THE PROFESSIONAL CRISIS MANAGEMENT ASSOCIATION

# The Premature Call for a Ban on Prone Restraint: A Detailed Analysis of the Issues and Evidence

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## Preface

The Professional Crisis Management Association (PCMA) has been providing behavior analysis and crisis management training and consultation for professionals working in the human services field for over 20 years. As board certified behavior analysts, the authors have worked with hundreds of families, schools and human services organizations across the nation. PCMA provides services for a variety of populations including children and adolescents in regular and exceptional student education (ESE) and for adults with disabilities in residential and day-treatment facilities. The Professional Crisis Management (PCM) system is used by parents, teachers, behavior analysts, psychologists, social workers and direct-care staff throughout the United States. We understand that undertaking a position paper on such a controversial issue as restraint, in particular, prone restraint, may be met with skepticism by some who might believe that this effort is motivated by self-interest. This document contains numerous key concepts found in our system, but only so much as they support our contention that emergency restraint procedures (including prone holding) can be conducted in a safe manner that is consistent with the ethical treatment of persons with disabilities. Although our system contains a safe prone hold, it is only one of a variety of physical procedures contained in our system. We provide a well thought out hierarchy of physical interventions including transportation (escorts), vertical (standing) immobilization and horizontal immobilization in either a prone (face down) or supine (face up) position on a soft foam mat. We currently provide services to a wide variety of organizations that serve a wide range of persons with special needs. A few of these organizations are prohibited from using prone and others are not. All of them can benefit from the PCM system as it is highly customizable for any given facility. As our system does not hinge upon any single procedure, the outcome of the prone holding controversy is irrelevant to us from a business perspective. Our crisis management system contains numerous non-physical methods for preventing and de-escalating crises, and these methods are valuable to our customers even with no physical interventions at all. This paper is intended to help protect the rights of clinicians to make their own decisions in the careful use of procedures that may be the safest and most appropriate for an individual based on their specific needs.

We acknowledge that we see great value in all of the physical procedures that we teach, as do the organizations that use our system, but our motivation for writing this paper goes well beyond this. Our greatest concerns lie with the safe, effective and ethical treatment of all persons with disabilities as well as the staff who are charged with the often challenging task of supporting them. Although our organization would be unaffected by a ban on prone holding, the same could not be said of the organizations that are constantly under the threat of being prohibited from using carefully designed and trained emergency procedures that allow them to continue to provide treatment and support to individuals with very high levels of aggression. Although we do expect a certain amount of skepticism about our motivations, arguments and assertions, we feel that our insights into the issues surrounding the use of restraints will stand on their own merit. We have made every effort to treat the subject matter in an appropriately thorough, professional and balanced manner. Everyone in our organization started their careers as clinicians and continues to work in that capacity on a regular basis. With the possible exception of the parents of children with disabilities, we are every bit as concerned, disturbed and outraged as the general public regarding the misuse of restraint and seclusion in schools as well as in residential treatment settings. We hope that everyone—supporters and skeptics alike—can find at least some of our information enlightening, thought-provoking and helpful. If this paper only serves to raise more issues and produce more debate, then it was a worthwhile endeavor.

# Introduction and Statement of the Problem

Much of the information in this document and many of the arguments offered apply not only to prone holds but to all physical restraint in general. The focus, however, will be primarily on prone holding. The prone holding controversy arises from the erroneous assumption that the prone position, irrespective of any other variables, is responsible for the deaths of many individuals. We believe that this assumption is not supported by reasonable conjecture or fact. Instead we believe that the causes of these deaths are multi-faceted and require elaboration. The first and most obvious issue is that there have been numerous deaths associated with prone holding. The second is that while there is no scientific empirically derived data describing the exact causes of all the fatalities, theories as to the mechanisms of those fatalities abound. These theories do not rest upon any cohesive set of data nor consensus as could be derived from scientific studies published in respected peer-reviewed journals. The third part to this problem is the lack of understanding of the general public regarding the need for restraint in general and the utility of prone holding specifically. In fact, some people who do not work with children or adults with very aggressive behavior view restraint of any type as unnecessary at best and medieval or dehumanizing at worst. Those who oppose restraint in general believe that there should never be any restraint used for any reason. There is a general sense of outrage on the part of parents, advocates and clinicians alike, and for good reason as will be discussed in this paper.

The position of PCMA is that it is premature and ill-advised to ban an entire category of procedures that share in common only a generic descriptor (prone) because of fatalities or injuries associated with specific incidents. These incidents fall into three general categories: 1) There is some evidence of the proper implementation of a poorly designed procedure, 2) There are vague descriptions of improvised holds or 3) There is a complete lack of information about the hold except for the face-up/face-down distinction. A complete ban on prone holding can easily end up doing far more harm than good because it will remove valuable tools from the hands of qualified teachers and clinicians. Such a ban can actually *increase* the risk of injury for a group of individuals suffering from aggressive behavior who may have otherwise been manageable, allowing them to remain in a therapeutic environment. Furthermore, a total ban on all prone holds will discourage a detailed analysis of any danger that exists and create a false sense of security in the use of all non-prone procedures.

For clarity, it is important to define a few terms before proceeding. We will often refer to "advocates" in this article—a group of which we are a part. We have known and worked closely with many advocates for persons with disabilities: advocate-attorneys, parent-advocates, guardians and some who represent the state. We will use the term here to denote those individuals who are specifically seeking to ban prone holds or eliminate restraint altogether. We do not wish to portray advocates for persons with disabilities as a single, homogenous group, for this is clearly not the case. Some advocates are well informed, reasonable, can see the "big picture" and attempt to suggest real-world solutions for the problems they encounter, and when they can't they are open to suggestions by clinical professionals. Other advocates, while sincere in most instances, may neglect to see all sides of all the issues and, through a lack of relevant clinical experience, may not understand the best ways to stop dangerous behaviors or the consequences of a failure to stop them. In this paper, we will be referring to the latter group.

We will also use the term "child" or "student" interchangeably in this paper. Since we will be discussing school-related issues at all levels of the educational system, we are referring to a child that is younger than 18, although some students with disabilities in high schools can be as old as 21. It should be made clear, however, that the same issues exist for adults and our conclusions and recommendations would be similar. We are referring to children because we are responding to the problems in public schools, but these problems exist in all settings for persons with disabilities.

Finally, we will refer to "restraint," "holding" and "physical interventions." We generally prefer to call non-mechanical restraint "holding," but many regulations use the phrase "physical restraint" or "manual restraint." We are referring only to manual or "hands on" restraint in this paper and will use the terms "restraint," "holding" and "physical interventions" interchangeably. When necessary we will specify the type of restraint, i.e., prone, supine, vertical, transportation (escort), etc.

## Misunderstandings about Prone Holding

### *All prone holds are equivalent and therefore equally dangerous*

This argument may not be formally stated by the opponents of prone holding, but it is most certainly intimated by a failure of recent investigations to inquire as to the specific holds used in each and every case in which there was a serious injury or death. There is, in fact, a myriad of ways to hold a person in a prone position. They involve different body mechanics, different numbers of staff and different positions of the staff involved. Only one crisis management organization, PCMA, mandates the use of a specifically designed foam mat during any prone hold. All other formal prone holds are done on whatever surfaces are available at the time including carpeting, wood, tile, cement or pavement. In some formal systems, if a mat is used it is by the choice of the staff involved in a particular procedure. One cannot say, simply because of the orientation of the individual (face up or face down) that, in the absence of any other information, a prone procedure is safe or unsafe. The PCM prone hold has been used by thousands of practitioners for more than 20 years without a single fatality caused by any of our procedures. PCMA maintains that prone holding, *per se*, is not inherently dangerous. It is typically unknown if the prone holds associated with reported deaths were ever part of any formal system of crisis management. It is possible that in some instances of fatal holds that the staff may have been certified in a system. However, as anyone scanning through the assortment of web pages devoted to the topic can see, it is virtually impossible to determine, given the information contained in these reports, whether or not staff were truly trained in any system at all, and if so, there is no way to determine if their certification was current or if they actually implemented the procedure as they were trained.

As an example, in the article published in *Child Abuse and Neglect: An International Journal* by Nunno, Holden and Tollar (2006), the authors listed 45 child and adolescent fatalities that occurred over a span of 10 years. Of those fatalities, 27 happened in a prone position. Many of the opponents of prone holds would consider this to be sufficient proof that the prone position is dangerous. However, a closer examination might prove otherwise. The individuals were, in fact, in prone holds, but no formal procedures were ever described. The descriptions of the holds are quite revealing and help to underscore our contention that prone alone does not equal "dangerous." Of those 27 fatalities, 7 had multiple staff lying on the student (across the torso), 6 had the student's arms crossed in front of his or her chest (a prone "basket hold" that is not to our knowledge used in any formal system because of the dangerous body mechanics), 4 involved staff who were sitting directly on the student and 2 fatalities were the result of a choke hold (held in a prone position). So, in 19 out of 27 cases of prone holding, holds were performed in such a way as to make them dangerous. It wouldn't matter if a child were face-down or face-up if he had multiple adult staff lying across his torso. The "procedure" is dangerous and the element of position is meaningless. In the Nunno study *neither a single crisis management system nor a single named procedure was ever listed*. In summary, 62% of the holds involved dangerous practices that went beyond a simple prone/supine distinction. Furthermore, in 74% of cases, signs of distress, such as turning blue, vomiting and telling staff "I can't breathe," were completely ignored by staff. This is not a problem of prone holding *per se*, but a problem of poorly trained and/or poorly supervised staff. Finally, in many of the cases, there were no clear criteria for the implementation of any restraint at all. We will revisit these concepts of criteria for the implementation of emergency procedures and a hierarchy of interventions later in this article.

As stated before, being immobilized in a prone position, held only by the peripheral limbs, on a soft foam mat, with no pressure on the torso, with the arms out to the sides (not under or behind the student), is radically different from lying on top of a student with multiple staff or choking the student. Just as with any medical procedure, it is unlikely that any physical restraint procedure can always be performed without ever producing an injury. No automobile manufacturer can guarantee that the passenger will never be injured. There are, however, safer and less safe medical procedures just as there are safer cars and less safe cars. Similarly, we maintain that there can be safer prone holds and very unsafe prone holds. Not all cars are designed in the same way and not all restraint procedures are designed in the same way. The design (how everyone is positioned) of the procedure is indeed one aspect that

contributes to safety, *but it is only one*. In this paper we will examine many variables that affect the safety of holding procedures.

For other examples of widely varying prone holding, one only need look to the *Hartford Courant* article on Deadly Restraint (The *Hartford Courant*, 1998). Below are some descriptions obtained from a spreadsheet that was available on the website of the *Hartford Courant*. All of these incidents resulted in fatalities and again, no system of crisis management was ever listed in any of these cases. A copy of the original spreadsheet is available upon request. There were fatalities in prone, supine, seclusion and mechanical restraint, but for our purposes here we only list all the fatalities that occurred in a prone position.

- "Arms in front of chest, aide on top"
- "One of four employees straddled her"
- "Placed in a choke hold while struggling with aides"
- "Handcuffed and brought face down to the floor"
- "Restrained face down with arms crossed over chest"
- "Restrained face down by staffer who thought complaints of being unable to breathe was a ruse"
- "Broke neck while being taken down"
- "Face down on floor towel in mouth"
- "Placed in basket hold taken to floor"
- "Six aides restrained him face down one on buttocks"
- "Police did overlaying restraint; ruled homicide"
- "Patient vomited during takedown restraint"
- "Breathing was obstructed while being restrained"
- "Restrained face down on pillow"
- "Placed face down on the floor with staffer laying across back"
- "Basket hold technique used"
- "Banging head on floor put a pillow under it, suffocated"
- "Found unconscious on floor subdued by choking"
- "Placed in basket hold later suffered severe asthma attack"

Unlike most accounts of prone-related fatalities, there is a single "procedure" named a few times and that is the "basket hold." Some systems of crisis intervention have used what looks like a basket hold, but this was typically taught as a standing procedure. To our knowledge, there is no current crisis management system that teaches a prone, one-person, basket hold because most organizations recognize it as a *dangerous method* for holding someone in a prone position. See figures 1a and 1b below.

Fig 1a.


Fig 1b.

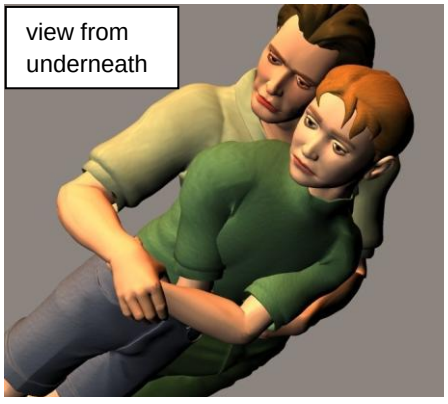

Figure 1a. shows a basket hold in the prone position with the torso of the adult on the torso of the child applying full pressure. Figure 1b. shows the same position as would be seen from underneath the child. Not only are the arms pressing upward into the abdomen, but the staff member can also compress the chest by pulling the child's arms in tightly against his ribcage. It is, therefore, possible to compress the chest by weight from above and pressure from the sides. We would argue that the critical variable in determining safety of this procedure is not whether the student is face-up or face-down, but that his arms are pulled in tightly around his ribcage and the nearly the full weight of an adult is applied to his torso. This could be an issue in a prone or supine position. PCMA does not allow such procedures; this is made clear in our training and written and practical examinations. A seemingly simple thing such as the positioning of the arms of the student makes a tremendous difference in the safety of a procedure. As a further example, refer to figures 2a. and 2b.

Figure 2a.

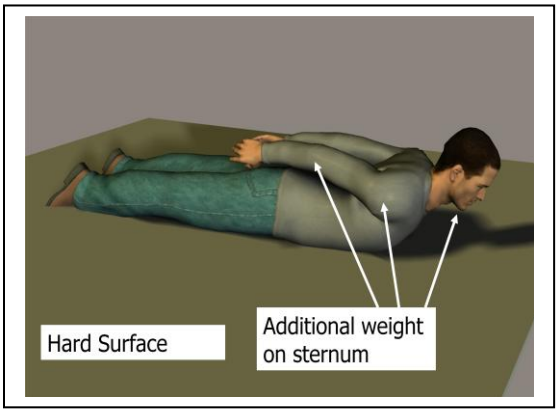


Figure 2b.

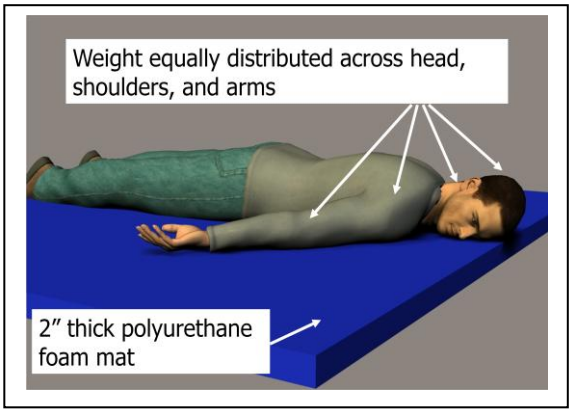


Figure 2a. denotes the position of an individual lying prone but with his arms behind his back. If the arms are held in such a position by staff, it dramatically increases the amount of pressure applied to the sternum because of the additional weight of the head, neck, shoulders, arms and upper torso. This is further complicated by the additional pressure applied by staff to keep the arms in place.

Figure 2b. by comparison shows the same person who is also in a prone position. However, this prone position is dimensionally different from the position depicted in Figure 2a. This client is on a soft mat that allows for greater thoracic excursion (movement of the belly outward). The mat is compressible but firm enough that the person's face rests on the top of the mat and does not go down into the mat, ensuring an open airway. Furthermore, the individual's arms, chest, shoulders, head and neck can now lie flat, equally distributing the weight of the upper body so that it is a position that is similar to sleeping on the stomach. The torso is in no way immobilized, only the arms and legs are held and the chest can expand freely and easily. The same cannot be said if staff were to lie across or put any weight whatsoever on the torso. Anyone can place themselves in positions 2a. and 2b. above and immediately notice dramatic differences even with no pressure applied. Imagine position 2a. with the addition of staff on the torso and it is easy to see how someone could suffocate.

As mentioned above, the basket hold, to our knowledge, was never designed to hold a student in a prone position, yet untrained staff have done exactly that. This is not a shortcoming of prone holding, but is what we call a "rogue procedure." In a rogue procedure, the practitioner (trained staff member) modifies the procedure to their liking and that procedure, which may have once been a part of a legitimate system of crisis management, has now been unofficially altered. This might be done in a planned manner or on the spur of the moment during a crisis. In addition to rogue procedures, there can also be "spontaneously invented" procedures. Unlike rogue procedures, spontaneously invented procedures are not modified since they are not based upon any formal system at all. They are simply based on that individual staff member's limited experience with physical holding, which will most likely produce procedures that are inappropriate and dangerous. It is the expert opinion of PCMA that such rogue

procedures or spontaneously invented procedures are the real dangers and not the prone position, *per se*. Even in facilities in which prone holds are already banned, staff use both rogue procedures as well as spontaneously invented procedures that are not based on any time-tested holding technique. A common problem with banning anything is that the ban may prohibit the act but it does nothing to eliminate the need for the act. When staff feel unsafe or doubt the effectiveness of an intervention they will often improvise. Improvisation is, in our professional opinion, the most dangerous problem in the field of crisis management—not prone holding. Many staff will improvise a dangerous prone hold because they were never taught a safe, effective one. Later in the paper we will return to this problem in which the prohibition of behavior does nothing to alleviate the motivation for the behavior.

Some advocates argue if you don't teach a prone hold, then staff won't be able to do it incorrectly. However, simply prohibiting all prone holds, which of course prevents teaching safe prone holds, will not prevent spontaneous inventions, although such a ban will most certainly cause some staff to hide their use of such holds. The greatest hedge against this sort of improvisation is to teach staff procedures that are safe, effective, systematic and part of a certification program that holds people accountable to perform procedures as taught.

## *The misconception that all prone holding causes chest compression and/or cardiac arrhythmias*

Many advocates contend that prone holding, irrespective of other factors, results in chest compression and that this compression directly or indirectly produces cardiac events that will eventually lead to death in some people. It is clear that applying the full weight of an adult to the back or front of a person lying on the ground can greatly compress the chest. PCMA does not argue this point. The PCM prone hold avoids all contact with the torso, therefore eliminating any additional weight to compress the chest.

There are some who claim that even with no additional weight on the torso that a person in a prone position is in significant danger of positional asphyxia because of an alleged decrease in oxygenation levels of the blood. There is no proof that this theory is valid. In fact, there is good evidence that there is virtually no change in oxygenation in a prone position even while struggling during a restraint. Masters and Wandless (2005) used a pulse oximiter to measure oxygenation levels during restraint on 12 adolescents ages 12 to 18 years. A pulse oximiter is a device that attaches to the finger with a clip and accurately measures oxygenation of the blood in a very non-invasive manner. The authors found that baseline rates of oxygenation were at 96% or greater and the rates of oxygenation during restraint were 95% or greater for all individuals. Seven of the twelve individuals were held in a prone position, the rest were standing. No incidents of respiratory distress were noted.

A related issue involves sudden fatal cardiac arrhythmias. It is a fact that anyone with undiagnosed cardiac conditions could suffer a cardiac arrhythmia that could lead to respiratory arrest and death. This happens frequently in the general population even though the fatalities do not involve restraint in a prone position. The wholly unsupported theory that prone holds alone can cause fatal cardiac arrhythmias deserves a brief introduction to the phenomenon of cardiac arrhythmias. In a study published in the *New England Journal of Medicine (NEJM)*, Huikuri, Castellanos, and Meyerburg (2001) provided a good description of fatal cardiac arrhythmias. In fatal arrhythmias, the most common chain of events is ventricular tachycardia (rapid beating of the heart) that degenerates into ventricular fibrillations (uncontrolled, uncoordinated movements of the heart muscle) and later degenerates to asystole (total cardiac arrest). Bradyarrhythmia (abnormally slow heartbeat) and electromechanical dissociation (mechanical heart failure, but with the persistence of electrical signals) are most often recorded at the time of death for persons who typically have advanced heart disease. In young adults or children who have no obvious history of heart disease there can be polymorphic ventricular tachycardia (an unstable rhythm that is often as high as 200 beats per minute) and torsades de pointes (a rare ventricular arrhythmia). The last two disorders are genetically acquired. There are also the "acquired" abnormalities such as ion-channel abnormalities and prolonged QT intervals (a heart condition with delayed re-polarization following depolarization (excitation) of the heart), which can be caused by up

to 40 different psychotropic medications (Abdelmawla & Mitchell, 2006) or LVH, left-ventricular hypertrophy (enlarged heart). As can be seen from the following quote, sudden cardiac death due to arrhythmia is not as simple as prone, struggle, death.

> "Acute myocardial ischemia (reduced blood flow to the heart) is generally considered to be the most common factor triggering fatal arrhythmias. In addition to ischemia, several other triggering mechanisms have been recognized, including systemic metabolic and hemodynamic alterations, neurochemical and neurophysiological factors and exogenous toxic or pharmacologic effects. These triggering conditions can interact with ischemia, cardiac structural abnormalities or primary electrophysiological abnormalities, resulting in a complex of factors that can produce sudden death from arrhythmia" (Huikuri *et al*, 2001).

The point here is that sudden cardiac arrest can be the result of a complex chain of events and/or genetic predispositions. There is no evidence to suggest that the events are more or less likely in a prone than a supine position. There is, however, evidence to suggest that highly agitated behavior and/or exercise may be a contributing factor.

In one report published in Canada (Gollob, 2008), the suspected incidence of sudden cardiac death was as high as 2% in young people and of those deaths roughly a third were designated as unexplained because autopsies found no physical cause and no detectable damage to the heart tissue. According to Dr. Michael Gollob, director of the Inherited Arrhythmia Clinic and Arrhythmia Research Laboratory at the University of Ottawa Heart Institute, "Often, a fatal incident can be the first sign of a problem, because these conditions may exhibit no symptoms." Dr. Gollob listed a variety of possible genetic abnormalities that are largely undetectable but may become foreseeable with proper genetic screening. These abnormalities include:

- ARVC (arrhythmogenic right ventricular cardiomyopathy), also known as ARVD (arrhythmogenic right ventricular dysplasia) – A usually inherited deterioration of the muscle tissue of the right ventricle that results in arrhythmias.
- BS (Brugada Syndrome) – A genetic rhythm disorder that can cause ventricular fibrillation and sudden cardiac arrest.
- CPVT (catecholaminergic polymorphic ventricular tachycardia) – A calcium channel disorder in the heart muscle, resulting in problems with electrical signaling and irregular heartbeats, especially during exercise.
- FHCM or HCM (familial hypertrophic cardiomyopathy) – A thickening of the heart muscle that reduces cardiac function.
- LQT (Long QT) Syndrome – A prolonged electrical recovery phase (QT interval) of the heartbeat that can result in rapid, chaotic beats. Can be inherited or caused by various medications or other medical conditions.
- SQT (Short QT) Syndrome – A shortened QT interval that can result in life-threatening arrhythmias.

As can be seen, there are many types of pathologies that can result in sudden cardiac arrest, and many are difficult to predict or prevent. Furthermore, there is nothing to suggest in the Gollob article that being restrained (prone or otherwise) is a contributing factor. Of course, this does not mean that being restrained cannot be a factor, but what if, for the sake of argument, any type of exertion could precipitate any or all of the events listed above? There is good evidence in the literature about cardiac pathologies that supports this hypothesis.

Huikuri et al, (2001) state that there are some 300,000 deaths per year in developed nations due to cardiac arrhythmias. They are fairly common events. As described above, they can even occur in children, although far less frequently. There has in recent times been a movement to place defibrillators at youth sporting events. This is in large part due to the Robby Levine Foundation which helps to supply donated AEDs (automatic electronic defibrillators) to little league teams. Robby died while running the bases, but it is unclear from which, if any, of the disorders above he suffered. There have also been instances of children dying from a significant chest concussion or what is known as "blunt force trauma to the chest" (BTC). BTC is known by its medical name of "commotio cordis" and is defined by Veronesi (2004) as:

> "…the sudden, unexpected death that occurs when a projectile, such as a baseball, strikes the precordium during the vulnerable period of the cardiac cycle—10 to 30 milliseconds before the peak of the T wave. It occurs most frequently in young people—those under the age of 18—during sports activities, particularly baseball, softball or hockey. About half of the time, victims collapse right away; in some cases, however, there's a brief period of consciousness before collapse..."

It is not only possible to receive BTC from a fast moving object, but it is also conceivable that an individual could be exposed to BTC by being thrown forcefully to a hard surface with the weight of several adults. According to Veronesi (2004):

> "Generally, the higher the velocity, the higher the energy and the greater the potential for injury. However, the transfer of relatively low-level energy can lead to significant injury and even death, depending on the timing of the impact in relation to the cardiac cycle. For example, even a low-energy impact to the chest wall can cause sudden cardiac death if it occurs 10–30 milliseconds before the T-wave peak."

The PCM system even minimizes the possibility of a low-energy impact since all individuals are lowered in a controlled manner to a soft, dense foam mat using procedures that require staff to support the individual from underneath. It is an easy matter for untrained staff to throw an individual to a hard surface and then hold them there while they enter into cardiac arrest. Once again, if BTC did occur in some fatalities, it might appear that the prone position was the problem when, in fact, the more likely culprit may have been the sudden deceleration of the individual on a hard surface under the pressure of several adults. This is just one of many possible explanations of fatalities that are never discussed; the culprit is automatically assumed to be the prone position. Before moving on, it should be noted that nowhere in the *NEJM* article on fatal cardiac arrhythmias is there any causal link, hint, intimation or even risk-factor that is related to being held in a prone position. It is well within the realm of possibility that someone could suffer cardiac fibrillations while being held in a prone position. There have also been numerous instances where individuals have suffered those same fibrillations while engaged in heavy physical exercise. Is prone holding definitely the culprit? Does there need to be a ban on youth sporting events? The primary source of the theory that prone holding leads to cardiac arrhythmias can be traced to the Protection and Advocacy article that will be covered in a subsequent section of this paper.

## *Prone holding or any holding that is done against the will of the student will cause psychological trauma*

The word trauma is tossed about with complete disregard for diagnostic criteria or clinical indications and is all too often used to describe things that are not traumatic in the clinical sense but that may be very unpleasant. With regard to prone holding, some individuals assert that even if the student is physically unharmed, there is the possibility that the student will be traumatized permanently, which will then affect his or her ability to function in the future. This raises several issues. Among them are: 1) documentation of actual trauma rates related specifically to prone holding as opposed to any other form of restraint in the absence of any pain or injury; 2) differentiating "fear inducing" from "unpleasant" or "painful"; 3) drawing a careful distinction between "potential," "possible" and "highly likely"; and 4) the difference between the initial traumatic event and the re-traumatization that is allegedly caused by holding.

First there should be an examination of the word "trauma" and differentiate between its common usage and the DSM-IV diagnostic criteria. There are a variety of common definitions for "trauma." One definition states: "*An emotional wound or shock that creates substantial, lasting damage to the psychological development of a person, often leading to neurosis*." This denotes a serious event that is not merely unpleasant, but is so devastating that it damages future psychological development and leads to problems later in life. Another definition states: "*An event or situation that causes great distress and disruption*." The DSM actually has a category for severe trauma called "post-traumatic stress disorder" (PTSD). Here are the characteristics:

> "The essential feature of post-traumatic stress disorder is the development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a

family member or other close associate (Criterion A1). The person's response to the event must involve intense fear, helplessness, or horror (or in children, the response must involve disorganized or agitated behavior) (Criterion A2). The characteristic symptoms resulting from the exposure to the extreme trauma include persistent re-experiencing of the traumatic event (Criterion B), persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (Criterion C) and persistent symptoms of increased arousal (Criterion D). The full symptom picture must be present for more than 1 month (Criterion E) and the disturbance must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (Criterion F)." (Diagnostic and Statistical Manual of Mental Disorders 4th edition)

We would agree that it is possible for a student to be traumatized by being restrained. Being traumatized, however, is not the same as being frightened. Anyone can be frightened seriously by almost anything. One of the most common sources of fear for children who are not subject to prone holding is a visit to the doctor or the dentist. There is no question that children show tremendous fear and crying and screaming when forced to be given injections at the pediatrician's office or some other equally unpleasant/painful medical procedure. Children may appear to be incredibly upset and distraught under a variety of common circumstances. The critical issue however, as far as a diagnosis of trauma is concerned, is ability of the child to function once the event is over, both initially and in the long term. If the child goes back to his or her usual routine with no disruption and only shows fear when it's time for a shot, this would not be diagnosed as PTSD, but might be diagnosed as a simple phobia in which the person's behavior is only disrupted during the actual event or in situations that immediately precede or have similar qualities to the actual event.

We believe that the possibility of trauma during restraint is very small when that restraint is carried out by competent, caring staff, implementing a well-designed procedure. We must also point out that there is no evidence to suggest that prone holding, above and beyond any other form of restraint, poses a greater risk of traumatization. Even if one tries to argue that prone holding should be banned because of the *potential* for trauma, then the argument must logically extend to any form of physical or mechanical holding. This would leave everyone with a hands-off policy across the board. Unfortunately, there still exists the potential for trauma when a child engages in severe self-injury that requires medical attention. There is also the potential for trauma that can be suffered by teachers or other students who are subject to the attacks of those who exhibit high levels of aggression. There is even the possibility of trauma suffered by the student himself who witnesses the effects of his own aggression on other people. While there are unquestionably risks associated with physical interventions (restraints), there is another set of risks associated with allowing certain behaviors to continue, including risks to the student and to others around that student.

Lastly, there is the issue of a "re-traumatization" that could be caused if the nature of the restraint is similar to the situation in which the child was initially traumatized. This is a very real concern, especially in the area of sexual abuse. During the PCM instructor training, a wide variety of behavior analysts, special educators, psychologists, social workers, principals and administrators are placed in a position to interact freely. Frequently, the question is asked about using a PCM prone procedure or any procedure, with individuals who have been sexually abused. Participants are told to work with the parents/guardians and other professionals and discuss the risks and benefits of physical holding when they may reasonably expect that they might have to use it with individuals who have been sexually abused. In many instances we suggest that, for higher functioning individuals, the clinician show the student video of the procedure (all procedures are documented on a DVD) and discuss with him or her what is happening, why the procedure is done and what the student can do to make the procedure stop immediately. Using a video like this, the clinician can explain to the student where people are allowed to touch them and where they are not allowed to touch them. They can even review with the student how they would be lying on the mat used for the procedure. Since our procedures are highly systematic and precise, it is easy for children or adults to gain familiarity with them. To date, we have no issues regarding the re-traumatization of any children from the many organizations using our system. Of course, it still *could* happen. These things cannot predicted with any certainty and there are always risks associated with restraint. For that matter, there are always risks associated with individuals who go into crisis. If one intervenes there can be injury. If one does not intervene there can be injury. The risks and benefits must

be weighed carefully for each individual. However, a failure to restrain has the potential for serious consequences as well.

To summarize this section, there is no national database, clinical study or journal article of which we are aware that depicts the incidence of PTSD specifically due to prone holding, as distinguished from other forms of horizontal or vertical holding. Prone holding may be unpleasant, but if done properly it needn't be painful or frightening. Furthermore, there is no evidence that there is anything more than the possibility for the development of PTSD or that this possibility is greater with prone holding than any other form of physical intervention. We agree that there is a possibility for re-traumatization but it is certainly not a "given." Neither is it a cause for the complete abandonment of prone holding or any other form of holding that is done humanely by caring, competent staff. It does suggest, however, that everyone should be knowledgeable about a student's relevant medical and psychological history before making a conscious decision to use or forgo the use of restraint. Even if the decision is made to avoid the use of restraint, plans must be put into place for emergency conditions to protect both the individual and his or her peers. As an example, it would be absolutely negligent to allow a student to bang his head to the point that it requires medical attention because of a fear that he might be re-traumatized while being restrained temporarily. Organizations that do not allow holding of any type (including some schools) will often call the police when students get out of control. Students, even children as young as 7 and 9, have been handcuffed and shot with a Taser by the police. A description of a child being shot by a Taser is clearly listed in the National Disabilities Rights Network (NDRN) report "School is Not Supposed to Hurt". One might argue that compared to safe prone holding there is a far greater possibility of trauma given the level of pain experienced from 50,000 volts of electricity during a police intervention, yet there is no widespread movement to ban police involvement in schools.

## What Are the Primary Sources for the Motivation to Ban Prone Holding?

The motivation to ban prone holds does not exist across all organizations. It is primarily protection and advocacy (PA) groups that are calling for the ban. In the NDRN report, numerous government and professional organizations are listed, all with quotes about restraint and seclusion. All of these organizations express concerns about the physical and psychological risks associated with restraint and seclusion, such as those that have already been described in this paper. However, as quoted in the NDRN paper, *not a single one of these agencies proposes a ban on prone holding*.

These organizations include the following:

- The President's New Freedom Commission on Mental Health
- The Center for Mental Health Services, Substance Abuse and Mental Health Services Administration
- The Government Accountability Office
- The Joint Commission on Accreditation of Healthcare Organizations
- The Alliance to Prevent Restraint, Aversive Interventions and Seclusion
- The American Psychological Association
- The American Psychiatric Nurses Association
- The National Association of Psychiatric Health Systems
- The National Association of State Mental Health Program Directors
- The National Education Association

### *The Hartford Courant article*

As one source for the motivation to ban prone holding, the *Hartford Courant* article entitled "Deadly Restraint" brought attention to the fatalities suffered by children across all forms of restraint and seclusion. These forms included prone and supine holding, mechanical restraint and seclusion rooms. Although this particular article was not aimed at eliminating any particular kind of restraint, it sensitized the public to a growing problem in institutional settings. Many of the individuals did indeed die during or shortly after prone holding, but as can be seen from the descriptions on page 3, these were all very dangerous forms of holding that involved suffocation, staff lying on

individuals, handcuffing, airway obstruction and choking. This important newspaper article set the stage for the white paper written by the California group Protection and Advocacy Inc. (PAI).

## *The Lethal Hazard of Prone Restraint (PAI, April 2002)*

The "Lethal Hazard of Prone Restraint" is a white paper written by PAI, a group of California-based attorneys. This was the first organized call for a universal ban on all prone restraint. This white paper, containing the opinion of a single medical forensic examiner concerning 6 restraint-related deaths helped form the opinions of countless parents, professionals, advocates and lawmakers. Although we commend PAI for bringing the issue of restraint safety to the forefront, it cannot be stressed strongly enough that this was not a scientific study. It was not published in a peer-reviewed journal where it would be subject to criteria for accurate analysis of data and to opposing views on the theories of the causes of death. There was no transcript of eyewitness reports in any of the cases. There was no coroner's report published with the paper or any other corroborating information that would be useful in making a determination about exactly what happened other than the fact the individuals were held in a prone position of some sort. The entire article is simply too large to review in this paper but we will attempt to summarize what is a very well thought-out, lengthy, informative, yet (unintentionally) misleading article.

- There were 7 total incidents reported. One individual was left in a persistent vegetative state. The other incidents involved fatalities.
- Of the 7 incidents, 3 involved mechanical restraint only and 1 involved physical holding followed by mechanical restraint, hence only 3 cases involved physical holding alone.
- In the first case, the first individual complained of not being able to breathe and staff did not terminate their hold.
- In the second case, the individual was taking psychotropic medications. He was also given an injection of Haldol (a potent antipsychotic and tranquilizer) and had vomited during the hold. As a footnote in the paper, the individual was found to have had undiagnosed hypertrophic cardiomyopathy (enlarged heart). As mentioned previously, the first symptom of undiagnosed cardiomyopathy is often sudden death as is the case with young athletes.
- In the third case, one of the staff members involved admitted to investigators using his body weight to contain the individual. The individual was then put in wrist restraints. Being prone, his hands would logically have to be behind his back or to the sides, depending on the length of the restraints. If his hands were behind the back, this would have put additional weight on his sternum as depicted in Figure 2a. (page 4). Unfortunately, it is impossible to determine from the PAI paper the final position of the arms.
- In the fourth case, 8 staff members brought the individual to the floor. He was then hobbled with leather restraints (hog-tied, hands and feet pulled behind his back in a prone position). He was then injected with Haldol and Ativan (a benzodiazepine class anti-anxiety drug).
- In 5 out of 6 fatalities, the coroner found petechial hemorrhaging in the eyes of the deceased. Their presence often indicates a death by manual strangulation, hanging or smothering. The significance of these petechiae was never discussed in the white paper.
- Another individual who died in mechanical restraint also had an enlarged heart.
- The possibility of prolonged QT intervals for persons taking psychotropic medications was never discussed and several fatalities involved emergency psychotropic medications.
- The possibility of BTC (blunt force trauma to the chest) was never discussed.
- Staff were allegedly trained in systems either called PART or MAB. It was never disclosed which procedures, from either system, were used in any of the fatalities, nor was there any description or name of any procedure that the staff were allegedly certified to use. Although the authors stated that procedures were done correctly according to *their* investigation, there is no evidence (at least in their white paper) that any of the staff actually implemented procedures as they were designed.
- The exact position of the individuals was never described.
- The exact positions of the various staff were never described.
- The exact number of staff involved was never described.

As a note for the last bulleted statement, every nationally known system of crisis intervention describes exactly the number of people to be involved in a given procedure, (e.g., a "two person horizontal hold") and normally

provides detailed pictures that allow proper training of the procedure. This is done to ensure that there are sufficient staff for the accurate use of the procedure, and to prevent problems that occur when too many staff members are involved. For example, in the fourth case above, there were *eight* staff members who "took him to the floor." We are unaware of any nationally known system of crisis management that teaches an eight-person procedure. We have not seen a manual for the MAB or PART systems used in California, but it is highly unlikely that there is in fact, an eight-person lowering technique.

We believe that the prone position is not the lethal hazard that it is portrayed to be. We believe that the fatalities could be as readily explained by the multiple injected psychotropic medications, excessive pressure to the person's torso (hence the petechial hemorrhages), undiagnosed hypertrophic cardiomyopathy and/or other undiagnosed/undetectable cardiac conditions, improvised holding procedures and "hog-tying." There are several references to "positional asphyxia" (a position that significantly interferes with normal breathing such as crushing the chest) as a possible contributing cause of death in at least 2 cases, but as Dr. Gary Vilke of the University of California Department of Emergency Medicine points out:

> "Pathologists base diagnosis of positional asphyxia on temporal relationship of restraint to sudden death and lack of other obvious causes of death on autopsy," (Gary M. Vilke, MD, FACEP, FAAEM, Use of force continuum, Medical Aspects, 2006).

Vilke and his associates have also published studies looking at the effects of the prone position on oxygenation and found that even a hog-tied position alone (no staff laying across an individual's chest or back), did not significantly affect oxygenation levels (Chan, Vilke, Neuman and Clausen, 1997). Vilke goes on to say that:

> "No study including the original Reay study has shown that the prone restraint position results in hypoxia (lack of oxygen)."

Although there is the possibility that some individuals may have died, in part, because of chest compression, there is also the possibility of death resulting from other undiagnosed heart conditions that, as pointed out by Gollob, 2008, may not have not been discoverable upon autopsy.

We should also make mention of the phrase "agitated delirium" which is used throughout the PAI paper. It is described as an extreme agitated state, primarily in severely psychotic patients or individuals with "high blood concentrations of cocaine, methamphetamines or other stimulants." This agitated delirium is listed as a risk factor for death. Unfortunately, the term is poorly defined at best and it is actually more of a description of a hyper-excited state. In an NPR article titled "Death by Excited Delirium: Diagnosis or Cover-up?" (2007) Eric Balaban of the American Civil Liberties Union states:

> "I know of no reputable medical organization—certainly not the AMA (American Medical Association) or the APA (American Psychological Association)—that recognizes excited delirium as a medical or mental-health condition."

The phrase started showing up in relation to cocaine-related "custody" deaths in the 1980s, exclusively in cases of police intervention that often involved battery to the person being arrested, handcuffed and restrained. It can sometimes be found in coroner's reports as a "default" as with Vilke's description of positional asphyxia. It does not mean the deaths are caused by this description of a cluster of behaviors and other variables. It also does not mean that someone exhibiting these behaviors will die only in a prone position or only in restraint.

It is critical to note that there are no studies referenced in the PAI article that could allow the authors to theorize about or state, with any certainty, that any of the individuals in the cases cited above would be alive today had they only been held under the exact same circumstances in a supine position. In an article titled "Does the position of restraint of disturbed psychiatric patients have any association with staff and patient injuries?" (Lancaster, Whittington, Lane, Riley and Meehan, 2008), the authors compared the risk associated with vertical holding, prone holding and supine holding and found that there was no statistically significant association between restraint position and patient injury. In determining safety, we believe the more pertinent factors are chest compression, particularly

when it is extreme, and undiagnosed cardiac conditions rather than a prone/supine distinction. As a final note on this section, the PAI article states:

> "For the purposes of this report, PAI will distinguish between prone containment and prone restraint. *Prone containment* is the brief physical holding of an individual prone, usually on the floor, for the purpose of effectively gaining quick control of an aggressive and agitated individual. *Prone restraint* is the extended restraint (either physical or mechanical) of an individual. This may include holding an individual past the time of immediate struggle. It also includes restraint to a bed using restraint devices, such as leather cuffs," (The Lethal Hazard of Prone Restraint, 2002, p 6).

The PAI did not propose a ban on prone containment, only *prone restraint as they defined it*. This distinction is not mentioned in the NDRN report. The PCM system only uses prone containment because it is brief and the practitioners must begin to fade restraint within 3 seconds of the cessation of struggling and terminate the entire procedure within a total of 12 seconds. Unfortunately, the general public does not make this distinction, hence an all-inclusive ban on prone restraint may lead some to mistakenly believe that there should be a ban on the PCM prone containment as well. Even the NDRN, in the glossary of their January 2009 report entitled "School Is Not Supposed to Hurt" (in which they call for the ban of prone holds) defines prone restraint as:

> "A physical restraint in which an adult holds a child's face on the floor *while pressing down on the child's back*," p 53.

The PCM system contains a prone hold, but according to the NDRN's own definition, *our procedure does not qualify as prone restraint because it allows no pressure to the torso whatsoever*. Furthermore, the procedure used in the PCM system does not hold the individual's face on the floor. The individual is on a foam mat and no part of the person's head is touched. The problem is still one of poor discrimination for the general public. There appears to be no real standard for what is called "prone restraint." There is no confusion about the word "prone," but the phrase "prone restraint" has different meanings to different entities/organizations. The PCM prone containment is clearly an exception to both the NDRN and the PAI definition of prone restraint, yet some policies in some states, although they do not specifically name the PCM procedure, do not allow organizations to use the PCM prone containment simply because it utilizes a face-down position. This is one of the many problems in making generic statements that call for a ban on prone restraints without a clear understanding of the range of systems and procedures for holding an individual in a prone position and the many advancements that clinicians involved in its professional use and development have made in the last 20 years.

## *Brief second-hand synopses of prone-related deaths from multiple sources*

The internet is rife with snippets of prone-related deaths that are either reported in on-line newspapers or on any of an assortment of independent websites that are sponsored by parents, advocates and others. It is commendable that these websites and newspaper articles bring this important issue to the forefront. These websites and articles help to sensitize the general public, who may have no knowledge of the problems of restraint and seclusion, to this increasingly alarming issue. However, these brief descriptions, often only a couple of sentences, do not provide the kind of detail that is vital in the determination of the root-cause of fatalities. This scarcity of details invites speculation about root-causes that cannot be adequately analyzed without proper data. The organizations that cull these web-clippings and then compile them into a more impactful report do not add any information that further aids an analysis. The resulting overall thrust for the masses is: people have died in prone holds, prone is bad, we must ban prone holds.

## *A general misunderstanding about perceived versus actual risk*

In their book *Freakonimics* (2005), economist Steven D. Levitt and writer Stephen J. Dubner address perceived versus actual risk. They cite Peter Sandman, a risk communications consultant who proposes that without understanding the numbers involved and the actual risk, people perceive risk according to several variables that work in a somewhat cumulative fashion:

- Risks you control (e.g., driving) are perceived as far less risky
- Risks you can't control (e.g., flying) are seen as far more risky
- Incidents that cause a sense of outrage (e.g., a death on a ride at Disney World, where people go to have fun and don't usually think about risk) are seen as more risky
- Low familiarity with the subject matter causes perceptions of greater risk

If the risk is relatively high, outrage is low and familiarity is high, people *under react*. As an example, according to the United States Consumer Product Safety Commission (2006), swimming pool deaths are the 3rd most common form of accidental death for children ages 5 years and under occurring at a rate of 600 per year. There are approximately 6 million pools in the U.S., so the mortality rate is approximately one death per 11,000 pools. Even though this figure has been essentially unchanged for the last 10 years, there is no call for a ban on pools. We can readily predict the mortality rate, yet there is no public outcry to ban swimming pools. Despite the deaths of 600 children per year, there is no ban on swimming pools because people value them. Instead there is an appeal to legislators to make pools safer by requiring certain safety conditions to be met for their use.

If the risk is actually low, outrage is high and familiarity is low, people *overreact*. For instance, in Florida alone, PCMA provides comprehensive crisis management training, including, but not limited to, how to hold a student in a prone position. These prone procedures have been widely used for over 20 years in the largest school districts in Florida (Broward, Palm Beach and Duval counties) and **there has not been a single death as a result of the PCM prone hold.** The procedure is also used in many small-to medium-sized school districts in many states. We sampled an organization in Florida working with severely aggressive children and adolescents with dual-diagnoses who estimated their use of the prone hold to be near 10,000 procedures over a ten-year period and, just like the school districts, have not had a single fatality. Nonetheless, many advocates are still calling for a ban on *all* prone holds. We do not expect these statistics alone to cause the opponents of prone holding to reverse their opinion, as their outcry is, understandably, an emotional one. Their appeal to policy makers is not one that is based on all of the data, nor is it based on the multitude of issues that make up a very complex problem. Their appeal is based on a select group of data. These data are in no way representative of what can be done and what has been done by competent, well-trained, caring individuals using a comprehensive well-controlled crisis management system and its accompanying certification program.

As a final point in this section, one difficulty in assessing risk is that it is currently not possible to calculate a nationwide mortality rate for prone restraint. For example, it is a fairly simple matter for an insurance company to calculate mortality rates for a particular medical procedure by obtaining the information on the total number of procedures that have been performed and the total number of fatalities that were demonstrated to be a direct result of the procedure. For example, the mortality rate for gastric bypass surgery is about 1 death for every 50 procedures within a month after the procedure (Morales 2005). Regarding prone holding, it is certainly possible to calculate such a rate for a given facility or organization (like the organization in Florida mentioned above), but we cannot find any aggregate, nation-wide reports that list such statistics. That is, we have not yet seen aggregate data that state: "there was a total of 13,254 prone holds, of which there were 6 deaths." This type of information would be very important because without the context one only sees "6 deaths." This is not to argue that there is some acceptable number of fatalities. No number is truly "acceptable." There are elements of risk in restraint, however, and it is very difficult to assess risk when the total number of successful implementations is unknown. For example, there might appear to be a higher rate of prone-related fatalities than supine-related. Nonetheless, the total number of supine holds and the total number of prone holds conducted in the United States in any given year is completely unknown. There exists no national database comparing the two. That there may be more prone-related than supine-related deaths does not necessarily mean that supine holding is safer. There are more automobile fatalities (about 40,000) than motorcycle fatalities (about 2000) every year. Are cars more dangerous than motorcycles? No, but cars far outnumber motorcycles. It is a simple matter to find out how many cars and motorcycles are registered. Again, in assessing risk, context is critical. Finally, even if there were a nation-wide database for prone holds there would need to be a differentiation of the different types of prone holds used to make the most use of the information.

## *There is a general sense of outrage concerning any restraint-related injury to a child*

There appears to be an unstated belief that there should *never* be any injury to any child or youth in the course of trying to stop them in the middle of a crisis. Many web clippings and newspaper articles describe restraint that has clearly occurred for the wrong reasons (which will be discussed later). This form of inappropriate restraint is highly unlikely however when staff are properly trained in a system that contains the necessary procedural safeguards. According to a few particularly overzealous advocates, all restraint should be eliminated entirely for all people with developmental disabilities. We will address this notion as well in subsequent sections.

For clarification before proceeding, the term "child" used in the reports described above can encompass all the ages that fall between grades pre-K through high-school. The advocates for the ban on prone holds do not specify any particular age-group, or size of child, so one can only assume they are referring to any school-aged student, as there is a call for the ban in all schools, not simply elementary schools. Without a doubt, it is disturbing to see restraint-related injuries for any child of any age, but these injuries are particularly appalling when they occur in younger children. It can be easy to forget that restraint is also used with high-school students in ESE programs who may be as old as 21. Furthermore, there are individual children who may be only 13 or 14 yet they could have nearly the same strength and size as a fully grown adult. This point is seldom, if ever, made. Some students (older, larger ones) are capable of shocking levels of aggression and they can, and have, seriously injured school staff and other students. A second issue is that there are two ends of a continuum regarding a combination of 1) age, 2) level of aggression, 3) level of functioning and 4) the severity of behaviors that led to the use of restraint. We might call this a "justifiability continuum." On the one end of the continuum are those students who are young, not particularly strong or dangerous, who may have a lower level of intellectual functioning and may have done things that, in most instances, do not warrant any restraint at all. Inappropriate restraint with these individuals is, by far, the most egregious form. On the other end of the continuum are higher functioning, older, larger, very strong and dangerous students who have caused serious injury to themselves or others and were in the midst of attacking another person or severely injuring themselves when restraint was applied. The child population that falls in this "far right end" of the continuum is rarely, if ever, mentioned in reports about the perceived danger of prone holding. It seems that most of the outrage is focused on the youngest end of the continuum. Nonetheless, the call for a ban on prone holding or other forms of restraint is not specific to that population of students that falls at the low end of this "justifiability continuum," but instead canvasses all children, which is a very large category containing some individuals with very dangerous behavior.

Pertaining to injury during restraint, it is absolutely possible to safely restrain individuals without harming them. This is the norm in the PCM system and tens of thousands of our practitioners at hundreds of facilities have done so successfully. It should be clear to anyone reading any of the advocacy reports that injuries can and do occur during restraint, but there is not much analysis of the potential causes. Sometimes the injury is due to the complete lack of any formal system resulting in a hold that produces injuries, including spontaneous inventions like throwing someone to a hard surface with no protective equipment or restraining someone on a carpeted surface resulting in rug burns. From our point of view, neither one of these forms of holding is acceptable. Sometimes the injury may be due to the actions of a malicious staff member who uses far more force than necessary to restrain an individual. Occasional injuries can occur even under the best of circumstances by the most competent staff, using the safest procedures. These injuries, however, tend to be far less frequent and far less severe. In the research conducted by Lancaster *et al*, (2008), it was found that the main predictors of injury for clients during restraint were self-injurious behavior and the possession of a weapon, both of which call for an immediate and robust intervention to protect the client and others from more severe harm. It is reasonable to expect an occasional injury when staff try to arrest the movement of an individual exhibiting high levels of aggressive behavior. This does not mean that the injury is acceptable in the sense that it is just part of doing work with children with behavior problems. Improvements can and must be made to crisis management systems so that the risk of injury can be better managed in the future. This is why regular and frequent re-certification in a system that is subject to continued refinement is so important.

With respect to a failure to intervene, most certainly, there will be injuries if students are allowed to destroy property that can subsequently injure them, attack peers or staff or attempt to engage in self-injury. This leads to the following inescapable fact: *Individuals who frequently engage in these types of behaviors (aggression, severe property destruction, and self-injury) are at a higher risk for injury than those who do not display these behaviors*. This may seem like a statement of the obvious, but it warrants closer attention. These students could be injured when nothing is done at all, when some unauthorized hold is performed or even when a sanctioned intervention is performed correctly. The only way to avoid all possibility for injury related to these behaviors is to prevent the episodes from occurring entirely. We will address this notion of "perfect behavioral interventions" in the section about treatment expectations. There will, unfortunately, always be some risk associated with physical interventions, as there will always be risk with allowing an individual's behavior to go unchecked. While the risk can never be eliminated entirely, regardless of the procedures used, it can certainly be managed and minimized to a level where serious injuries become the substantial exception instead of the substandard norm.

## *A lack of understanding of the utility of prone holding*

There is nothing easier than to ban something that contains little or no perceived value. One would think, as is the case with other things that involve risk, that people would be less likely to ban all forms of prone holding if they believed that there were some value to holding at all. As an analogy, The Ford Pinto was notorious for serious design flaws. All cars contain a certain element of risk, but the gas tank placement on the Ford Pinto was possibly the worst design in automotive history. Here is a quote from the October 1977 Issue of *Mother Jones* magazine:

> "By conservative estimates Pinto crashes have caused 500 burn deaths to people who would not have been seriously injured if the car had not burst into flames. The figure could be as high as 900."

Five hundred deaths, due to nothing more than a design flaw in the placement of the gas tank is a tremendous number of deaths that could have easily been avoided. There was not a call to ban all cars however. Why? There are different types of cars. These different types of cars are easily identifiable. They have different names, are made by different companies and they even look different. If the public could not discriminate one car from another and did not understand the value of cars, they might have wanted to ban all cars. Why was this never the case ? The answer is twofold: people saw the value of cars and they could easily discriminate the Pinto from other cars. The situation is quite different with respect to prone holding.

The lay person is likely to view prone holding as a single thing. This would be like viewing all cars as having the exact same risk for injury because of a lack of understanding of what makes cars more or less safe. When people with expertise in body mechanics see different prone holds, they see different "brands" and the differences are clear to them. This discrimination makes it much easier to detect deficiencies in certain procedures that separate them from much safer procedures. If the general population sees all prone holding as basically the same, it stands to reason that if one type is bad, they all are bad. This is not the case, however. The one-person prone basket hold is the crisis intervention equivalent of the Pinto. It is easily identifiable as a bad procedure and is not taught by any reputable crisis management system. This does not mean that a school employee could not devise and use something like it on his own, albeit technically incorrect and potentially unsafe.

Given that people can be taught to detect the differences between safe holds and unsafe holds, one might wonder why they would still want to ban an entire category of procedures. There are two possibilities: they see no value in any prone hold or they see no value in any holding irrespective of the position. If there was the smallest possibility that a procedure was dangerous and no one saw any value in continuing the use of it, then naturally no one would want to continue to use it. From the perspective of professionals who work with highly aggressive individuals, there is great value in the judicious and careful use of these procedures by properly trained and certified staff. Very often, the people who see little or no value in prone holding are the very same individuals who are never in a position where its use is warranted and even necessary.

Professionals working in law-enforcement, mental health, developmental services, juvenile justice, education and other facets of human services who come in contact with very aggressive, dangerous or self-injurious individuals understand the value of being able to arrest the movement of that person. When it comes to manual restraint, there are three primary means for containing a person. They can be transported (a walking escort involving restraint of the arms), immobilized in a vertical position (standing, bent-over or against a wall) or immobilized in a horizontal position (prone, side-lying or supine). There is also the possibility of a seated position on the floor, but this is a very difficult position to maintain for staff and affords little ability to hold extremely aggressive individuals. It is absolutely possible to stabilize some individuals by simply moving them to another location. It will not work for all individuals in all circumstances, but it can work by removing them from the events that may be maintaining the behaviors to an environment where the individual is typically more stable. More severely aggressive individuals can struggle with sufficient force to cause everyone to fall to the ground, which can result in significant injuries.

It is also quite possible to maintain a person in a vertical position. This depends on the level of aggression of the individual (as with transporting them via escort) and their ability to struggle. Again, if the person has sufficient strength relative to the staff intervening, the entire procedure can break down and everyone may fall to the floor. Significant injuries can occur when all parties fall to a hard surface. Any one of the individuals involved, staff or student, may receive broken bones, bruises, and abrasions. In fact, one of the most frequently broken bones in children is the radius or the ulna in the forearm, and it usually happens when they fall to the ground as they outstretch their arms to brace themselves.

Finally, an individual can be immobilized in a horizontal position in either a prone, supine or side-lying fashion. Take, for example, a prone immobilization. If performed as conducted by PCM practitioners, by gently lowering an individual onto a soft foam mat while supporting him from underneath instead of throwing him to the floor, the risk of injury from falling is minimized and may be removed almost completely. One might argue that once an individual is prone there is a greater risk of compressional asphyxia if someone lands on top of them and that this could not happen in a standing position. While this is a valid concern, this risk is highest with untrained staff or staff who have been specifically trained to lie on top of the individual's torso. If held properly, the prone position minimizes the risk of aspiration should an individual vomit (supine would be more dangerous in this regard) and allows for a greater control of aggressive individuals since their limbs can more easily move forward than backward. Prone holds may also reduce the amount of time held because they remove eye contact as a possible reinforcer (motivator). All procedures can break down and the person may escape. Escape from a prone procedure is not as dangerous for the staff as escape from a supine procedure. While, this paper is primarily devoted to the issue of student injury, not staff injury, this bears mention because staff are no less deserving of working in a safe environment than are the students they work with. Staff who feel safer tend to overreact less and are less likely to improvise new procedures, as is suggested by Lancaster *et al,* (2008).

While some systems hold people in a supine position, there is no empirical evidence that suggests, all things being equal, that supine holding is safer than prone holding. In fact, one study in the *Journal of Clinical Outcomes Management* found that more injuries occurred to both staff and clients in a supine position than a prone position (Henderson *et al,* 2005). PCM also contains a supine hold on a mat for organizations that are not allowed by regulatory agencies to use prone, but supine holding has numerous drawbacks. As mentioned earlier, the risk of aspiration during vomiting is much greater. Eye contact may create a huge problem in the form of attention from staff, which can escalate and motivate continued aggression. The individual being held may also spit in the faces of staff. Unfortunately, although people may be able to control themselves when they are hit, there is a segment of the population whose performance in a crisis situation can be adversely affected if a student repeatedly spits in their face. For some individuals, their reaction will be difficult to predict. It may seem like a small issue to those who have never experienced it, but being spat on, particularly when in the face, can be extremely upsetting from both a social/cultural standpoint and more importantly, from a health standpoint. Another problem with supine holding is that if the procedure fails, and all procedures have the potential to fail at some point, the person being restrained can

initiate a devastating attack since it is extremely easy to punch and kick in a supine position. This fact, coupled with the ability of the individual to see her targets, makes supine holding potentially more dangerous for staff. We must stress, this is not an insignificant point. To the person doing the holding, it becomes a very important issue.

Lastly, there is the briefly mentioned "side-lying" position in which the person is neither prone or supine. The problem with these types of procedures is that the human body can only be stable in that position when the legs and/or arms are maintained at (approximately) a right angle to the body, otherwise the individual will roll. It is nearly impossible to maintain a person's torso in a side-lying position without applying any pressure to it at all. The only side-lying procedure we have seen has the child in what appears to be a side-lying basket hold and we have already discussed the dangers of maintaining that position on the ground. Because of these problems, the side-lying position is not really a viable alternative for highly aggressive individuals.

We make this somewhat lengthy argument to sensitize those individuals who have never been significantly injured by a student (and a great many people have been) to the need for safe prone holding and that it can be a valuable tool for individuals who are charged with the protection of *all students* and not only the student exhibiting the behavior problems. What people do when they aren't allowed to use prone holds, or any holds at all, is a very important issue and will be addressed in its own section.

# Points of Agreement between PCMA and Those Advocating for a Ban on Prone Holds

### *Prone holds occur far too often*

Although no specific frequency can be stated for how often is too often, we would agree that the decision to restrain, as well as the level of restrictiveness of that restraint, is often unjustifiable. For example, some students may be restrained for things they have recently done (hit a peer), even though they may be calm at the time the restraint is implemented. Some restraints may be retaliatory in nature and some may be intended as punishment that is hoped to decrease the future re-occurrence of a particular behavior. Although we are certain that these types of misuses (e.g., there is no current danger involved) occur, there is another reason for the overutilization of restraint and that is the unnecessary precipitation of an aggressive episode through the use of coercion (i.e., harsh, threatening, forceful and/or demeaning interactions). In essence, many restraints are the result of forcing children to do things they don't want to do.

Of course not all episodes of self-injury or aggression are caused by the coercion of others. Some individuals use their aggression as a means to an end, to gain access to desired items or attention or to terminate or avoid demands. Some individuals engage in self-injury for the very same reasons or because of medical issues; there may also be cases in which we are uncertain of the causes. In some instances, for nonverbal individuals, the behaviors may function as a means of communication. Regardless of the purpose, which must be discovered, these behaviors cannot be allowed to continue, and some form of brief restraint may be necessary. There are, however, clear instances in which an episode of aggression is caused by forcing or attempting to force someone to do something they do not wish to do. The classic classroom example is where a teacher verbally forces a student to begin his or her work when the student does not want to. These exchanges typically start with a request that is denied in a reasonable fashion, e.g., "No, I don't want to," or something similar. At this point the teacher may escalate his demand and the student will escalate her response and this can continue to the point where aggression occurs resulting in an instance of restraint.

The above example is a very typical scenario consisting of coercion, counter-coercion and then aggression. These types of power struggles can absolutely be minimized, and with them, the subsequent aggression. Poor student-teacher interactions like these may account for a tremendous number of restraints and this contention is supported by the aggression and restraint reductions that are typically seen when staff are properly trained in non-

coercive educational and behavior management strategies. Still, not all coercion stems from adult interactions with students. There can be coercive interactions between students and these may also cause aggression that results in restraint. Although the sources of coercion can be curtailed, it would be difficult to eliminate all sources in all settings.

**Prone holds are used when there are no clear criteria for their initiation or termination**

Another major factor in the overutilization of restraint is the lack of any clear criteria for the implementation of restraint. Many organizations use a broad criterion like "danger to self or others," which may be far too loose and easily subject to over-interpretation. Clearer criteria are necessary for general use and these criteria must occasionally be supplemented with additions and/or exceptions that are based on a formal assessment of the individual's needs. PCM uses the general criteria of continuous aggression, continuous self-injury and continuous high-magnitude disruption (extreme property destruction that may result in injury). The notion of "continuous" eliminates restraint for one-time instances of behavior. That is, using these rules, a student would not be restrained for hitting another student and then returning to his seat (showing no other signs of imminent aggression). The importance of clear and consistent criteria for implementation and release is highlighted by a 2005 research article titled "Frequency of Client and Staff Injury During Physical Restraint Episodes; A Comparison of Two Child Restraint Systems," published in the *Journal of Clinical Outcomes Management* (*JCOM*, 12, no. 4, 193–198), by Henderson, Siddons, Wasser, Gunn and Spisszac. In a discussion of the possible reasons for their findings of fewer client injuries when the PCM system was used as compared with another popular system they state,

> "We suspect that one reason why PCM may lead to fewer injuries is because this method has clear, behaviorally defined criteria for release."

It must be understood, however, that even very specific and reasonable initiation and release criteria (like releasing after 3 seconds of no resistance) may be subject to interpretation and modification unless there is proper training and clinical oversight. There must also be the ability to amend general criteria for cases that do not easily fit into the definition used. A student who runs from the classroom into the school parking lot towards the street is not showing aggression or property destruction or self-injury, yet she may be endangering herself and may need to be stopped immediately. If this child is non-verbal, with no street-crossing skills, she will absolutely need to be stopped and this may involve some form of restraint, even if only an escort. What about a student with good street crossing skills who knows to stop at the corner and look both ways before crossing? Although some general criteria for the use of restraint is a must, there may eventually be a call for more specific individualized criteria based on the child's needs and abilities.

**Prone holds occur in the absence of a hierarchy of less restrictive forms of physical procedures**

A final point, as it pertains to the use of prone holding in particular, is that there needs to exist a clear hierarchy of procedures that are organized in a least-to-most restrictive fashion. We wholeheartedly agree that every single act of aggression does not require prone holding. Some acts, though technically aggression (shoving), do not require the same intervention as other acts (using a chair as a weapon). Unfortunately, if staff are only taught one procedure, then all students will, of necessity, be subject to the same procedure regardless of the level of their aggression. If staff have at least a handful of procedures that are clearly rank-ordered, then judicious staff can choose a procedure based on the current need for that particular student, without exceeding it. A similar approach is used in medicine, always moving towards a less invasive procedure that will accomplish the desired outcome.

To summarize, we believe that there are many instances in which restraints are being used too often and we have offered several contributing factors in this article. This does not mean, however, that there are no instances in which restraints are underutilized. This happens as well and there appear to be fewer accounts of the instances in which staff did nothing and a student was harmed, but it does occur. For example, an article in *The New York Times*,

"Calm Down or Else" (2008), described cases in which one set of parents called for a ban on restraints due to the death of their son and another set of parents sued the school for *not* restraining their son because he ran away from school and drowned. There are numerous instances in which staff have prevented serious injuries to students with special needs, without harming them. Unfortunately, these incidents don't make headlines and don't attract much attention because no one is injured.

## *Prone holds are being used because of a lack of appropriate behavior analysis and treatment*

It is true that prone holding, when done properly, can protect individuals from harming themselves and can protect those around the individual as well. Keeping a student safe is a good start, but it's not enough. Many individuals rightly criticize that the excessive use of restraints is an indication of treatment failure. In many instances this is indeed the case. In many situations there is really very little treatment at all. In some places there is treatment, but it is inadequate or needs to be altered or the individual's behavior is so complex that the services of highly skilled professionals are necessary. We have witnessed numerous instances in which recommendations were not followed, programs were not run as written or programs were written so poorly, with so little understanding of the child's problems that they were of little utility to anyone. These problems can and should be solved, but students still need to be protected until such time that treatment can be brought to a level that it is consistent with the current standard of care. It is easy to attribute a lack of student progress and increased aggression to a treatment failure, however, the real work lies in discovering *why* a treatment is failing or *why* a treatment is absent and *how* the situation may be remedied. Many people demand that restraints be reduced. *This is absolutely the wrong thing to demand or at least the wrong way to demand it*. People should be demanding that the components for conducting proper treatment be identified and put into place and that treatments are properly implemented by competent staff. The restraint reduction will inevitably follow.

## *Prone or other holds are not regulated by policy*

PCMA agrees that the decision to use brief physical holding should be a matter of policy, and should include accepted crisis management systems, the criteria for the use of physical procedures, the agreed upon hierarchy of procedures and the conditions under which alternate forms of intervention (e.g., police involvement) are sought. These types of policies typically exist in the area of developmental disabilities for residential and day-treatment settings, and they can provide a model for the development of similar policies for schools. Hopefully, these policies are not simply proscriptive in nature but also prescriptive as well. Experience has shown that policies that merely state what staff cannot do, as opposed to what they should do, invite or even demand that they invent their own means of dealing with aggressive, self-injurious or disruptive behavior. Invented procedures are seldom appropriate and almost always dangerous.

## *Prone holds are not properly documented*

Documentation of any physical intervention is critical. First and foremost, it forces all restraint to become an official record, as it should be. Often, the behavior of staff will change once they know that they must document any episode of restraint. It can result in a decrease in the use of restraint in a variety of ways. Staff may re-think the decision to use restraint once they know that they will be responsible for filling out a report and that this report is going to be monitored by a supervisor and/or other agencies. Also, staff may realize that the problem is greater than they suspected when they view a cumulative record of the total number of restraints for an individual. Finally, the teacher, Individualized Education Plan (IEP) team and school administration can use the data on the number and type of restraints to track the effectiveness of treatment programs and curriculum changes. Additionally, data of this sort can be an invaluable tool for training, coaching and managing staff. We strongly agree that it should be far easier to access this sort of data. Any restraint must be treated as a significant event regardless of the outcome.

## *Prone and other holds are often not disclosed to parents*

In many schools that use the PCM system, parents are typically notified the same day if restraint procedures are used. We have worked closely with numerous parents of students with disabilities and they have told us that they are upset when they find out that their child has been restrained that day. This cannot compare however to the outrage parents experience when they find out that their child has been restrained numerous times over a period of weeks or months without their knowledge. This problem can be avoided if the school policy on restraint is explained to parents during the students' enrollment or at an IEP meeting. We agree that keeping parents informed is of great importance and should be a high priority.

## *Staff who conduct prone holds are often untrained and/or lack proper supervision and experience*

Many concerned parties on both sides of the issue have commented that staff need proper training in crisis management, both in the prevention and de-escalation of behaviors that lead to crisis, as well as what to do when a student is in crisis. We could not agree more. Unfortunately, training alone does not do enough to minimize the risks associated with the use of restraint. Staff must also be properly supervised by more clinically oriented staff with a greater level of expertise in the area of crisis intervention. No matter what the system and no matter how thorough the training, staff who are essentially "isolated" and left to cope with problem behaviors will very often find themselves deviating from what they were taught and falling back on what is familiar. This does not necessarily mean that the staff are making a conscious decision to abandon what they were taught, but it does mean that they are human and their behavior will tend to drift. Training alone is absolutely necessary, but it is far from sufficient when it comes to the proper implementation of a crisis management system. Oversight is key to ensuring proper long-term implementation.

## *Certain forms of prone holding are very unsafe*

Although we strongly disagree that all forms of prone holding pose equal risks, we maintain that certain types of prone holds are very unsafe. Beginning on page 23, we discuss seven variables that we believe are critical in determining the degree of safety that will be present in any setting that uses any type of restraint. As outlined earlier in this document, there are forms of prone holding that have been performed that are not currently a part of any nationally known system of crisis management. These include the prone basket hold and any procedure that applies pressure to any part of the head, neck or torso. We also maintain that any procedure that allows the arms to rest under the person or that pulls the arms behind the person's back are less safe as they increase thoracic compression by decreasing the surface area for the distribution of weight (Figure 2a.). Furthermore, we believe that any prone hold that only involves one staff member holds a higher degree of risk for several reasons and we therefore do not teach or allow the use of any one-person prone holds in our system. One-person prone holds pose several problems. The task of *safely* lowering a person to the floor with a single staff member can be very difficult to accomplish. It is also virtually impossible for only one staff member to safely restrain someone in a prone position without using a more restrictive and highly coercive technique or without lying on the torso with full or partial-weight. Some may maintain that it is possible to "straddle" the torso while only holding the arms. However, we believe that any bridging or straddling across the torso can too easily "drift" into lying on the torso if the struggle becomes intense enough or if the staff member becomes fatigued. In addition, one-person prone holds may not have the benefit of another staff member who can either act as a witness, monitor vital statistics of the person, provide assistance if the level of aggression becomes too great or give corrective feedback if some part of the procedure is performed improperly.

Finally, we contend that the use of proper safety equipment is critical. Lowering a person in crisis to a hard floor can be very risky. Even if the procedure for lowering is reasonably well designed, anyone can lose their balance and fall. If all people involved in a procedure fall on a hard surface, the possibility of significant injury is very high. Then there is the issue of applying pressure to any part of the person's body that is against a hard surface. Pressure against soft surfaces produces the sensation of pressure. Pressure against hard surfaces produces the sensation of pain, particularly at the joints. Pain *escalates* physiology, while the goal of any holding (as we see it) is to *de-escalate* physiology. A person's ability to relax is greatly diminished under conditions of painful stimulation. As mentioned earlier, PCMA mandates the use of at least a six foot by four foot two-inch thick foam mat with a specific density (weight) of 1.6 Pounds per Cubic Foot (PCF) for easy portability and a specific compressibility known as the Indentation Load Deflection (ILD rating) of 100. The ILD rating can vary greatly based on the function that a piece of foam is to serve. Mats that are meant for gymnasium floors may have ILD ratings of 200 or higher. Mats with lower ILD ratings, like the type used in a private home for exercise, can too easily "bottom out" (the foam is compressed so thinly that the surface underneath may produce injury). The PCM mat is firm enough to prevent bottoming out and firm enough to prevent a child's face from sinking into the mat but flexible enough to allow partial compression of the foam. Finally, to dispel any misconceptions, the mat is used to make the child comfortable and reduce the risk of injury. It is not used as a mechanical device to hold the child. Some individuals confuse our mat with a "mat-wrap," which wraps around the child and is secured with Velcro closures. A mat-wrap is a form of mechanical restraint and our system does not use such devices.

# Points of Contention between PCMA and the Advocates for Banning Prone Holds

## *The belief that banning all prone holds will actually stop them from occurring*

While a policy that bans prone holds should theoretically discourage their use, these holds can and still do occur, even in those states whose policies prohibit them. As mentioned earlier, one of the problems with any kind of ban is that it makes the action illegal, but does nothing to remove the motivation to engage in the action. We have reviewed numerous of criticisms of prone holding, yet none of them offer real-world solutions for the problems faced by staff who must contend with students who can become very dangerous. Students who, in past decades, would have been institutionalized are now in classrooms. Schools, which were previously only charged with the education of students are now charged with their treatment. As anyone in the field of ESE can attest to, this is no small point. We are not arguing for the re-opening of institutions, but merely pointing out that the population of students with disabilities that exists in classrooms today is far different than that of the 1970s. Recall the advocates who maintain that even if our prone holding procedure is safe, someone may implement the procedure incorrectly. Therefore, according to these critics, the procedure should never be taught, which should in turn prevent anyone from using a prone hold incorrectly.

Unfortunately, this is simply not the case. Most of the injuries and deaths that are documented in the available literature do not involve, as far as we can tell, any formal system of crisis intervention whatsoever (with the exception of the PAI article, which does name two systems). As just one example, a young man who suffered from asthma died in a prone hold in a camp for troubled teens in Georgia in 2005. He was held face-down for over an hour while he repeatedly asked for his inhaler. (*The Atlanta Journal-Constitution*, July 19, 2005) The attorney for the camp claimed that the staff were doing what they were trained to do. Later, *in the same newspaper interview*, the camp director claimed that the camp counselors were never trained to use a prone hold. They invented and used one anyway. Because a well-designed trained procedure could be performed incorrectly is not sufficient reason to ban it, especially when it is a useful procedure that can and has been used properly. Any physician can incorrectly perform a surgical procedure. There are many deaths each year in the U.S. due to incompetent medical practices in both surgical procedures and in medication errors. Some experts estimate that there are more than 32,000 fatalities occurring annually (Zahn, 2003). There is no call for a ban on surgical procedures or medication administration.

Instead, a root-cause analysis is conducted and then solutions are offered to minimize risk. This is done because there is a *perceived benefit* from surgery and medication despite their risks. This is no different in the case of prone holding, except that the general public may believe that prone holding is of little or no use. Banning all prone holds when staff are poorly equipped to manage aggressive behavior will not make students any safer. *A ban will simply invite new, dangerous, uncontrolled, undocumented practices and will not ensure that staff learn the skills that are desperately needed in our schools*.

## *The belief that effective behavioral programming will completely eliminate the need for restraint for the entire population of persons with disabilities*

It was mentioned earlier that some believe that restraint is a result of treatment failure. This can be the case but it is not true in all instances. It is useful to draw a distinction between treatment failure and the chronic lack of treatment. In many instances there are high levels of restraint because of a complete lack of treatment, not because an accepted, well-planned treatment has failed. Some individuals with disabilities have fairly simple behavioral challenges that occur infrequently and only under specific conditions. These types of challenges tend to resolve more quickly and easily. There are numerous cases, however, in which the behavior is extremely dangerous, frequent, long-standing and the problem is complex. Behaviors are complex when they have multiple causes and multiple maintaining consequences, such as attention, escaping from demands, accessing tangible items and communicating the student's needs. Even if all of these causes and maintaining variables are correctly identified during the first assessment, which is seldom the case with complex problems, the behavior program is written so clearly that anyone can implement it and all staff faithfully implement the program as they were trained, the individual will continue engaging in the problem behavior until all sources of reinforcement are removed and the necessary replacement behaviors are learned. In short, successful treatment outcomes do not occur overnight for many reasons. It is easy to say that a treatment has failed when critics have unrealistic expectations of how long it *should* take for a given behavioral treatment to work for a specific child. Seldom do behavior programs for people with challenging behaviors work within just a few days.

The other issue lies with the use of the term "effective." If effective behavioral treatment means that long-standing problem behavior never occurs again, then very few behavioral treatments will ever be truly effective. Some behavioral procedures can result in a change that may not completely eliminate the problem behavior, but reduces the severity or frequency so significantly that person's quality of life increases dramatically. In this case the outcome is often deemed "effective." In the absence of the relevant background information, it might seem that a once-monthly restraint for a person is a sign of "failed treatment" unless one understands that the individual used to be restrained several times a day. True, high levels of restraint are indeed often associated with poor or absent treatment but this association is not reducible to a simple mathematical expression where problem behavior + failed treatment = restraint. These oversimplified axioms ultimately do more harm than good when the subject matter contains complex variables that are all too often poorly understood.

## *The largely unstated belief that a procedure is either entirely safe or entirely unsafe*

All restraint procedures contain risk, as do all medical interventions. Few things are completely safe with no possibility of harm or completely unsafe resulting in fatalities in all instances. There are things that are more safe and less safe. When things are extremely unsafe we tend to call them "dangerous." When things are very safe we just call them "safe" and assume that we will not be harmed. Some things are only very safe when certain conditions are met. Are swimming pools safe or unsafe? It depends on the conditions. If there are small children who cannot swim and they are unsupervised, then swimming pools are deadly. If a child is supervised by a parent and is wearing a floatation device, swimming pools are very safe. It is never *impossible* to drown, only *highly likely* or *highly unlikely*. As another example, the Volvo is considered to be a very safe automobile. It does not mean that the operator cannot perish in one. The Volvo can withstand error in its operation that perhaps other, lesser vehicles,

cannot. Can the driver of a Volvo survive a 30-mph head-on collision with a similar-sized car if wearing a seatbelt? Most likely. Can the same driver survive a 70-mph head-on collision with a tractor-trailer with no seatbelt? That would be very unlikely, even in a Volvo. The point is that some things, like prone holding, can be very safe when used within the proper set of guidelines and when the practitioners use the procedure as it was intended.

## *The belief that prone holds cannot be conducted safely and responsibly*

As mentioned previously, PCMA provides crisis management training and certification for the largest school districts in Florida as well as many districts in other states. Our procedures have been used safely for over 20 years. This could not be the case if all prone holds were dangerous. This does not mean that there is no possibility of injury during any PCM procedure. The possibility of injury exists but we take a variety of measures to keep it to a minimum. This is one of the reasons that PCMA *mandates the use of safety equipment during all prone holds*. We authored a white paper containing what we believe to be seven critical factors that make prone holds (or any physical holding technique) more safe or less safe and below is a summarization.

We have identified the following as the most important factors in determining the overall safety of any procedure, not just prone procedures. These factors are design, training, skill retention, utilization criteria, oversight, medical evaluation and existing treatment programs.

Design

A procedure must be designed in such a way that even large errors in implementation do not result in a severe injury or death. A procedure that can withstand many variations in its implementation may be spoken of as "robust," that is, a margin of safety can be maintained even during an incorrect implementation. Some procedures, however, are designed such that even small variations can dramatically increase the risk of injury to staff and/or clients. A procedure that is poorly designed cannot be compensated for by increased vigilance in training, oversight, skill retention, etc. A procedure that is well designed (or robust) can better withstand violations in these other important areas of physical restraint in much the same way that "robust" statistical formulas can withstand error in sample selection.

Training

Staff training is especially important in physical intervention; poorly trained staff will undoubtedly implement the procedure incorrectly. Training should be competency-based rather than attendance-based. Individuals who can demonstrate competency as part of the criteria for passing a course will be less likely to show "behavioral drift." Drift, very simply, refers to deviations in a staff member's behavior over time. Everything that occurs during training should be carried out with a focus on minimizing the likelihood of drift. Drift can result from lack of practice (resulting in forgetting) or staff may learn, over time, that certain ways of holding "feel" better than others and they may make small adjustments to the procedure until it only vaguely resembles the one that they were initially taught. The duration of the training is also important as there must be ample time for staff to practice the procedures they learn. Trainings should make use of "distributed practice" in which physical procedures are practiced *throughout* the training instead of being taught only at the end of training. Finally, the class size must be limited to ensure that all participants may be adequately observed, assisted and evaluated.

Skill Retention

As mentioned above, drift may occur as a result of disuse of the skills learned in training. It is for this reason that there must be (at least) annual re-training of individuals. After several years of retraining, the behavior of staff will tend to drift less often and less severely. Furthermore, without regular retraining and re-evaluation staff may become physically incapable of performing certain procedures, yet they may continue to attempt to implement these procedures. This can endanger the staff member as well as the people they serve. Annual competency re-training can catch these sorts of problems.

Utilization Criteria

Rules for when to use or not to use physical interventions can be called "utilization criteria." If a crisis intervention course or a facility policy does not adequately define when to use and when not to use physical interventions, there can be a resulting overutilization or underutilization. Either extreme is problematic.

Overutilization means that individuals will be restrained when there really is no need. This results in a very high incidence of physical restraint. This can also produce subsequent aggression in a person who may feel that the physical procedures were unwarranted. Underutilization can put people at risk by not stopping their aggressive, disruptive or self-injurious behavior. In most facilities, the norm is a tendency for over-utilization. This means that the criteria for intervening are poorly defined or staff have few or no other skills or tools at their disposal for handling the problem in a more appropriate manner such as prevention, de-escalation and behavior programs.

Oversight

Staff who are poorly supervised or supervised by an individual with little or no knowledge of the system of physical intervention, run the risks over-utilization and drift. Even with very clear utilization criteria there are times when individuals must make a judgment call as to whether or not physical intervention is warranted. Poorly supervised individuals may not have the judgment necessary to make the right decision. Staff working at a facility where there are a variety of people serving as instructors in physical intervention will have the benefit of the accumulated experience and judgment of those individuals. It is much more difficult for staff to continue to implement a procedure incorrectly or unnecessarily when there is a high probability that their behavior will be monitored by a supervisor who is knowledgeable in that system of crisis intervention.

Medical Evaluation

Whenever possible, there should be medical evaluations for any students with a history of being restrained or for those who might conceivably need to be restrained based on the history of their behavior. For example, individuals with a history of heart problems, brittle bones, recent fractures, morbid obesity, respiratory problems, etc. should have clearance from their physician before implementing restraint procedures of any kind. The point is that, for a small percentage of the population, any kind of strenuous activity can precipitate medical problems, be it struggling against a mechanical restraint, resisting staff, running or even participating in sports. Often times, deaths may be blamed on restraint (which may be accurate in some cases) but, as mentioned earlier, there are numerous instances of seemingly healthy individuals who die suddenly during or right after strenuous exercise. Individuals with existing medical conditions like an enlarged heart or other electrophysiological abnormalities might need alternate means for controlling their behavior and those alternate means will have their own risks associated with them. Finally, there may be some instances where a particular procedure is contra-indicated for a particular individual. This does not mean that the procedure is dangerous for everyone.

Existing treatment programs

Finally, one of the most important variables that impacts the use of physical interventions is existing treatment programs. Facilities that do not adequately address an individual's crisis behaviors through de-escalation, skill acquisition (prevention), environmental restructuring or general quality-of-life improvements will need to use physical interventions regularly and possibly, indefinitely. Many facilities and their staff are good at "putting out fires." Facilities must, however, have the means necessary to move people forward in their treatment. This is the difference between behavior management and behavior change. Many facilities pride themselves on their ability to handle clients with challenging behavior problems, but the ability to contain crisis behaviors is only one small part of an integrated teaching and treatment program. Facilities that rely too heavily on physical intervention will find that their use becomes *more* and not *less* necessary over time.

## *The belief that all restraints can and should be eliminated for the entire population of individuals with disabilities*

Advocate organizations have proposed calling for a complete ban on any form of restraint and seclusion. Some of these proposals have been incorporated into legislative bills. There are, however, a couple of issues that must be addressed when speaking of a complete hands-off policy. First, there needs to be a distinction between *stopping the use* of restraint and *eliminating the need* for restraint. Anyone, anywhere, can immediately stop using restraint. This does not mean that they have eliminated the need for it. We will discuss the consequences of stopping all restraint when the need for it still exists in the next section. Regarding the second issue, it is quite reasonable and quite possible to eliminate the need for restraint for a single individual. We have observed it on a number of occasions and

in many instances it is not difficult to accomplish. It is, however, ill-advised to attempt and nearly impossible to achieve, a complete elimination of restraint for the entire population of students with disabilities, since we have not yet been able to attain this goal in the general population. This is why we have law-enforcement officers who have the means and the authority to implement physical restraint. PCMA agrees that there should be a goal to reduce restraint in clinically meaningful ways that are reflected in an increased quality of life for the individual. Similarly, we should seek to narrow the criteria for using restraint to weed out its abuse. Finally, we must strive to reduce restraints to at least very low levels or possibly even to zero for any particular individual. To propose the complete elimination of restraint for an entire population of individuals, however, is myopic and unrealistic at best and dangerous at worst. Some may say, "But I know of places where there is no restraint at all!" Lack of restraint usage in a given setting can be due to a number of subtle factors and combinations of them that may be unattainable in other settings. One such example is a strict admission criterion that denies access to persons at risk for significant problem behaviors. Other means of avoiding restraints may not be in the best interest of the individual, such as increased use of psychotropic medications, premature discharge to more restrictive settings and police involvement. This is not to say that restraints cannot be minimized in positive ways, but we caution the reader to carefully evaluate each claim of total restraint elimination in any particular setting.

### *The belief that there is no need to discuss the consequences of a failure to use restraint*

Many individuals and organizations are quite eager to ban all restraints. Some are motivated to do so because of their personal aversion to the thought of holding a student down or holding them against their will (in any position). Recall that being held down in a horizontal position, prone or supine or on one's side is only one form of restraint. Being physically forced to walk somewhere against one's will is also restraint. Holding a child by the hand when they are actively trying to get away (like in the parking lot at the supermarket) is also restraint. Picking up a young child and carrying him against his will away from something dangerous is also restraint. People just don't view these examples as restraint. Most definitions of manual (physical) restraint involve a restriction of the body or some part of the person's body that produces resistance from that person. These definitions typically exclude medical restraints. Incidentally, most people have no difficulty with medical restraint since it is ostensibly for the person's own good, but it is restraint nonetheless. Parents restrain small children every day for a variety of reasons. While this is not what most advocates regard as restraint, holding a child or any part of him against his will is, nonetheless, restraint, no matter how mild it may appear, who is conducting it or however brief it may be.

Before discussing the consequences of failing to restrain, it is crucial to understand how some organizations manage to entirely prevent using restraints, especially when the reason for elimination may not be in the individual's best interest regarding their long-term clinical gains. There are a great many ways to eliminate restraint. As mentioned earlier, this will not necessarily eliminate the fundamental problem. For example, an individual gets angry and subsequently begins to break glass when someone denies his requests. The resulting attempt to break glass causes restraint of some type. The facility decides that they will never say "no" to this person but instead they will say "maybe." Furthermore, all glass windows are replaced with Plexiglas. There will most likely be an immediate cessation of all restraint. It will appear that there is no longer any need for restraint at all. These types of treatments are called antecedent manipulations. They can easily eliminate (at least in that setting) the need for restraint. These prosthetic environments can become extreme. This level of antecedent manipulation is not typically attempted or achieved in school settings, but may be quite common in residential settings. Chairs are bolted to floors, TVs are strapped down with nylon webbing, pictures are screwed to the walls, all glass is replaced with Plexiglas, Sheetrock walls are backed with plywood to prevent punching through them and so on. However, from a long-term therapeutic perspective, removing the ability and the motivation to destroy things does not remove the tendency to do so when faced with a different setting. Staff who learn how to choose their words carefully may increase the probability that the child will remain calm, but the child will not end up learning how to control himself when he eventually does become upset. At the extreme the child must live within a very narrow set of boundaries so that he will not become upset. This all but ensures that the child will never be able to navigate the problems

encountered in the community where people *do* say "no" (and worse) and where things *do* break when they are hit. The point is that one can eliminate restraint while unwittingly sacrificing the individual's long-term clinical gains.

There are many creative ways for reducing or eliminating restraint that do not address the root of the problem. Sometimes restraint may be defined out of existence. For example, it isn't called restraint (or documented) if it is less than 2 minutes in duration or if it is only an escort. In a residential setting, a restraint may be ordered by a physician for a behavioral problem, but because the physician documents that there exists a "medical necessity" it may not be counted as an emergency procedure. In some schools, there is an official "hands off" policy, yet if one digs deeper into the issue of what teachers are allowed to do to protect themselves it becomes clear that they may in fact end up restraining students in some manner (or worse), only these restraints will not be part of a formal system or reported. These examples do not demonstrate how to eliminate restraint. They only demonstrate how to eliminate or re-categorize its documentation.

Another way to reduce restraint is to allow an individual to destroy anything. One advocate we know advised the school board that a student should never be restrained because of any kind of property destruction. When several people asked if the school was just supposed to allow the student to destroy an entire computer lab, the advocate suggested, "Perhaps you could put a dollar amount on the total damage done as a criterion for intervening, say $14,000." One can only imagine a teacher, standing in the computer lab, calculator in hand, tallying up the destruction. The advocate presumably suggested this tactic because he felt that staff could not be trusted to use good judgment. We thoroughly understand that students may be inappropriately restrained for actions that do not warrant any physical intervention like getting mad and tearing up their papers. We do believe, however, that it is reasonable and necessary to stop a student from throwing a computer monitor, especially with a documented history of dangerous property destruction. Regarding the significant destruction of property, public schools are just that—public. They are an extension of the community at large. They are not private residential facilities that can afford specialized treatment environments that are void of dangerous breakable objects or large heavy objects that can be used as weapons. A student should no sooner be allowed to destroy a classroom than he should be allowed to walk into a department store and start smashing all the wide-screen televisions. Again, these issues, like most, are not black and white (always restrain children who are breaking things or never restrain children who are breaking things). They are complex issues that require good judgment, good training and good policies. Despite these measures, there will still be gray areas.

There are many real and potential consequences of a policy that forbids the use of restraint. These consequences may be obvious or subtle and it can be difficult to predict the long-term consequences for a given student. Again, these issues apply for all persons with disabilities in a variety of settings, not just school-aged children in classrooms. Here are just a few of the consequences that can be expected as a direct result of a complete hands-off policy:

<u>Increased involvement by law-enforcement</u>

Children have been arrested, hand-cuffed and shot with a Taser. In St. Petersburg, Florida, a 5-year-old girl was removed from the school in handcuffs because they had a hands-off policy. A 6-year-old boy was shot with a Taser in a Dade County, Florida, school (ABC, November 2004). Granted, Taser usage on children is very rare, but such tactics could easily increase dramatically, especially if more schools adopt a hands-off policy. One parent of a student diagnosed with attention deficit disorder in Dallas, Texas was shocked when she called to pick up her 11-year-old son from jail after he was taken away in handcuffs for cursing at a teacher (*The New York Times*, "Calm Down or Else," July 15, 2008). These are just a few examples of incidents that occur far too often. Even when law-enforcement gets involved, they are often too late through no fault of their own. By the time police officers arrive on the scene, damage may have already occurred. If the student is calm when the police arrive, they will often discuss the student's behavior with them at length. Although well-meaning, police officers do not have training in working with special populations, and the types of interactions they often do have with students can reinforce their aggressive behavior by providing large amounts of special attention. In

fact, some individuals have been known to engage in aggression because it has previously resulted in attention from law-enforcement.

Without specialized training for children with disabilities, a police officer's already difficult job becomes even harder. Decisions they might make regarding members of the general public might not be the most appropriate for the student. Generally speaking, police officers will not base their intervention on the disability, but on the perceived threat that is posed by the individual in crisis. Furthermore, all police officers know that there will always be a loaded weapon on the scene—their own. Because of this fact, law-enforcement officials may be prohibited from using the same physical procedures that teachers can use. They must keep their sidearm away from the student at all times, with no exceptions, as they sometimes are shot with their own weapons. For this reason, a police officer may have to use a more coercive/painful method of controlling a student. This issue does not apply to non-weapon-carrying school staff, so they can use methods that do not cause the student pain or discomfort.

Increased psychotropic medication use

Most people are at least somewhat uncomfortable about psychotropic medication use with children of any age, but they appear to accept it more readily than restraint. Medications, particularly antipsychotics like Risperdal, Haldol, Geodone, Zyprexa and similar medications have their own risks, including death from neuroleptic malignant syndrome (NMS) and permanent neurological damage like tardive dyskinesia, not to mention other life-threatening side effects like the prolonged QT intervals mentioned earlier. While medications may somewhat ameliorate challenging behavior, they do not teach students how to relax when upset as a well-designed crisis management system does when used in conjunction with a well-designed individualized behavioral support plan. Medications do not automatically adjust as the student calms down. Some medications prescribed for aggressive behavior can actually produce undesirable behavioral effects, including the very same aggression for which they were initially prescribed. Medications, unlike restraint, are easily softened under a veil of medical legitimacy that causes people to be more receptive to their usage. Unfortunately, the potential side effects are no less dangerous or deadly.

Increased injuries to teachers, classmates and the student in crisis from a lack of rapid intervention

Not all children are restrained because they were verbally aggressive towards the teacher or wouldn't do their work. Some are restrained because they may, without warning, start banging their head against the floor until there is tissue damage, elope and run into traffic or engage in other behaviors that are very likely to produce injury. Some schools or classrooms that claim to never need restraint typically do not serve clinically complex individuals with long histories of high-frequency severe maladaptive behavior. Many of the opponents of prone holding and restraint in general, only speak of injuries to the student with the behavior problem. As stated earlier, injuries to the student due to holding of any kind must be minimized and are never acceptable. The same is true, however, for teachers and peers who are the targets of the student with aggressive behavior. Parents do not only get upset because their child is harmed during a restraint. Parents become equally upset when their defenseless child has been bitten, scratched, punched or pushed into objects by other children with unchecked aggression.

More restrictive educational placements

PCMA performs a great deal of consultation for public schools. Often schools seek to transfer children to more restrictive classrooms in other schools or to residential facilities. Schools that use no restraint of any kind will seldom tolerate individuals with significant behavioral problems. As a result, these individuals may be secluded from peers who do not exhibit behavior problems. Children who must go to residential centers are invariably surrounded by other individuals with significant problem behaviors. The consequence is that they may learn new inappropriate behaviors from their peers in the residential settings. At least while in a school setting, the child with a disability can interact with both disabled and non-disabled peers alike.

Treatments that rely far too heavily on antecedent manipulations

Some classroom teachers will completely remove any sort of educational demand so that the child will not engage in any aggressive or self-injurious behavior. In some cases the child's environment is overly customized to the degree that he or she is unsuccessful when placed in an included classroom. To ultimately be successful, it isn't enough to prevent a student from getting angry. The student must know what to do when they get angry and what they can do to get their needs met without resorting to dangerous behaviors. Highly customized environments, that remove the possibility for students to become upset, can almost guarantee that they will need that type of environment indefinitely. Furthermore it is unlikely that they will ever learn to control themselves when they do eventually become upset.

The creation of an unrealistic microcosm of society in which no one stops aggressive individuals

Some schools and residential facilities that work with behaviorally challenged children never use a hands-on approach. This is an unwise and risky decision because eventually, when the behavior becomes severe enough, there will be law-enforcement intervention. It is important for organizations to accept that if their staff do not intervene, then it will be up to the police, who will likely use the exact same procedures that they use when arresting criminals. Regardless of the school's policy there lies another world, outside of the school, in which the consequences for aggression are often swift and unpredictably severe. Even in schools, students with aggressive behavior may be subjected to a vicious counter-attack by their classmates. Turnover rates can be expected to soar if staff are expected to let students hit them until they become exhausted.

Increased disruption to the teaching environment

Some advocates suggest that a "room clear" be used exclusively when a student becomes aggressive. A room clear is when all students and staff must be removed from the room to protect them from the disruptive student. There are times when that might be the best thing to do. However, this also disrupts the entire educational process for long periods of time and impinges on the rights of the other students. At other times, a room clear is not possible because of certain factors such as the location of the aggressive student or others. A room clear can tremendously reinforce the behaviors that cause staff to clear the room (a room clear is a big reaction for a student who loves attention). Also, a room clear is not a viable alternative if the child in question engages in self-injury. Finally, a room clear can very easily become a "reverse seclusion time-out" where instead of bringing the student to seclusion, staff members bring seclusion to the student by clearing the room of all other individuals and blocking the student's exit from the room.

## *PCMA Recommendations*

This position paper has covered a tremendous number of issues pertaining to prone holding, restraint in general, the failure to restrain and treatment for individuals with disabilities. We have listed numerous points of agreement between ourselves and the opponents of prone holding, but the across-the-board banning of all forms of prone holding is certainly not one of them. We strongly recommend more discussion on the topic before hastily banning procedures that hundreds of organizations have used safely and effectively for years. We also request that those entities that have banned all prone holding consider suspending that ban in favor of the approval of responsible systems of crisis management. Recall the death that occurred at the wilderness camp in Georgia. This tragedy prompted state officials to make a careful examination of their policies regarding restraint. They did not ban prone holds. They did however carefully scrutinize all crisis management systems that were being used in the state and created requirements for the approval of systems. PCMA, as well as other crisis management organizations completed a 60-item questionnaire and submitted our materials for approval by the state. Georgia approved our system even though we teach an optional prone hold because after examining the facts, they did not conclude that prone holds were dangerous. They identified unregulated procedures as dangerous and we couldn't agree more. The

state of Florida has done the same and has required us to submit our materials for approval. We believe that other states should develop similar protocols in the areas of education (these examples were taken from the area of developmental disabilities).

In summary, there are many steps that need to be taken to raise the standards for our schools to a level where all students and teachers can be safe and where the involvement of law-enforcement can be minimized to those instances that are truly life-threatening. We know that students can be safely managed at school where they can continue their education. We know that prone holds, when used judiciously, have a place in keeping people safe. We know responsible, caring teachers who have used these procedures hundreds of times with no problem whatsoever and continue working with their students with no degradation in their relationships. We also know that this can be done anywhere in any school (not only the schools we serve), but there must be a conscious and collaborative effort on the parts of parents, teachers, clinicians, administrators, crisis management training organizations and legislators to make students safe in every aspect of their educational experience.

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