whether a specific intervention is allowed under one’s “scope of practice,” treatment through an interdisciplinary team addresses and resolves the problem
LAWRENCE KOHLBERG ILLUMINATES MIND-BODY ETHICS

Donald Moss, PhD (2015)

AAPB Webinar
LAWRENCE KOHLBERG

B. OCTOBER 25, 1927
D. JANUARY 19, 1987

DEVELOPED STAGE THEORY OF MORAL REASONING AND MORAL DEVELOPMENT BASED ON JEAN PIAGET’S COGNITIVE DEVELOPMENTAL STAGES
STAGES IN MORAL REASONING

• Kohlberg studied moral development by studying first 72 children and adolescents in Chicago, and later youth in Israeli Kibbutz communities

• Although optimal development would bring each human being to stage five or six by mid-adulthood, many individuals continue to function at the earlier levels of moral development

• Kohlberg’s stages provide a useful framework for examining moral reasoning in professional practice
The Druggist’s Dilemma: A woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to produce. He paid $200 for the radium and charged $2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about $1,000, which is half of what it cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug for his wife. Should Heinz have broken into the laboratory to steal the drug for his wife? Why or why not?

PRE-CONVENTIONAL LEVEL OF MORAL REASONING

• The morality of an action is judged by its immediate consequences.
• This is an egocentric stage, concerned with one’s own well-being
• Stages one and two of moral development
STAGE ONE: OBEDIENCE AND PUNISHMENT DRIVEN

• Stage 1: Concern with choosing actions to avoid punishment. The worse the punishment, then the worse the action is regarded as being.

• Professional practice:
  – Example One: “If I don’t protect the confidentiality of my client’s privileged information, it’s a HIPPA violation, and the fine is $30,000 per act.” “I’ll have my office administrator study the law, and design a good procedure.”
STAGE ONE: OBEDIENCE AND PUNISHMENT DRIVEN

• Stage 1: Concern with choosing actions to avoid punishment. The worse the punishment, then the worse the action is regarded as being.

• Professional practice:
  – Example Two: “In my state, sex with a client is a felony, and I end up on the sex offender’s registry. That is terrible.”
STAGE TWO: SELF-INTEREST DRIVEN

• Stage 2: Concern with self-interest. “What is in this for me?” Moral thinking at level 2 shows an awareness of the needs of others, but focuses on how helping others might further one's own interest.

• Professional practice:

• Example One: “If I volunteer in the school, and help the coaches, they will refer me more optimal performance cases from families who can self-pay.”
CONVENTIONAL LEVEL OF MORAL REASONING

• The morality of an action is judged by usual societal views of right and wrong.
• At the conventional level an individual obeys rules and follows society's expectations, even when there is no likely punishment or negative consequence.
• Stages three and four of moral development
STAGE THREE: INTERPERSONAL ACCORD AND SOCIAL ROLE

• Stage 3: Right follows interpersonal accord and conformity to a social role. The individual is sensitive to social approval and disapproval, and wishes to be known as a “good person.” There is a growing awareness of the “golden rule” and the respect and gratitude that come with others acceptance and approval.

• Professional practice:
  – Example: A patient loses her health insurance and asks to be seen at a reduced rate. The practitioner knows that this woman is close to several influential pastors, and agrees to see her for 1/3 the usual rate, in hopes of becoming known as a compassionate therapist.
Stage Four: Authority, Law, Religion and External Codes

- Stage 4: Right is black and white, as determined by authority and moral behavior is guided by obedience to laws, religion, and other external codes. The moral person is now less concerned with social approval, and more with doing what is right and legal, in the legal and moral order.

- Professional practice:
  - Example: The practitioner declines to barter for services with an indigent patient, because the APA Ethical Standards discourages barter, as a form of dual relationship. Actions condemned by the Standards are wrong.
POST-CONVENTIONAL LEVEL OF MORAL REASONING

• The morality of an action is judged in its own right, by moral principles, which may diverge from social expectation. Higher concepts of justice may be applied to condemn current practices as unjust or unfair.

• At the post-conventional level an individual obeys broader or higher principles, and may oppose current practice.

• Stages five and six of moral development
STAGE FIVE: THE SOCIAL CONTRACT

• Stage 5: Moral reasoning recognizes some relativity in moral standards, and believes that moral standards should be revised for the greater good of the community. There is an effort to respect and reconcile conflicting standards by negotiation and compromise.

• Professional practice:
  – Example: A professional believes that current insurance practices violate his or her patient’s rights, cancels contracts with certain HMOs, and lobbies with congress for insurance reform.
Stage Six: Principles of Universal Ethics

• Stage 6: Moral reasoning at this stage is based on abstract reasoning and universal and absolute principles. Kohlberg found few actual individuals functioning consistently at this level.

• Professional practice:
  – Example: A biofeedback practitioner sells her home and commercial building, and offers professional services pro bono in a church basement, believing that charity is the highest principle, and that the lack of behavioral health services is intolerable. She regularly barters services, because she believes that the needs of the poor are a higher priority than APA ethical standards.
Stage Six: Principles of Universal Ethics (Cont.)

- Stage 6: Moral reasoning at this stage is based on abstract reasoning and universal and absolute principles. Kohlberg found few actual individuals functioning consistently at this level.

- Professional practice:
  - Example Two: A patient loses her health insurance and asks to be seen at a reduced rate. The practitioner sees her suffering as great, and grants the lower fee out of compassion, believing that helping the patient is a much higher priority than income.
FURTHER ETHICAL STAGES: TRANSCENDENT MORALITY, REGRESSION, AND MIXED STAGES

• Kohlberg speculated that a seventh stage might exist, at which universal religious beliefs and universal human ethical concepts surpass all conventional morality.

• Many human beings fall back to an earlier moral level, perhaps failing to fully integrate the moral perspectives of the higher stage into their personality.

• The average person also shows some mixture of actions and reasoning which reflect elements of several functional levels.
CRITICAL PERSPECTIVES

• Carol Gilligan critiqued Kohlberg’s model as androcentric – reflecting his initial research on male adolescents.
• Gilligan proposed an alternative theory of moral development based on an “ethics of caring,” instead of abstract principles of justice
CRITICAL PERSPECTIVES

• Critics have questioned how central the formal processes of moral reasoning are to moral decision making in everyday life.
• Social intuitionists (including Jonathan Haidt) argue that typical moral judgments are made without any explicit conscious weighing of abstract ethical values
A patient presents for treatment, and asks the practitioner to provide neurofeedback for attention deficit hyperactivity disorder. He reports that he has failed to respond positively to any medication for this condition. However, he asks the practitioner to code his diagnosis as generalized anxiety disorder, because his insurance company will reimburse for biofeedback for anxiety, but not for biofeedback for ADHD. Describe the moral reasoning a practitioner might develop about this dilemma at each level of moral reasoning.
REFERENCES


REFERENCES


INFECTION RISK IN BIOFEEDBACK AND NEUROFEEDBACK PRACTICE

DONALD MOSS, PHD
(2015)

AAPB WEBINAR
ACKNOWLEDGMENT

INFECTION RISK CAN NO LONGER BE IGNORED

• Medical providers are trained in aseptic techniques, sterile field, and disinfection techniques
• These techniques mitigate the spread of infection and set the standard for health care
• Biofeedback practitioners run significant risks when they ignore this aspect of practice
COMMON ROUTES FOR TRANSFER OF INFECTION

- Direct contact – needle to skin, abraded skin, blood, sweat
- Indirect contact with body fluids – insects
- Airborne – droplets, dust
- Closer attention to these routes for infection can reduce risk
STANDARD PRACTICES

- Wash your own hands with anti-bacterial soap after any patient contact
- Notice skin infections, rashes, and skin breaks when applying sensors – do not use sensors on such risky terrain
- Disinfect areas where clients will sit or recline
- Clean and disinfect all instruments that make contact with patients or trainees
**DISINFECTION IS NOT STERILIZATION**

- Gold standard in medical practice is sterilization, eg., use of an autoclave using high pressure saturated steam at 249°F
- Disinfection approaches but does not equal sterilization
- Disinfection involves the use of regulated chemicals to remove most micro-organisms
- Sanitization is simply the cleaning of surfaces to reduce microbial populations to reasonably safe levels.
AREAS OF RISK IN EVERYDAY PRACTICE

• Applying sensors to skin and even over clothing
• Ear clip EEG sensors, BVP sensors, electrocaps, respiratory bands all can spread infection
• Disposable sensors sharply reduce infection risk
• Reusable sensors should be sanitized, disinfected, or sterilized between uses
• Use manufacturer approved sterilant and disinfectant (such as MetriCide) or an enzymatic detergent (such as MetriZyme)
DO’S AND DON’TS IN CLINICAL PRACTICE

• Using a blunt needle to abrade the skin is not encouraged
• If you do use a needle for abrasion, the needle must be discarded
• If you apply conductive gel with a syringe, the needle should never be re-inserted into gel container after it has been in contact with skin
• If you use an abrasive gel, such as NuPrep for EEG skin prep, be wary of contaminating the entire tube by contact with your own skin
INFECTION RISK MITIGATION STANDARDS OF PRACTICE FOR BIOFEEDBACK ARE ONLY EMERGING

• Consider germicide impregnated cloth wipes that may be used to wipe down surface areas or equipment
• Use alcohol impregnated 1x1 towelettes to clean the surface areas of sensors and other instruments, but be aware that 20% isopropyl alcohol lacks sporicidal action
• Surface biocidal cleaners like Freshnit or Virusolve
## Centers for Disease Control Follows the Spaulding Classification for Medical Devices and Disinfection

<table>
<thead>
<tr>
<th>Spaulding classification</th>
<th>Comes in contact with</th>
<th>Type recommended</th>
<th>Biofeedback instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>Tissue; vascular space</td>
<td>Sterilization</td>
<td>EMG pelvic floor perineometer; open wound sensor placement</td>
</tr>
<tr>
<td>Semi-critical</td>
<td>Mucous membrane; non-intact skin from over abrasion causing blood exposure</td>
<td>High level disinfection</td>
<td>Reusable EEG cap with multiple sensor array; individually placed EEG sensor</td>
</tr>
<tr>
<td>Non-critical</td>
<td>Intact skin; non mucous membranes</td>
<td>Intermediate or low level disinfection</td>
<td>Disposable pre-gelled ECG patches; finger placed thermistor; non-contact EEG/ECG sensor</td>
</tr>
</tbody>
</table>
BE AWARE OF INCREASING INFECTIOUS RISKS IN COMMUNITY

• Increased occurrence of difficult to kill Clostridium Difficile (C. Diff) and methicillin resistant staphylococcus aureus (MRSA)
• Be aware of your patient’s health status and do not ignore red flags