

Dear Massachusetts Association for Applied Behavior Analysis and Behavior Analysis Colleagues,

B.F. Skinner<sup>1</sup> wrote:

Science is a willingness to accept facts even when they are opposed to wishes. Thoughtful men have perhaps always known that we are likely to see things as we want to see them instead of as they are, but thanks to Sigmund Freud we are today much more clearly aware of 'wishful thinking.' The opposite of wishful thinking is intellectual honesty-an extremely important possession of the successful scientist. (p.12)

Treatment refractory destructive behaviors (self-injury, aggression, and other idiosyncratic behaviors) are real conditions that result in extraordinary harm to patients because of the behaviors themselves and iatrogenic effects of management procedures such as restraint, protective equipment, and psychopharmacology. Contingent skin shock often dramatically ameliorates destructive behaviors and improves the quality of life of affected individuals and those who love them.

Consider the following excerpt and graph from a recent publication<sup>2</sup>:

P is a 26-year-old man with ASD, severe ID and a normal neurological exam. Prior to his admission, he received early autism intervention, underwent special education and was treated at a day programme specialising in ABA. On admission to JRC, his problem behaviours were characterised as aggressive (hitting, scratching, kicking, head butting, hair pulling, biting and spitting at others), destructive (banging, throwing and kicking objects) and self-injurious (biting and hitting self, and head banging). These behaviours resulted in fractures, lacerations and bruising to his face and head, chronic bite wounds to his hands and severe injuries to staff caring for him (concussions, lacerations and bone fractures).

P's guardians vehemently objected to the prospect of using GED for several years. As a result, he was treated with select behavioural interventions (differential reinforcement, antecedent interventions and extinction), protective equipment (helmet and protective arm guards), a restraint chair (to prevent injuries associated with head banging) and psychopharmacology (aripiprazole, trazadone, clorazepic acid and chlorpromazine). Over 74 months, he received these interventions, and he required forceful emergency restraint on 976 occasions.

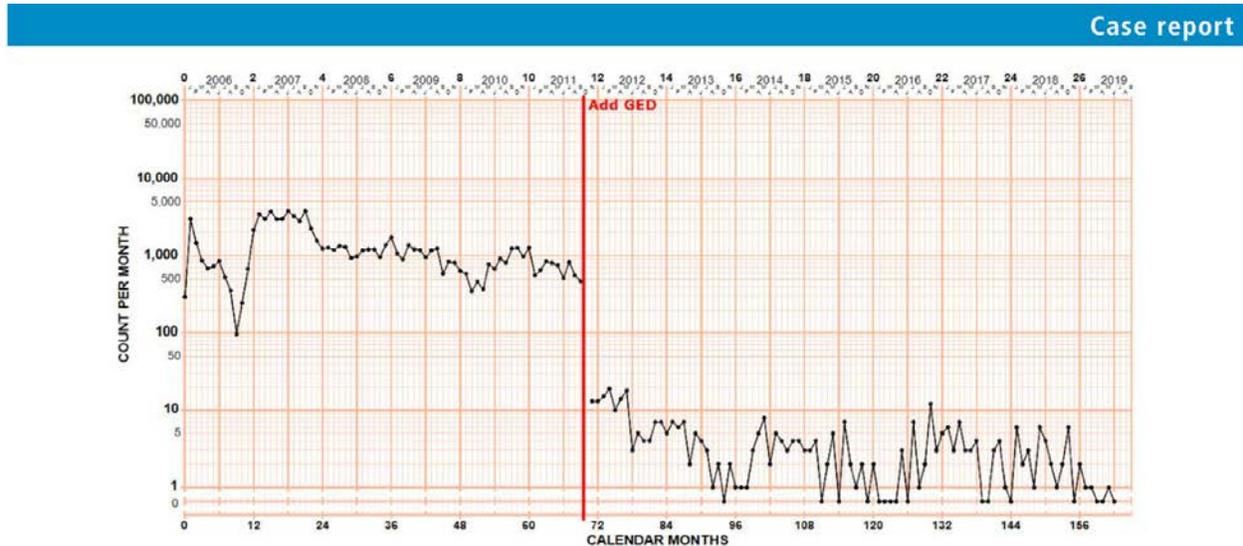
Exhausted and exasperated, P's guardians consented to a trial of GED. The effect was immediate and dramatic (figure 1). Prior to the addition of GED to P's programme, he exhibited aggressive behaviour and SIBs at a mean monthly frequency of 1273.7. Over the course of 92 months of GED treatment, his aggressive behaviour and SIBs were

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<sup>1</sup> Skinner, B.F. (1953). *Science and Human Behavior*. The Free Press.

<sup>2</sup> Yadollahikhales, G., Blenkush, N., & Cunningham, M. (2021). Response patterns for individuals receiving contingent skin shock aversion intervention to treat violent self-injurious and assaultive behaviours. *BMJ Case Report*, 14: e241204. doi:10.1136/bcr-2020-241204

reduced to a mean monthly frequency of 3.84. All forms of restraint and protective equipment became unnecessary, and he was able to go out with his family for the first time in many years. Subsequently, he frequently attended family events and participated in regular field trips and other school activities. (p. 2) (please note the figure below is semi-logarithmic)



**Figure 1** Monthly frequency of Peter’s aggressive and self-injurious behaviours before and after the introduction of GED. GED, graduated electronic decelerator.

Peter’s individual case is a treatment miracle. No psychopharmacological agents. No protective equipment. No mechanical restraint. No emergency restraint. No injuries to Peter or anyone working him for 8 years. The cost? Less than one 2 second skin shock per week on average (the weekly number of applications to maintain the benefits is much lower). MassABA considers this outcome “immoral, inhumane, and unethical.” None of the people intimately involved with Peter agree with MassABA (including his family, court appointed attorney, independent mental health expert, treating clinician, Massachusetts Probate Court Judge, among many others).

The “Massachusetts Association for Applied Behavior Analysis (MassABA) Position Statement on the Use of Electric Shock as an Intervention in the Treatment of Individuals with Disabilities” is a misleading and deceptive document because (1) the opinions expressed are not supported by empirical science or clinical evidence; (2) in lieu of empirical evidence, highly contested, false, and refuted statements made by the FDA in a losing effort to ban contingent skin shock (CSS) are cited; (3) the opinions expressed are illogical; (4) the expressed opinions omit essential information necessary for appropriate risk-benefit analysis; (5) the statements have the potential to harm current and future patients because of the wishful thinking and intellectual dishonesty of Dr. Ross and the Board.

I invited the entire Board (on two occasions) to visit JRC so their opinion could benefit from the lived experience of real patients, families, and professionals (behavior analysts, psychologists, psychiatrists, physicians) and review empirical, legal, and clinical evidence pertaining to their uninformed statement. The invitations were refused.

I question the wisdom and ethics of clinicians making sweeping statements about people and a treatment they know nothing about. I question the wisdom of an organization labeling a treatment “immoral”<sup>3</sup> without clinical evidence or evaluating real patients that undoubtedly have extraordinary clinical problems. I question the wisdom and ethics of clinicians making or repeating false and misleading statements about the scientific literature.

Below, elements of the MassABA “position” are presented in **bold text** and juxtaposed with empirical, legal, and clinical evidence with brief commentary in some cases.

**“.....believes that contingent electric skin shock is unnecessary.....”**

The opinion that skin shock is “unnecessary” suggests that severe problem behaviors can be successfully treated with other procedures. The evidence for the existence of treatment refractory problem behaviors is overwhelming. Consider the following sample of evidence and statements from court findings and the research literature:

*Court Testimony and Findings*<sup>4</sup>

- Jennifer Zarcone, a member of MassABA, acknowledged under oath that even state-of-the-art treatment at the expense of 1.1 million dollars per year;<sup>5</sup> with skilled use psychopharmacology (including PRN sedation),<sup>6</sup> reinforcement, protective equipment, and punishment (excluding CSS) is only effective in approximately 80% of the cases admitted to Kennedy Krieger,<sup>7</sup> and of the cases that are successful approximately 40% regress.<sup>8</sup> This is not a criticism of the excellent work done at Kennedy Krieger, just reality. Further, effectiveness here is defined as a greater than 80% reduction in frequency. For some topographies, an 80% or even 90% reduction is not sufficient.
- “Following a 2002 study on Risperdal and an article about the study authored by Dr. McCracken, the FDA approved Risperdal to treat ‘irritability associated with autistic disorder in children and adolescents,’ which includes ‘symptoms of aggression towards other, deliberate self-injuriousness, temper tantrums, and quickly changing moods.’ However, Dr. McCracken admitted at the hearing that the study did not demonstrate the effectiveness of Risperdal specifically with respect to treat self-injurious behavior. In addition, Dr. McCracken admitted that in a recent lecture given by him, his presentation

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<sup>3</sup> One member of the MassABA Board applied to work at JRC (and was not hired) and another formed (and maintains) a relationship with JRC to add students the educational program she directs.

<sup>4</sup> The Motion to Vacate Trail was a 44-day hearing with 788 exhibits and 30 witnesses (including expert witnesses in behavior analysis, psychiatry, and psychology). Counsel opposing JRC had complete access (for years) to all client data, historical documents, video recordings of all GED applications, and ongoing access to JRC’s comprehensive electronic database).

<sup>5</sup> Judge Rotenberg Educational Center, INC v Commissioner of the Department of Developmental Services, hearing day 14, November 17<sup>th</sup>, 2015

<sup>6</sup> Ibid., 5, p. 230, line 24

<sup>7</sup> Ibid., 5, p. 97, line 9

<sup>8</sup> Ibid., 5, p.99, line 13

included that neither Risperdal nor Abilify reduced self-injurious behavior as compared to a placebo within the study, and that this was a ‘big disappointment.’”<sup>9</sup>

- “Regardless, DDS did not offer credible evidence at the hearing that PBS can effectively treat some or all of JRC’s clients.”<sup>10</sup>

### Research Literature

- “Unfortunately, despite our best clinical efforts based on state-of-the-science interventions, a significant subgroup of individuals persist at injuring themselves with sufficient severity to produce permanent tissue damage and disfigurement with extreme instances resulting in brain damage and death. Little is known about self-injury’s developmental course or its underlying pathophysiology.”<sup>11</sup>
- “Although psychopharmacological agents are commonly tried for self-injury, medication interventions in autism are often limited by a high rate of adverse effects, and some suggest that psychotropic interventions for self-injury may produce effects simply through sedation and chemical restraint, leading to excessive medications prescription and polypharmacy. Outcome measures reported for behavioral interventions for self-injury suggest a high degree of effectiveness, yet treatment failures may well be underreported in the literature, and clearly not all patients are responsive to behavioral interventions.”<sup>12</sup>
- “In our sample of 135 individuals with ASDs treated longitudinally at a tertiary-care center, over half of those with a primary complaint of aggression, SIB, and severe tantrums presented with or became refractory to first-line drug treatment.”<sup>13</sup>
- “Reinforcement or functional assessment alone may not be sufficient to produce the desired effect in all SIB cases and may further explain treatment add-ons such as pharmacotherapy or punishment procedures (Davies, Howlin, Bernal & Warren, 1998; Falcomata, Rome & Pabico, 2007). Thus there are studies where positives alone were not effective, but the SIB was effectively treated once punishment or drugs were added. Studies demonstrating the reverse, in which positives were effective when aversives were not, have not been published.”<sup>14</sup>
- “We report the successful use of electroconvulsive therapy in a 11-year old boy with autism and a 4-year history of psychotropic-resistant bipolar affective disorder associated with dangerous episodes of self-injurious and aggressive behaviors placing his caregivers

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<sup>9</sup> Judge Rotenberg Educ. Ctr., Inc. v. Dep’t of Dev. Servs., No. BR86E0018-G1 (Mass. Probate & Family Ct. June 20, 2018) (findings of fact and rulings of law supporting order denying motion to vacate consent decree).

<sup>10</sup> *Ibid.*, 9.

<sup>11</sup> Symons, F.J. (2011). Self-injurious behavior in neurodevelopmental disorders: Relevance of nociceptive and immune mechanisms. *Neuroscience and Biobehavioral Reviews*, 35, 1266-1274.

<sup>12</sup> Wachtel, L.E., Conrucci-Kuhn, S.A., Griffin, M., Thompson, A., Dhossche, D.H. & Reti, I.M. (2009). ECT for self-injury in an autistic boy. *European Child and Adolescent Psychiatry*, 18(7), 458-462.

<sup>13</sup> Adler, B.A., Wink, L.K., Early, M., Shaffer, R., Minshawi, N., McDougle, C.J., & Erickson, C.A. (2015). Drug-refractory aggression, self-injurious behavior, and severe tantrums in autism spectrum disorder: A chart review study. *Autism*, 19(1), 102-106.

<sup>14</sup> Matson, J.L. & LoVullo (2008). A review of Behavioral Treatments for Self-Injurious Behaviors of Persons with Autism Spectrum Disorders. *Behavior Modification*, 32, 61-76.

and himself at significant safety risk. Extensive behavioral and medication interventions in both inpatient and outpatient settings had been ineffective, and the boy was at risk for acute physical injury and restrictive out-of-home placement.”<sup>15</sup>

- The research conducted by those in the positive behavior support (PBS)<sup>16</sup> has not arrived at the conclusion that all problem behaviors can be effectively treatment using only PBS procedures. In 1990, a group of PBS authors reviewed 95 published papers in 21 journals covering the period of 1969-1988. They found that positive-only procedures were effective in only 37% of the cases where self-injury was involved and in only 35% of the cases of aggression.<sup>17</sup> Nine years later, Carr and colleagues completed another review examining 216 (109 were selected for analysis) published studies from 36 journals, covering the period 1985-1996.<sup>18</sup> They concluded that positive programming was effective in only 51.5% of the cases. A third review specifically examining the efficacy of behavioral procedures on young children with autism examined 9 studies published between 1996-2000 and found that positive only procedures were effective in only 60% of the comparisons.<sup>19</sup>
- These analyses also suffer because they simply review published cases. Authors generally do not report and editors do not routinely publish studies where treatment interventions failed resulting in a positive effect publication bias.<sup>20</sup>

Taken together, the above information shows that some constellations of problem behaviors do not respond to psychopharmacology, PBS, and applied behavior analytic interventions excluding CSS in all cases. Fantastical statements about treating all clinical problems effectively, typically made by those associated with Positive Behavior Support, must be rejected. Instead, the real and devastating nature of treatment refractory destructive behaviors must be acknowledged.

**“.....and demonstrably harmful tactic with possible long-term negative physical and emotional effects.”**

The MassABA statement about harm is ambiguous because it does not list any specific harms or long-term physical or emotional effects. The MassABA statement cites the failed FDA ban and

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<sup>15</sup> Wachtel, L.E., Jaffe, R., & Kellner, C.H. Electroconvulsive therapy for psychotropic-refractory bipolar affective disorder and severe self-injury and aggression in an 11-year-old autistic boy. *European Child and Adolescent Psychiatry*, 20(3), 147-152.

<sup>16</sup> PBS

<sup>17</sup> Carr, E.G., Robinson, F., Taylor, J. & Carlson, J. (1990). Positive approaches to the treatment of severe behavior problems in persons with developmental disabilities. In: *National Institutes of Mental Health Consensus Development Conference*, (pp. 231-341). NIH Publication No. 91-2410.

<sup>18</sup> Carr, E.G., Horner, R.H., Turnbull, A.P., Marquis, J.G., Magito McLaughlin, D., McAtee, M.L., Smith, C.E., Anderson Ryan, K., Ruef, M.B., & Doolabh, A. (1999). *Positive behavior support for people with developmental disabilities: A research synthesis*. Washington, D.C.: American Association of Mental Retardation.

<sup>19</sup> Horner, R. H., Carr, E. G., Strain, P. S., Todd, A .W. and Reed, H. K. (2002). Problem behavior interventions for young children with autism: A research synthesis. *Journal of Autism and Developmental Disorders*, 32, 423-445.

<sup>20</sup> The importance of no evidence. (2019). *Nature Human Behavior*, 3(197). <https://doi.org/10.1038/s41562-019-0569-7>

an article by Zarccone et al.<sup>21</sup> The statements made by the FDA (and often repeated by Zarccone et al.) are patently false (in several instances) and misleading in others. Here, court testimony regarding side effects is presented followed by examples of false or misleading references in the few pieces of evidence cited by MassABA. Finally, a brief discussion regarding risk-benefit analysis is presented.

### Court Testimony and Findings

- “JRC has not conducted a controlled study to investigate either physical or psychological side effects of its electric skin shock aversive treatment. Nevertheless, neither the former JRC students who testified at the hearing nor the DDS experts who voluntarily received a GED application experienced any side effects other than the temporary pain from the shock. On two rare occasions, a JRC client was burned following a GED application when JRC procedures were not being followed. There was no evidence at the hearing as to any psychological side effects experienced by JRC students receiving electric skin shock aversive treatment.”<sup>22</sup>
- “Dr. Levendusky testified credibly that JRC is a very humane environment for its students, and that the students appeared to him to be treated respectfully. He described JRC as having 44 houses where the clients live, and the areas both where the clients go to school and where they live are attractive. Dr. Levendusky credibly described the staff as well trained and noted that JRC has a video system which closely monitors the GED applications.”<sup>23</sup>
- Two trial exhibits offered by JRC, authored by two physicians who are experts in electrical safety, found the devices could not cause harm when operated within the guidelines.<sup>24, 25</sup>

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<sup>21</sup> Zarccone, J.R., Mullane, M.P., Langdon, P.E., & Brown, I. (2020). Contingent electric shock as a treatment for challenging behavior for people with intellectual and developmental disabilities: Support for the IASSIDD policy statement opposing its use. *Journal of Policy and Practice in Intellectual Disabilities*, 17(4), 291-296.

<sup>22</sup> *Ibid.*, 9.

<sup>23</sup> *Ibid.*, 9. Note: Dr. Levendusky is the Level III certification team chair and visited JRC on numerous occasions for years, observed clients, and reviewed treatment records.

<sup>24</sup> See Bruner (1994) letter to the Judge Rotenberg Education Center.

<sup>25</sup> See J.Miner (2009) letter to the Judge Rotenberg Educational Center.

Examples of False or Misleading References in MassABA Citations

Statement Origin	Statement	Reference	Quotes and/or data from the Original Article
Zarcone et al.	"...and were crying and made other negative vocalizations when CESS was implemented." (p.294)	Linscheid <sup>26</sup>	"Cry as a behavior showed little change across the various conditions and suggests that Stan was not specifically distressed by treatment with SIBIS." (p. 85)
		Van Oorsouw <sup>27</sup>	For all 9 participants, negative verbal nonverbal utterances (NVNU) (which included crying) <b>DECREASED</b> after skin shock for every participant. (see Table 2, p. 517)
FDA and Zarcone et al.	"Some patients resorted to hostility and retaliation (Ref. 46),"  "Early studies identified adverse behavioral effects such as...hostility and retaliation," (p. 294)	Brandsma <sup>28</sup>	The FDA (and Zarcone et al.) completely misrepresented what was reported by Brandsma. First, aggression was the primary treatment target. The authors describe her pretreatment behavior in the following way: "Back at the institution her behavior became increasingly more violent. She attacked someone almost every day. These attacks were unpredictable and intense, often requiring four to five people to subdue her while she was biting, kicking, and choking her victim." (p. 31) Second, the authors specifically discounted the notion that her posttreatment aggression resulted in "hostility and retaliation":  This raises the question whether an undisguised punishment program invariably leads to hostility and retaliation on the part of the recipient.....In reference to our case it is difficult to know whether Carol's infrequent attacks represent retaliation for the punishment. When viewed against the long history of this kind of behavior, this hypothesis is doubtful. Other unconfirming evidence comes from the long period of time (containing many positive reinforcements) between the infrequent aversive stimuli and the assaultive incidents. Indeed, we would argue that if the program were continued, even infrequent attacks would disappear...The few aversive stimuli did not seem clinically to generate a generalized hostility in this patient. (p. 36)
FDA	"including surrogate retaliation, threats, and warnings (Ref. 45)."	Ludwig <sup>29</sup>	The FDA has misrepresented what is described in the Ludwig et al. paper. First, verbal and physical aggression were existing problems that required treatment. Consider the following description of the clinical situation:  Housed on various locked wards over the years, she had succeeded in terrorizing patients and staff alike. She would bully and threaten patients into giving her cigarettes, money and other articles. In regard to staff, she would threaten to kill them or their families if they did not accede to her wishes or did not leave her alone. Often these threats would be translated into physical assaults. (p. 626)  The authors describe the following specific treatment plan:  In was our plan to establish a hierarchy of responses associated with aggression and then proceed to modify each successive level in this hierarchy in a stepwise manner through the aversive therapy paradigm. (p. 626)

<sup>26</sup> Linscheid, T. R., Pejeau, C., Cohen, S., & Footo-Lenz, M. (1994). Positive side effects in the treatment of SIB using the Self-Injurious Behavior Inhibiting System (SIBIS): Implications for operant and biochemical explanations of SIB. *Research in Developmental Disabilities, 15*(1), 81-90.

<sup>27</sup> Van Oorsouw, W.M.W.J., Israel, M.L., von Heyn, R.E., and Duker, P.C., (2008). Side Effects of Contingent Shock Treatment. *Research in Developmental Disabilities, 29*(6), 513-523.

<sup>28</sup> Brandsma, J. M., & Stein, L. I. (1973). The use of punishment as a treatment modality: A case report. *The Journal of Nervous and Mental Disease, 156*(1), 30-37.

<sup>29</sup> Ludwig, A.M., Marx, A.J., Hill, P.A., & Browning. (1969). The control of violent behavior through faradic shock. *The Journal of Nervous and Mental Disease, 148*(6), 624-637

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Thus, the authors first treated physical aggression. Subsequently, low intensity aggressive responses labeled “Petit aggressions” (see p. 630), a variety of verbal threats (including surrogate retaliation) (see p. 631), and blaming statement (see p. 632) were all treated with skin shock. Thus, these responses are not AEs. They are treatment targets that existed prior to the introduction of skin shock and were effectively treated with shock.

It is beyond the scope of this response to detail all of the false and erroneous statements made by the FDA and repeated by Zarcone et al. However, details with references are found in the JRC brief.<sup>30</sup> It is important to know the following about the failed FDA ban:

- Based on documents obtained through the Freedom of Information Act, the FDA campaign to ban skin shock was driven by advocacy and emotion, not science or clinical information about real patients. In fact, the FDA refused to visit JRC and examine individual patients.<sup>31</sup>
- The FDA made numerous statements about risks that are not supported by the medical literature, 25 plus years of clinical practice, and FDA’s own scientists. For example, there are no reports of PTSD, depression, anxiety disorder, learned helplessness or any other psychological illness in the literature associated with skin shock.<sup>32</sup> The FDA conceded that the literature does not establish the risks of skin burns from ESD. The FDA even went as far as comparing implanted cardiac defibrillators to the GED in order to manufacture literature support for PTSD.<sup>33</sup> The comparison was later withdrawn.
- The FDA ignored or minimized the clear benefits provided by skin shock.<sup>34</sup>

### Risk-benefit analysis

Context is everything when applying therapeutic interventions. Without context, almost every treatment could be labeled “demonstrably harmful.” For example, venipuncture in IV administration causes injury, pain, and other risks; exposure therapy for phobias and stress disorders causes anxiety; and antipsychotic medications are often associated with sedation, movement disorders, and metabolic syndromes. However, we recognize the benefits of IVs in rapid administration of anesthesia, pain medication, and emergency drugs. We recognize that exposure therapy can eliminate fear and anxiety. We recognize that certain people with schizophrenia spectrum disorders regain their faculties because of antipsychotic drugs.

Below risks commonly encountered by people with treatment refractory problem behaviors are enumerated. The myopic MassABA statements only considers the risks shaded in gray and ignores the treatment context and potential benefits of CSS.

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<sup>30</sup> The Judge Rotenberg Educational Center, Inc. V. United States Food and Drug Administration, No. 20-1087. (D.C. Cir. 2021). Final Brief of Petitioner, The Judge Rotenberg Educational Center, Inc.

<sup>31</sup> Ibid, 30. p.58.

<sup>32</sup> Ibid, 30. p.25

<sup>33</sup> Ibid, 30. p.28

<sup>34</sup> Ibid, 30. p.37

Table 1. Risk-benefit considerations associated with treatment refractory aggression and self-injury. MassABA considers only the factors in grey.

Partially Effective Standard Treatments			Contingent Skin Shock	
Aggression and self-injury Risks	Antipsychotic Risks	Restraint/Protective Risks	Risks	Potential Benefits
<ul style="list-style-type: none"> <li>• blindness</li> <li>• deafness</li> <li>• bone fracture</li> <li>• infection</li> <li>• loss of body parts</li> <li>• permanent scarring</li> <li>• disfigurement</li> <li>• brain injury</li> <li>• family separation</li> <li>• isolation</li> <li>• death</li> <li>• long-term hospitalization</li> <li>• interference with social and intellectual development</li> <li>• pain</li> <li>• injuries to care providers</li> </ul>	<ul style="list-style-type: none"> <li>• sedation</li> <li>• somnolence</li> <li>• obesity</li> <li>• diabetes</li> <li>• impotence</li> <li>• anorgasmia</li> <li>• tardive dyskinesia</li> <li>• akathisia</li> <li>• hypersalivation</li> <li>• gynecomastia</li> <li>• galactorrhea</li> <li>• IM injection pain</li> <li>• lowered seizure threshold</li> <li>• neuroleptic malignant syndrome</li> <li>• death</li> <li>• agranulocytosis</li> </ul>	<ul style="list-style-type: none"> <li>• abrasion</li> <li>• bruising</li> <li>• bone fracture</li> <li>• chaffing</li> <li>• sweating</li> <li>• scratches</li> <li>• muscle atrophy</li> <li>• skin breakdown</li> <li>• infection</li> <li>• joint stiffness</li> <li>• pain</li> <li>• avoidance responses</li> </ul>	<ul style="list-style-type: none"> <li>• 2 seconds of pain 1-2 times per week</li> <li>• avoidance responses</li> <li>• anxiety between the time of the behavior and consequence administration</li> <li>• temporary skin redness/irritation/blister</li> </ul>	<ul style="list-style-type: none"> <li>• elimination or dramatic amelioration of aggression/self-injury risks</li> <li>• elimination of standard treatment risks</li> <li>• improvements in mood</li> <li>• decrease in other problem behaviors</li> </ul>

**“.....in our view, inconsistent with the ethics rules of Applied Behavior Analysis.”**

The BACB Ethics Code<sup>35</sup> contains a section on minimizing risk of behavior-change interventions (2.15). It is noted that behavior analysts may implement punishment-based procedures under the following conditions:

1. After demonstrating that desired results have not been obtained using less intrusive means, or
2. When it is determined by an existing intervention team that the risk of harm to the client outweighs the risk associated with the behavior-change intervention.

The BACB Ethics Code also describes providing effective treatment and prioritizing the clients’ rights and needs in service delivery (2.01).

**MassABA “Guiding Principles”**

This section represents a strawman fallacy because it implies the use of skin shock does not involve the elements listed. The use of skin shock is respectful of the safety and well-being of the individual because it effectively treats an intractable life-long condition and ends partially effective treatments with more severe side effects. The use of CSS allows independence and

<sup>35</sup> Behavior Analyst Certification Board. (2020). Ethics code for behavior analysts. Littleton, CO: Author.

greater autonomy by eliminating restraints, protective equipment, staffing, isolation, and allowing the person to benefit from concurrent differential reinforcement procedures.

The people closest to the individual receiving CSS find the goals, procedures, and outcomes (e.g. social validity) acceptable and recognize the benefit for their family member. They provide written informed consent which can be withdrawn at any time for any reason. Numerous objective parties directly involved with the patient are involved in the approval and monitoring of the treatment program. It is certainly true that some disconnected, uninformed, or misinformed community members object to the use of CSS. However, the rights of individual patients and their families should never be subordinated in favor of uninvolved and uninformed advocates or MassABA.

JRC clinicians develop and test functional hypotheses using state-of-the-art monitoring equipment (the attending clinician can view every problem behavior emitted), data analysis, and assessment tools. Treatment plans are developed based on behavior function and employ differential reinforcement of other, alternative, and incompatible behaviors; communication training (icons, signs, communication devices, spoken language); non-contingent reinforcement, satiation, extinction, ongoing preference assessment; programmed instruction; precision teaching; discrete trial instruction; elaborate systems of conditioned reinforcement; automated delivery of reinforcement; among other behavioral interventions.

JRC employs 23 BCBA-D/BCBA/LABA. It also employs psychologists; licensed clinical social workers; licensed mental health counselors; psychiatrists; physicians; speech-language pathologists; occupational therapists; and numerous graduate students pursuing various certifications.

**“We further consider the use of CESS outside the scope of practice of behavior analysis.”**

The scope of practice argument is a non-sequitur as an “unnecessary and demonstrably harmful tactic” remains so regardless of what discipline is using it. As described above, the MassABA position is not supported by scientific or clinical evidence.

Regardless of MassABA’s use of logical fallacies, behavior analytic practice ranges from skill acquisition in young children to intractable self-injury and aggression in adult clients. Behavior analysts are uniquely qualified to design and implement comprehensive behavioral programs that include punishment procedures. Consider the following:

- The basic principles of punishment are largely derived from research conducted by behavior analysts and published in journals such as *The Journal of the Experimental Analysis of Behavior*.
- Factors such as punishment magnitude, immediacy, and schedule are well described in the basic and applied behavior analytic literature.
- Research specifically associated with the applied use of contingent skin shock is found in behavioral journals and steeped in the history of behavior analysis.<sup>36</sup>
- CSS is not implemented as a stand-alone intervention. It is one component of comprehensive plan that emphasizes differential reinforcement, alternative response

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<sup>36</sup> See *The Behavior Analyst*, Volume 14(2), Fall 1991.

training, stimulus control, and even protective equipment and psychopharmacology in some cases.

- Medical contraindications are obtained annually from primary care physicians and specialists (psychiatry, neurology, cardiology) where appropriate
- JRC is licensed and certified to utilize the GED.

In support of the aforementioned statement, MassABA asserts that “The BACB Task List, 5th Ed. (BACB, 2017) does not specify training content for behavior analysts in the administration or use of CESS using any FDA approved medical device.” However, CESS is considered a positive punishment procedure in applied behavior analysis. The BACB Task List, 5th Ed. (BACB, 2017) identifies punishment/punishers in the following four task list items, twice in Section 1: (Foundations) and twice again in Section 2 (Applications).

1. B-6 Define and provide examples of positive and negative punishment contingencies.
2. B-8 Define and provide examples of unconditioned, conditioned, and generalized reinforcers and punishers.
3. G-16 Use positive and negative punishment (e.g., time-out, response cost, overcorrection).
4. H-5 Plan for possible unwanted effects when using reinforcement, extinction, and punishment procedures.

It is clear that positive punishment procedures are foundational and well within the scope of practice in applied behavior analysis.

MassABA further notes that “the Association for Behavior Analysis, International (ABAI) accreditation standards (ABAI, 2021) do not specify training content for behavior analysts in the administration or use of CESS using any FDA approved medical device.”

However, the ABAI accreditation standards do not specify training content for any individual behavioral procedure. Regardless, the standards do clearly outline applied behavior analysis as a content area (9-102) with the stated purpose of developing competence in the application of the principles of behavior and multiple areas of investigation and practice. Punishment is a foundational principle of behavior.<sup>37</sup>

**MassABA does not support electric shock in treating individuals with disabilities and considers its use immoral, inhumane, and unethical.**

Statements such as “.....support electric shock in treating individuals with disabilities...” are overly broad and obfuscate the real issue....the plight of individual patients with intractable behavior disorders that have not responded to years of treatment. Consider the case of Peter described above. Consider the ethics of MassABA interjecting their “morality” into the life of Peter and taking from him the treatment that ended years of horror, misery, and injury.

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<sup>37</sup> Dr. John O’Niell, Ph.D., BCBA-D, LABA completed the analysis of the BACB Task list and ABAI accreditation standards for this document.

Similar examples of the safe and effective use of contingent skin shock has been replicated repeatedly in the literature by a variety of unaffiliated authors. Treatment outcomes and context are essential in ethical decision making. We currently tolerate the ubiquitous use of psychopharmacology, emergency restraint, protective equipment, and the effects of ongoing destructive behaviors (permanent injury, blindness, scarring, isolation, among many other effects).

The intellectually honest approach to severe problem behaviors requires the acceptance of the following facts:

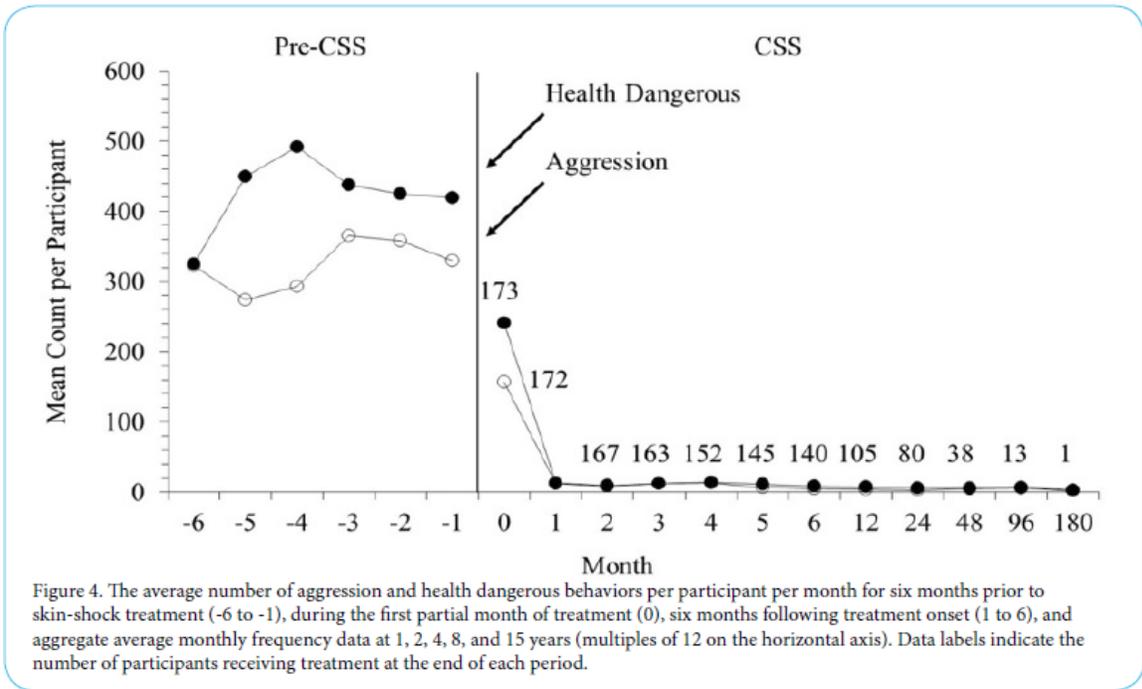
- There are real patients who exhibit aggressive, self-injurious, and other dangerous idiosyncratic behaviors that do not respond sufficiently to function based behavioral treatments, psychopharmacology, and other treatment approaches; and certainly cannot be treated effectively with Positive Behavior Support.
- Such patients have extremely low quality of life that is characterized by
  - behavior caused physical injuries (blindness, disfigurement, scarring, brain injury)
  - iatrogenic drug effects [(extrapyramidal symptoms (akathisia, tardive dyskinesia, acute dystonia, parkinsonism, neuroleptic malignant syndrome); sedation; metabolic syndrome (obesity, abnormal glucose and lipid metabolism) gynecomastia (male breast development); galactorrhea (male or female lactation); sexual side effects; among many other effects)]
  - Emergency physical restraint, mechanical restraint, and protective equipment are associated with a variety of harms
  - Social and community isolation
  - Curtailed educational/vocational/skill acquisition opportunities
  - Subjectively experienced and objectively observed misery
- The vast majority of publications concerning contingent skin shock show dramatic and rapid deceleration in targeted responses<sup>38</sup>(see the Figure below<sup>39</sup>) with authors describing negative side effects (such as avoidance responses and anxiety) and positive side effects (such as behaviors and signs of happiness and relaxation).<sup>40</sup> In the vast majority of reports, the attending clinician/researcher found the combined benefits to outweigh any risks.

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<sup>38</sup> For summary efficacy data, please see Table 12. in Blenkush, N. (2017). A Risk-Benefit Analysis of Antipsychotic Medication and Contingent Skin Shock for the Treatment of Destructive Behaviors. *International Journal of Psychology & Behavior Analysis*, 3: 121. <https://doi.org/10.15344/2455-3867/2017/121>

<sup>39</sup> Blenkush, N.A. & O'Neill, J. (2020). Contingent Skin-Shock Treatment in 173 Cases of Severe Problem Behavior. *International Journal of Psychology & Behavior Analysis*, 6: 167. <https://doi.org/10.15344/2455-3867/2020/167>

<sup>40</sup>Linscheid, T. R., Pejeau, C., Cohen, S., & Footo-Lenz, M. (1994). Positive side effects in the treatment of SIB using the Self-Injurious Behavior Inhibiting System (SIBIS): Implications for operant and biochemical explanations of SIB. *Research in Developmental Disabilities*, 15(1), 81-90.



The MassABA wishful thinking approach to severe problem behaviors is to deny that treatment refractory patients exist by implying current treatments are adequate; cite sources with false and/or misleading information to maximize perceived risk and minimize benefit; and subordinate the needs of individual patients to the whims of public perception.

For all the reasons described above, the MassABA statement should be withdrawn.