

# All Tied Up And No Place To Go!

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The University of Louisville, Kentucky, School of Medicine emergency department did a one-month study of patients requiring involuntary treatment (and restraint) orders.<sup>1</sup> They discovered that 49.5 percent of all the study patients (almost half) were brought to the emergency department by EMS services. The police transported 22.4 percent, family members delivered 21.7 percent, and 9 percent were self-referred (1.1 percent arrived by undocumented means).

**Conclusion:** the majority of patients requiring involuntary treatment and restraint are first encountered and managed solely by prehospital (EMS) care providers!

Despite these impressive research findings, specific techniques for safe and effective restraint application continue to receive inadequate coverage in *all* EMS training programs. Usually, when patient restraint issues *do* receive attention, EMS providers are simply directed to "have the police" accomplish restraint.

Anyone who's worked in EMS for over a year knows that the police are not always available. Additionally, Law Enforcement restraint application does not meet the needs of medical restraint application. Indeed, Law Enforcement restraint often interferes with medical examination and care requirements. Thus, a mandate to "have the police" accomplish restraint is completely inadequate to the needs of care providers.

Patient Restraint should only ever be employed to ensure Patient Safety & Provider Safety. However, "combative" individuals are one of the least-encountered reasons for employing patient restraint.

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## Reasons For Patient Restraint:

1. Safe & controlled access for medical procedures when involuntary patient-interference or resistance is REASONABLY ANTICIPATED. For example: Postictal seizure patients who are not "combative," yet remain confused, can reasonably be anticipated to withdraw or strike out

- when being stuck with a needle. "Prophylactic" restraint (restraint applied *before* the patient becomes involuntarily resistive to treatment) will protect the patient and providers, preventing injury or delay in treatment.
2. ANTICIPATION of IMPROVED PATIENT CONDITION producing combativeness/resistance.  
For example:
    - unconscious hypoglycemic patients may "improve" from unconsciousness to becoming combative!
    - cardiac arrest patients who "get better" will NOT deflate the ET cuff prior to extubating themselves!
    - CVA patients may turn out to be "TIA" patients, developing the ability to withdraw or strike out when being treated.
    - And so on ...
  3. EVALUATION or TREATMENT of COMBATIVE PERSONS when illness or trauma is suspected to be the cause of combativeness.
  4. INVOLUNTARY TREATMENT of persons INCOMPETENT TO REFUSE TREATMENT.
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## Section I: Medicolegal Aspects Of Restraint:

The primary legal considerations in providing restraint and/or involuntary treatment for a patient can be divided into three areas:

1. The rights and needs of the patient,
2. The duties of the health care providers,
3. A responsibility for the protection of involved third parties.<sup>2</sup>

In the United States, a citizen's right to refuse treatment or transportation for treatment is protected by law (common and statutory) and by his constitutional rights to privacy, due process, and freedom of religion.<sup>1</sup> A person has the right to come to what others would consider an "unreasonable" decision, as long as that person can make the decision in a "reasoned" manner - meaning the person is capable of reasoning, or is "competent" to make a decision.

**COMPETENCE** is defined as the capacity or ability to understand the nature and effects of one's acts or decisions.<sup>2</sup> And, for all practical purposes, a person is considered to be competent until proven otherwise.<sup>3</sup> The legal concept of competence can only be formally determined in a court of law. Laws governing

competence and the right to refuse medical treatment vary widely from state to state.<sup>2,6</sup>

But, universally, the determination of competence generally depends upon four observable abilities.<sup>3</sup>

1. The ability to communicate a choice.
2. The ability to understand relevant information.
3. The ability to appreciate the situation and its consequences.
4. The ability to weigh the risks and benefits of options, and rationally process this information, before making a decision.

There are situations, however, in which the interests of the general public ("State Interests") outweigh an individual's rights to liberty:

1. The individual is threatening self-harm or suicide.
2. The individual presents a threat to the community because of contagious disease or other physical dangerousness.
3. The individual presents a specific threat to innocent third parties.<sup>1</sup>

In these cases, individuals may be restrained and/or treated against their will.

**MINORS** are generally considered to be incapable of self-determination.<sup>1</sup> In the absence of a parent or legal guardian, and in the presence of a life- or health-threat, a minor may be treated against his will. The "freedom of religion" clause, whether it be the parent's or the minor's religion, is generally not allowed to interfere with a minor's treatment for a life- or health-threat. Some states, however, have statutory provisions that allow certain minors the right of self-determination. "Mature minors" or "emancipated minors" may be defined, and therefore would have the same rights and responsibilities as an adult. For example, the state of Colorado defines a minor as any person under the age of eighteen.<sup>4</sup> But, Colorado also recognizes the right of consent for minors who are fifteen years old and older, living separate and apart from the parent(s) or legal guardian, with or without the parent's or legal guardian's consent. Any married minor or minor parent also has the right to consent within the state of Colorado.<sup>4</sup>

**CONSENT** is defined as the voluntary agreement of a person possessing and exercising sufficient mental capacity to make an intelligent choice to do something, with a proposition posed by another.<sup>2</sup> Consent is generally considered to be either expressed or implied. Expressed consent is defined as positive, direct, unequivocal, voluntary verbal or physicalized agreement and is

a more absolute and binding degree of consent. Implied consent is defined as signs, actions, facts, or inaction which raises the presumption of voluntary agreement. Thus, a patient who calls 9-1-1 could generally be considered as having implied a consent for evaluation and care.

**Generally, the law implies patient consent during an emergency.**<sup>2</sup> The law has upheld that conditions which require immediate treatment for the protection of a person's life or health justify the implication of consent if it is impossible to obtain express consent either from the patient or from one who is authorized to consent on his behalf. Thus, the unconscious patient may be treated under the auspices of implied consent. The courts assume that a competent, lucid adult would consent to treatment necessary to maintain health or life. If the patient is clearly incompetent, she/he may be treated involuntarily. If circumstances are less clear, but there is legitimate professional doubt as to the competency of a patient refusing emergency care, it is best to err in favor of treatment. It is far better, legally, to be accused of assault and battery or false imprisonment secondary to involuntarily treating and transporting someone, than to later be accused of negligence.<sup>2</sup>

**ASSAULT** is defined as 1) an unlawful physical attack upon another; 2) an attempt or offer to do violence to another, with or without battery, as by holding a stone or club in a threatening manner.<sup>5</sup> Thus, threat alone, can be considered an "assault."

**BATTERY** is defined as an unlawful attack upon another person by beating, wounding, or even by touching in an offensive manner.<sup>5</sup> Checking a person's pulse without their permission may be considered "battery" by some patients. Additionally, some religious beliefs include considering persons of the opposite sex touching someone, or the touching of a child's head to be offensive. Touching these types of people without prior permission may be considered "battery."

**FALSE IMPRISONMENT** is defined as restraint without legal justification.<sup>6</sup> False imprisonment is considered a civil law and does not require violent abduction. Its equivalent in criminal law would be "kidnapping." The mere threat of confinement, combined with an apparent ability to accomplish the threat, and some limitation of movement (i.e.; a closed door), is sufficient to uphold a charge of false imprisonment. However, false imprisonment cannot be claimed if the patient consents to being confined.

When faced with the apparent need to involuntarily treat and restrain a patient, first consider the needs of the patient.<sup>7</sup> Would failure to restrain and/or treat the

patient result in imminent harm to the patient or other specific persons? Most patients in an emergency setting are emotionally "upset." Being merely "upset" does not support the use of restraints. There must be an indication of lack of competence, coupled with imminent health- or life-threat, before a patient can be treated involuntarily.<sup>2</sup>

There are several patient characteristics that indicate a need for involuntary treatment and/or restraint. The following is a "Quick Look" guide for recognizing patients who may not refuse treatment. A patient may not refuse treatment if she/he is:

- UNCONSCIOUS
- SUICIDAL (either verbally threatening or actively gesturing)
- CONFUSED (to person, place, time, or situation)
- INTOXICATED, and appears ILL OR INJURED
- A MINOR CHILD, and appears ILL OR INJURED
- DEVELOPMENTALLY or PSYCHOLOGICALLY DISABLED, and appears ILL OR INJURED<sup>8</sup>
- VERBALLY or PHYSICALLY HOSTILE and/or THREATENING OF OTHERS

In most states, a person who exhibits a danger to her/himself or others (verbally or physically) may be taken into custody under an emergency mental health hold (MHH).<sup>6</sup> This hold is usually placed by a police officer or psychiatric medicine official. In any event, it is always wisest to have police present during incidents involving involuntary treatment and/or restraint.<sup>7</sup> (Both for purposes of legality and for sufficient assistance in the restraint of an individual.) Unfortunately, waiting for the police to arrive is not always an option (such as in cases where third parties are endangered and cannot be removed from the dangerous patient's vicinity).

**Occasionally, a patient will actually prefer to be restrained.**<sup>8</sup> Restraint often provides them with a sense of safety or control. When you suspect this to be the case, offer restraints in a supportive manner, and solicit the patient's assistance with their application. If the patient cooperates with restraints, this cooperative action implies a consent to be restrained.

**Any form of restraint must be "INFORMED" restraint.**<sup>6</sup> Even when the patient's lack of competence will interfere with their ability to understand your explanation, you must explain why you are restraining and treating the patient prior to doing it.

The second consideration in providing restraint or involuntary treatment is the **duty of the prehospital health care (EMS) providers.** Through personal commitment, professional oaths, and ethical medical principles, an EMS provider has a responsibility to provide the best possible care for the patient.<sup>2</sup> This care, and the way in which it is provided, is subject to measurement against national and local "professional standards of care." Every EMS service should have specific written guidelines for patient restraint that are approved by the service's administration, medical director, and legal counsel. Performance of such professional standards of care can then be supported by these service protocols, but only as long as the protocols are strictly adhered to and the restraint situation is adequately documented.<sup>9</sup>

**NEGLIGENCE:** When duties or standards of care are not met, a legal action may arise based on the principles of negligence.<sup>2</sup> To succeed in a negligence action, a plaintiff (suing party) must prove all of the following four elements against the defendant (the health care provider):

1. That the provider had a duty to provide care,
2. That there was a breach of that duty,
3. That damages occurred,
4. That the provider's breach of duty caused the damages.

Yet another consideration in providing restraint or involuntary treatment deals with **the EMS provider's responsibilities to individuals other than the patient - the "third parties" involved in the incident.**<sup>2</sup> It is a fundamental legal principle that all persons are required to use ordinary care not to injure others. When an EMS provider encounters a patient who manifests a danger to others, by verbal threats or threatening physical actions, said provider may have a legal duty to control the patient, to safely evacuate the threatened parties, or to at least notify appropriate authorities (police) to effect control of the threatening party and ensure the safety of third parties. In the state of Colorado, if a combative or violent patient injures another person, and the EMS provider is shown to have been capable of preventing that injury - but did not, the EMS provider may be held liable for the third party injuries.<sup>2</sup>

**Once The Decision To Restrain And Involuntarily Treat A Patient Is Made, Other Legal Implications Come Into Play.**

**The LEAST RESTRICTIVE MEANS OF CONTROL must be employed.**<sup>1</sup> Verbal communication is, technically, the "least restrictive" means of control. Therefore, verbal cues must be documented as having failed to control the patient prior to the use of physical force.<sup>8</sup>

Verbal de-escalation can be successful only when the provider:

- "validates" the patient's feelings by verbalizing the behaviors the patient is exhibiting, and attempting to help the patient recognize these behaviors as being threatening
- openly communicates, explaining everything that has occurred, everything that will occur, and why the imminent actions are required
- respects the patient's personal space (such as asking for permission to touch the patient, take a pulse, examine the patient, etcetera).<sup>10</sup>

Unfortunately, these verbal de-escalation techniques are unlikely to be successful with patients on PCP, patients in DTs, or any other significantly confused or intoxicated patients.<sup>10</sup>

**After failure of verbal control, the next step is PHYSICAL CONTROL:**

Physical control also must be performed using the least restrictive means of restraint necessary to meet the patient's immediate and emergent needs.

Arbitrary use of "4 point" restraints (chest and lower limb restraints, both wrists and both ankles restrained - the most restrictive form of physical restraint) may constitute a breach of this requirement. If it can be established that the patient's care could have been safely accomplished while using the lesser-restriction of only 1- or 2- point restraint, the arbitrary use of 4-point restraint may result in successful litigation. Thus, restraint application should be a gradual process, beginning with basic body restraints and one limb restraint, then progressing to include restraint of additional limbs only when the patient demonstrates a need for such increased amounts of restriction. Obviously, there are exceptions to this "gradual process" suggestion. Later we will discuss specific patients and situations that require all-or-less-than 4-point restraint.

**Only "REASONABLE FORCE" may be used when applying physical control:** A general rule for what amount of force is "reasonable" is the use of force equal to, or minimally greater than, the amount of force being exerted by the resisting patient.<sup>7</sup>

Additionally, in order to be "reasonable force," enough providers must be present to insure patient and provider safety during the restraint process prior to applying physical force. Optimally, a minimum of five people should be available to physically control a patient during restraint application: one for each limb, and one for direction and restraint application.<sup>2,11</sup>

Never hesitate to wait - at a safe distance - for adequate assistance, if you don't have enough people to ensure the safety of patient or providers during restraint

application. Injuries resulting from excessive force, insufficient provision of control during restraint, or improperly applied restraints may present a legal liability, and the provider(s) may be sued because of it.<sup>11</sup> Remove all persons from the patient's vicinity (at least ensuring protection of others), and wait for adequate assistance.

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## **DOCUMENTATION OF RESTRAINTS:**

Improper or insufficient documentation of restraint may result in successful litigation against you. When what you "recall" about patient-care delivery and management does not fully correspond with what you documented (often many months or years before), your credibility is discounted.<sup>9</sup>

**When you have restrained a patient, you "*should*" document all of the following:**

1. That an EMERGENCY existed and the NEED FOR TREATMENT was EXPLAINED to the patient.
2. That the PATIENT REFUSED TREATMENT or was UNABLE TO CONSENT TO TREATMENT (such as an unconscious patient).
3. EVIDENCE of the patient's INCOMPETENCE (or inability to refuse treatment).
4. FAILURE of LESS RESTRICTIVE METHODS of RESTRAINT (if conscious, failure of VERBAL ATTEMPTS to convince the incompetent patient to consent to treatment).
5. ASSISTANCE of LAW ENFORCEMENT OFFICIALS with restraint, or ORDERS from MEDICAL CONTROL to restrain the patient, or ADHERENCE TO SYSTEM RESTRAINT PROTOCOLS.
6. That the TREATMENT and/or RESTRAINT was for the PATIENT'S BENEFIT and SAFETY.
7. That the REASONS for RESTRAINT were EXPLAINED TO THE PATIENT.
8. The TYPE of RESTRAINT EMPLOYED (soft, leather, mechanical).
9. The LIMBS RESTRAINED (bilateral wrists, wrist and ankles - "four points").
10. Any INJURIES THAT OCCURRED DURING or AFTER RESTRAINT.
11. CIRCULATION CHECKS every 15 (or fewer) MINUTES.<sup>2, 8, 11</sup>
12. The BEHAVIOR and/or MENTAL STATUS of PATIENT AFTER RESTRAINT.



Certainly, not every restraint situation requires such extensive documentation. I routinely document only those points numbered 2, 3, 5, 7, 8, 9, 10, and 11. They represent the basic minimum of restraint documentation needs. However, we are all familiar with the litigious nature of today's society. Whenever you have restrained someone who strikes you as having a litigious nature, or when the bystanders or family members strike you as having a litigious nature, the more of these points that you document, the more protected you will be by your documentation.

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## **Section II: Techniques for Physical Restraint of Patients:**

### **SAFETY BELT USE:**

Safety belts used only as "safety belts" do not need to be specifically documented because they are an "industry standard" safety precaution. If you DO NOT have them in place, however, and an accident results in additional patient injury (injury that would not have occurred had the safety belts been in use), you may be liable for a charge of **NEGLIGENCE**. When safety belts are used as "restraints," they should be documented as restraints.

**PRONE POSITIONING IS CONTRAINDICATED FOR THE TRANSPORT OF ANY PATIENTS** (with the exception of bizarre situations involving impaled objects or the like!): This will be explained in more detail later. Certainly, no patient should ever be restrained in a prone position.

### **EFFECTIVE PRAM\* SAFETY BELT "RESTRAINT" POSITIONING RULES**

\* Author's note: "pram" is my term for the wheeled-stretcher (or bed) of the ambulance. The terms "cot" and "gurney" are synonymous with the term "pram."

To restrain any patient using any proven device or technique, only appropriate use of that device or technique will result in safe and effective restraint. For my technique, here are the basic rules:

**RULE #1:** Employ the pram "safety belts" as restraints before restraining a patient's limbs to the pram. This minimizes the amount of force required to

safely apply limb restraints, minimizing the risk of patient or provider injury during the restraint process.

As our industry progresses, more and more "new contraptions" are developed to meet the needs of providers and patients. The use of a **harness system** of pram safety belts (straps over each shoulder, connecting with a center belt at the waist) is becoming more and more widespread. Indeed, it may eventually become an industry standard. This is because a harness system clearly represents a more effective method of patient protection in the event of an accident during transportation. Unfortunately, harness systems are not designed for use as patient restraints. If snugged tight enough to produce chest "restraint," harness systems can cause chest or abdominal injury, and may significantly impede a patient's respiratory effort, becoming a health-care-provider-induced life-threat! Thus, when using a harness system, an extra "chest restraint belt" must be available for when chest restraint is required. This extra belt can be kept buckled behind the adjustable torso-section of the pram, keeping it out of the way during transports not requiring restraint.

**RULE #2:** For safety belts to be used as safe and effective restraints, it is vitally important that they are attached to the pram in an area where they can easily be moved, easily slid along the pram's frame, enabling their positioning to be adjusted to each patient's particular body length. If their placement cannot be easily adjusted, their use as safe and effective restraints becomes compromised. Compromised restraints are always poor restraints - often even injurious restraints! Unfortunately, the newest (heavy-duty) pram styles - such as **Stryker's "Rugged"**<sup>(tm)</sup> or **Ferno's "35-A+ Mobile Transporter"**<sup>(tm)</sup> are designed in a manner that provides little-to-no room for adjustment of restraint-belt attachment, both above and below the patient's waist.\*\* Providers who work with these prams will have to develop alternative methods of appropriately placed chest and lower body restraints. Perhaps they could use silver duct tape (running it around, and around the patient and the pram frame), or the like. At this writing, I haven't had opportunities to "play" with these prams, so I'm not sure of potential options.

\*\* Since hearing my presentation, the Stryker company has made some frame modifications that improved the versatility of the Rugged's restraint-belt anchor sites. Although still not as versatile as standard prams, the Rugged is far better than Ferno's heavy-duty pram.

At any rate, to be safely and effectively used for restraints, safety belts must be multiply adjustable. Patients come in all different sizes, and restraint belts must be specifically placed upon a patient's body to be successfully effective, yet still safe.

### **SAFETY BELT POSITIONING AND APPLICATION:**

- **Place the chest restraint belt under, not over, the patient's arms:** Arms are not effectively restrained by over-the-arm belt placement. The patient can easily wiggle one or both shoulders below such belt placement, perhaps even "hanging" himself in the process. Once the patient's shoulders are free, the arms are free and the chest is no longer effectively restrained.
- **The chest restraint belt should be anchored at or above the level of the shoulders, drawn under the patient's arms and engaged as high as possible on the chest:** Slide the anchors of each belt-half high on the pram frame's torso section (at or above the patient's shoulders). Run the belts under each armpit and connect them high on the patient's chest, pulling the belt significantly tight. When placed high on the chest, chest belts can be safely snugged tighter than when placed over the central parts of the chest. Chest belts that are tightened over any portion of the central rib cage can cause respiratory compromise by impeding chest expansion! But, anchored above the axillary (armpit) areas, a tightened chest restraint allows for comfortable and effective chest expansion, minimizing potential for chest injury or discomfort.
- **Do not use abdominal safety belts as restraints:** A belt placed snugly across the abdomen provides a potential point of leverage, increasing the patient's ability to strain against and loosen the chest restraint belt. Additionally, a tightened abdominal belt may cause soft tissue or internal organ injury, or even interfere with important diaphragmatic respiratory assistance.
- **The lower limb restraint belt must be anchored and engaged immediately above the patient's knee:** This means that the belt attachments must be mobile and easily slid to a position directly parallel to the area above the patient's knee. "Fudging," by allowing the belt attachments to remain anchored at or below the patient's knee, but connecting and pulling them tight above the knee, does not work! Any patient movement allows such a poorly-anchored belt to move, allowing it to slip below the knee. Below-the-knee restraint is ineffective and easily escaped from. All the patient has to do is laterally rotate his leg and flex at the knee to escape from such a belt anchor position.

Additionally, when a "restraint" belt is engaged immediately on top of the patient's knees, pain or injury will occur when it is pulled tight. Neither of these aspects are conducive to increasing your patient's compliance with treatment.

**FYI:** Even "safety belts" used for routine transportation are ineffective if engaged below the patient's knees. Unless anchored above the patient's knees, a safety belt will fail to contain the patient during a rollover or violent accident. The patient's knees are allowed to flex, and his legs will simply slip and fall out of such a "safety belt." The only safe and effective lower limb "safety belt" or restraint belt is one that is anchored and engaged immediately above the knee. And, with an appropriately anchored and tightly engaged lower limb restraint belt, I rarely have to use ankle restraints.

### **LEATHER RESTRAINTS STINK!:**

- They are bulky and slow to apply.
- They cannot be effectively anchored to afford true "medical restraint" (more on the vital importance of anchoring restraints later).
- They require knowledge of use (untrained persons cannot assist in their application).
- If not periodically cleaned and treated, they become brittle and can break under stress.
- They look more like "bondage" than like a medical procedure (increasing the likelihood of patients or family/friends considering pursuit of litigation).
- They must be of a non-locking variety to facilitate quick release in the event of seizure.<sup>1</sup>

### **MECHANICAL RESTRAINTS (Handcuffs, Ankle Shackles) STINK!**

They pose a serious impediment to thorough examination and performance of treatment, and risk patient injury. Law enforcement officers (and inadequately restraint-trained care providers) may feel that they are occasionally required - but they are NOT. After an officer's initial use of mechanical restraint, a well trained EMS provider may slowly and surely coordinate the patient's transfer into soft-but-secure-and-safe "medical restraints" (restraints that enable the care provider to adequately evaluate and treat the patient, without interference from combative behavior or poorly positioned restraints).

**IF MECHANICAL RESTRAINTS ARE USED AT ANY TIME, NEVER, EVER, ALLOW THE PATIENT TO HAVE HIS HANDS RESTRAINED TOGETHER IN FRONT OF HIS BODY.**

If the patient's wrists are restrained in front, mechanical wrist restraints become a weapon! So, even for the brief period of time that mechanical wrist restraints "must" be used, the patient's hands must be restrained behind his back. Consequently, you cannot position a patient SUPINE when mechanical wrist restraints are used. Such restraints require prone positioning. PRONE POSITIONING WILL MAKE IT IMPOSSIBLE FOR YOU TO MANAGE THE PATIENT'S AIRWAY (should the need acutely arise), AND WILL SIGNIFICANTLY COMPROMISE THE PATIENT'S ABILITY TO BREATHE.

**CIRCULATION CHECKS AFTER RESTRAINTS are MANDATORY.**

Since restraints are applied for "patient safety," restraint circulation impairment can never be "excused." Thankfully, it is entirely unlikely that restraint circulation impairment will actually harm a patient when transport times are short. Nevertheless, it is very poor form to arrive at the emergency department (ED) with your patient sporting bilaterally cyanotic hands and feet because of restraint circulation impairment! If patient transport time exceeds 15 minutes, restraints that become tight enough to impair distal circulation should be loosened as often as necessary - or a non-tightening form, such as a "full knot" or "locked" clove hitch, should subsequently be employed to replace the tightening restraint. Circulation checks should be documented at least every 15 minutes.<sup>8</sup>

**SUDDEN DEATH in PRONE- OR HOBBLE-RESTRAINED PATIENTS DURING EMS TRANSPORT!:**

An article reporting two case studies involving this occurrence was published in *Annals of Emergency Medicine's* May, 1995 issue.<sup>13</sup> "Hobble restraint" ("Hog Tied" restraint) traditionally consists of a person's wrists restrained together behind the back, his ankles tied together, his knees flexed, and then his restrained ankles tied to his restrained wrists. Earliest studies of hobble restraints causing death were limited to law enforcement transport. This *Annals* article, however, focused specifically on paramedic transport of hobbled - and forcefully-prone-restrained - patients, presenting two case studies of Restraint Asphyxia death occurring during paramedic transport. In each study the patient was forcefully restrained in a prone position, with wrists & ankles tightly tied together ("hobbled") behind the back. Each study patient went into cardiopulmonary arrest, but received rapid and aggressive ACLS intervention (initiated enroute to the ED). All prehospital and in-hospital resuscitation efforts failed to revive EITHER of these patients.

Each study patient had non-lethal post-mortem toxicological evidence of drugs or alcohol. Each study patient's autopsy ruled-out all natural and unnatural

causes of death. Each study patient's cause of death was determined to be Restraint-Related Positional Asphyxia. After reviewing all the information, the case studies' authors agreed that the prone "hobble" restraint used during paramedic transportation resulted in positional asphyxia, directly contributing to each patient's death.

**POSITIONAL ASPHYXIA** occurs when a person's body is TRAPPED in a position that prevents their ability to breathe - either due to an essential upper or lower airway obstruction, **OR** due to prevention of chest/abdominal expansion and/or relaxation. It "is important to consider the contribution of the chest wall and abdomen to the process of ventilation."<sup>13</sup> The act of breathing requires the ability to inspire and expire. **INSPIRATION** requires the development of a negative intrathoracic pressure, achieved by rib cage expansion and/or downward contraction of the diaphragm. (Since the diaphragm is the largest muscle of respiration, the diaphragm is the most important respiratory-muscle-function to protect!) **EXPIRATION** requires the development of a positive intrathoracic pressure, achieved by chest wall and diaphragmatic relaxation. In positional asphyxia deaths unrelated to restraints, unconsciousness due to acute alcohol intoxication is the most frequent explanation of the victim's inability to escape from the asphyxiating position.<sup>4</sup>

**RESTRAINT ASPHYXIA** (also called, "Restraint-Related Positional Asphyxia") occurs when **RESTRAINT** is responsible for an individual being TRAPPED in a position that interferes with their ability to breathe. Restraint Asphyxia is most often caused by forceful-**PRONE**-restraint. However, Restraint Asphyxia has incorrectly been most often considered to be associated with hobble restraint. If hobble restraint is achieved without the use of forceful-prone-restraint to apply the hobble, and the hobble restrained individual is kept on his **SIDE** (leaving his diaphragm free to "breathe"), Restraint Asphyxia will not occur!

Forceful-prone-restraint "physically interferes with diaphragmatic motion by restricting downward displacement of the abdominal contents"<sup>13</sup> - significantly restricting inspiration. **FORCEFUL PRONE POSITIONING:** With restraint belts tightened across the posterior chest and mid-thigh, prone positioning is equally as lethal a situation as the use of hobble restraints. Indeed, Restraint Asphyxia deaths have occurred solely from prone positioning, even with short transport times.<sup>14</sup> When a patient is restrained prone, his abdomen is impeded from assisting respirations. When such abdominal impedance is compounded by "safety belts" tightened across the posterior chest and thighs, positional asphyxia can easily occur.

One group of researchers write, "Considering this physiologic information, methods to avoid possible (positional) asphyxia should include placing a restrained individual in the lateral or supine position rather than in the prone position. When hobble-type techniques are used, there should be slack in the restraints to allow for ventilatory motion of the chest wall muscles."<sup>13</sup>

Unfortunately, these researchers are clueless when it comes to providing safe and effective restraint. "Slack" restraints, or laterally-positioned-patient restraints, are completely ineffective restraints for *medical purposes!* Slack restraints allow the patient freedom to interfere with examination, evaluation, and treatment. They also allow an increased risk of patient injury, increased risk of provider injury, and an increased risk of successful litigation.

### **SO, WHAT SHOULD WE USE FOR PATIENT RESTRAINT?!?!**

**ROLLER GAUZE!!!** A thick-yet-strong version of roller gauze (such as 6-ply versions of **KERLIX**<sup>(tm)</sup> or **KLING**<sup>(tm)</sup>) will effectively and safely restrain any sort of patient, but **ONLY IF IT IS APPLIED AND ANCHORED CORRECTLY.**

**FIRST, do not cut the roll into two pieces!** "Saving money" is not as important as providing effective and safe restraint. When you cut the roll in half (in an effort to use one roll for two restraints), you diminish the strength of soft roller gauze restraint by 50 percent. Additionally, when used only in single-thickness, roller gauze compacts and becomes abrasive. Although single-thickness might be strong enough to secure small pediatric or geriatric patients, the abrasiveness will result in unsightly and painful skin abrasions. Do you really want to deliver bloody-wristed patients to the ED?

Use the entire 6-ply roll, **DOUBLED**, so that you have a 12-ply, non-abrasive restraint.

**SECONDLY, the roller gauze restraint (or any type of restraint) must be appropriately anchored before it will be effective restraint.** We'll discuss appropriate anchoring later.

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### **ANCHORING RESTRAINTS:**

How restraints are anchored is vitally important to **EFFECTIVE** and **SAFE** patient restraint. **There is a significant distinction between whether a limb is "tied up," or whether a limb is effectively, "medically restrained."** A limb that is merely "tied up" is one that still has - even a "minor" - amount of

mobility. A limb that is "tied up" to a bar is a limb that can move - sliding up or down along the bar.

When "tied up" with even a minor amount of slack between the knot at the patient's limb and the knot at the site of anchor, the limb:

- can move away from the anchor and toward a care-provider
- can move toward the patient's body and away from the care-provider
- can allow the patient to injure her/himself by striking the limb against the site of anchor
- will require the care-provider to struggle and employ force in order to obtain the immobilization required for procedures such as IV access in that arm.

**A "medically restrained" limb is one that is prevented from *any* type of movement whatsoever** - one that is prevented from interfering (in any manner) with medical evaluation and treatment. It is mandatory that there be no "play" between the restrained limb and the point of anchor. If even an inch or two are "loose," the patient can move the limb, can continue to interfere with care procedures, and may additionally pose a risk of self injury (an injury that may be considered the health-care-provider's "fault"). Additionally, if the IV limb is not adequately immobilized by effectively anchored restraint, limb movement will likely result in multiple IV attempts (needle sticks), further aggravating the patient (and the provider).

**APPROPRIATE ANCHOR SITES FOR RESTRAINTS ARE THE "T-JUNCTIONS" or "T-JOINTS" OF THE PRAM / COT / GURNEY / WHEELED STRETCHER:**

A "T-joint" is any place where two bars connect and form a "T." By anchoring the restraint directly to a T-junction, the restraint anchor cannot slide back or forth, up or down, in or out. When a fully-extended limb is immediately secured to a T-junction, it cannot move. If a T-junction is slightly *within* the flexion range of the patient's limb, the patient can still move the limb. Thus, the next T-junction, distal to the patient's wrist, should be employed for restraint anchor. When a T-junction slightly beyond the full extension of the patient's limb is used, simply traction the restrained limb and anchor it at the distal T-junction. This will prevent the patient from moving that limb up or down, back or forth, in or out. The only truly and effectively, medically restrained limb is one that *cannot move* - one that cannot interfere with evaluation or treatment procedures.



The thickness of leather restraint anchor straps make effective pram anchoring entirely unlikely. It is almost impossible to securely snug a leather-restrained limb to a single point. Mechanical restraints (handcuffs or ankle shackles) are also almost impossible to securely anchor in a medically-restrained manner. Either of these types of restraint will allow the patient plenty of "play" with which to harm her/himself or to interfere with care.

**SPECIAL NOTE: DO NOT ANCHOR SOFT ROLLER GAUZE RESTRAINTS TO SHARP METAL.** Obviously, a patient could saw through the soft roller gauze if given enough time, enough determination, and a sharp edge.

**LONG BACK BOARDS** have plenty of anchor sites that are smooth and can provide secure (usually distal to the full limb extension) restraint anchor sites. **SCOOP STRETCHERS** are okay, but beware of sharp edges. The pram usually has a large variety of smooth T-joint sites to effectively anchor restraints to. Yet, if a long back board is used, the patient will not require freedom from the prehospital restraints before fully transferring care to the ED.

### **"CHARLY MILLER'S CROTCH RESTRAINT TECHNIQUE:"**

Picture this scenario: Your patient requires restraint but is in a location that prevents safe access with your pram or a long back board. Perhaps the terrain is filled with debris or can only be reached by traversing an incredibly uneven surface. Perhaps the physical structure of the scene prevents your access with a pram or long back board. Whatever the reason, you must safely bring your patient out to a location that allows utilization of your pram or long back board. Carrying a manually-restrained patient across dangerous terrain (even when you have one-person-per-limb) is risky, potentially harmful to either the patient or the care providers. Thankfully, the patient's body can provide temporary restraint anchor sites.

- Pass a doubled length of roller gauze around the patient's left leg. (It actually doesn't matter which leg you begin with - right or left.) Using a sawing motion, slide the doubled gauze high up into the patient's crotch. After ensuring that the length is centered, tie a full knot at the outside of the leg - be sure to snug the restraint tightly about the patient's leg before tying off the knot. (The patient will likely continue to struggle. If any "play" is allowed, the male patient may snag his own testicle!)
- Bring the patient's left wrist to the left leg's knot and use the "tails" to tie another full knot, snugly around the patient's wrist.
- Repeat the above with the patient's right leg and wrist.

- If the patient is divinely inspired to be combative, consider tying the patient's ankles together.

Now the patient's arms have been secured to each corresponding leg and have become "handles" for safe, controlled, and relatively painless transportation. If the patient's ankles were tied together, you have a third "handle" to use for carrying the patient safely.

This restraint technique of a combative or resistive patient is only designed to be **temporary**. Neither arm is completely prevented from movement, thus IV access is not controlled with this technique. Additionally, circulatory impairment may occur if this restraint method remains in use for a prolonged period of time. Once safe transit to a pram or backboard has been accomplished, full and effective soft safety bracelet restraint techniques should be employed.

For cardiac arrest patients, however, the crotch restraint method may be employed (with less snugging) and left in place. This keeps the patient's arms extended (allowing IVs to continue running) and out of the way, and is especially handy for transfer of the patient to the ED's bed.

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## **PATIENT COMMUNICATION TERMINOLOGY RELATED TO RESTRAINTS:**

The decision to use restraints should be entirely **based upon the patient's needs**. If restraint is needed, it should be employed without hesitation. But, first you must **INFORM** the patient as to the need for, and manner of restraint that will be used.

Avoid uttering negative- or punitive-sounding terms or phrases such as "**restraint**," "**tie you up**," "**tie you down**," and the like. These terms and phrases only serve to threaten, irritate, and agitate people. We certainly don't need patients to become more irritated or agitated than they already are!

Instead, use the terms, "**safe**," "**secure**," and "**comfortable**" as often as possible when referring to the need for and application of restraints. Feel free to use my phrase, "**SOFT SAFETY BRACELETS**," when referring to soft roller gauze restraints!

- "Here's your soft safety bracelet for your right hand."

- "This soft safety bracelet will secure you, keep you safe, and help us all feel more comfortable."
- "Let's bring your hand up behind your head and secure it with a soft safety bracelet, so that you'll be safe and feel more comfortable."
- "For your safety, I'm going to secure your right hand with this soft safety bracelet"

### **And so on....**

Lastly, the topic of restraint should *never be used as a threat*. If a patient requires involuntary treatment, "threatening" them with restraint in the false belief that you can "bargain" them into cooperating (and avoid restraint) is not only inappropriate, it's completely ineffective. Patients who are incompetent to refuse treatment cannot be anticipated to "bargain" competently. Bargaining only leads to arguments and aggravation.

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### **A "COOPERATIVE" PATIENT WILL COOPERATE WITH RESTRAINTS!**

If you're uncomfortable with any patient, even one that hasn't been actively "combative," the patient requires restraint. If you reasonably anticipate a patient becoming combative (secondary to being stuck with a needle, for example), you have the right and the duty to provide the patient, and everyone else involved, with the "security" of patient restraint. Remember that a threat to "third parties" (verbal or physical) constitutes a "state" reason for restraint.<sup>2</sup> Since you can also be considered a "third party," you also have a right to safety.

Simply advise the patient that you're uncomfortable with her/him being without "soft safety bracelets," that you're fearful she/he may hurt themselves or others - even though she/he may not mean to do so.

"Oh! I'll cooperate! You don't need to tie me up!" That's bargaining, and cannot be accepted or relied upon.

A cooperative patient will understand your concern and cooperate with soft safety bracelets. Additionally, a cooperative patient frequently needs only minimal restraint: chest, lower limb, and unilateral wrist restraint. If the patient subsequently demonstrates the need for additional restraint (the other wrist), it can be safely applied with a minimum of struggle.

Since A COOPERATIVE PATIENT WILL COOPERATE WITH RESTRAINTS - a patient who doesn't want to cooperate with restraints must be considered to be "UNCOOPERATIVE!" If the patient becomes combative secondary to your desire to secure her/him, then YOU WERE RIGHT TO FEEL UNCOMFORTABLE WITH THIS PATIENT BEING LOOSE! THIS IS NOT A "COOPERATIVE" PATIENT!

**ONCE RESTRAINED, ALWAYS RESTRAINED.**

If at ANY time a patient requires physical restraint, the patient should remain restrained - in some manner - until delivered to the ED! Do NOT allow a patient to bargain with you, or talk you into release of restraints because; "I've calmed down now," or "Hey, I'll cooperate now, you don't need to keep me tied up," "Just let me loose and I'll be good!" Remember, A COOPERATIVE PATIENT WILL COOPERATE WITH RESTRAINTS.

Even a patient who was combative secondary to HYPOGLYCEMIA or a POSTICTAL seizure patient, should remain at least minimally restrained. After the patient receives dextrose - or "recovers" from the postictal phase - and becomes "AAOX3," do not feel as though you must remove all of the restraints. Hypoglycemic patients may rapidly utilize the single dose of dextrose and succumb to hypoglycemia again (becoming combative again). Seizure patients may experience another seizure, followed by another combative postictal phase. And, remember, A COOPERATIVE PATIENT WILL COOPERATE WITH RESTRAINTS.

As YOU feel comfortable, remove the ankle restraints (leaving the lower limb safety belt in place). As YOU feel comfortable, remove the wrist restraint *from the IV arm*. And if that is as much as YOU are comfortable with releasing, then that's fine! ONCE RESTRAINED, ALWAYS RESTRAINED - at least until someone else is responsible for patient and third party safety; then let them make the decision to remove all safety measures.

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**ALLOWANCE OF OPTIONS:**

It is vitally important, and enormously therapeutic, for all patients to be given as many "options" as possible. Giving patients choices and options helps them to begin regaining a sense of self control, a sense of "normalcy." Emergency situations inflict an extremely frightening and threatening sense of "loss of control" upon the patients who experience them. Think about it. If our patients had retained control over themselves, their bodies, their situations, would they have allowed the emergency to occur?! Of course not! By giving the patient

options, assisting the patient to start regaining control over his person, you help the patient to feel better - even help the patient to respond more positively and more rapidly to your care provision. This recognition of the need to "allow options," to restore a patient's sense of self control, however, does NOT CHANGE THE FACT that restraint is GOING TO OCCUR! Once you recognize the need for restraint, restraint must be employed. Restraint application is not a patient "option."

But, as soon as possible, begin to allow patients as much control as YOU are comfortable with allowing.

- When only one wrist restraint is indicated:  
**"I need to make sure you're safe and secured. Which arm would you prefer secured with this soft safety bracelet?"**
- When bilateral wrist restraint is indicated (and spinal immobilization is unnecessary):  
**"I need to make sure you're safe and secured with soft safety bracelets. Would you prefer to be sitting up or lying down?"**

If you are uncomfortable giving your patient such restraint limb or position options, find other options that you can offer. **The "secret" to offering patients options is this; as long as YOU DON'T CARE what the patient chooses, offer them the option.**

- **"Would you care for another blanket?"**
- **"Which arm would you prefer that I use for your IV?"** (Notice that IV access is not an option once you've determined the need for same! The only IV option you may afford your patient is which arm you use.)
- **"Would you like me to open a window so that you'll feel cooler?"**

**And so on....**

The fact that restraint *will occur* does not change. But, to improve the patient's condition and encourage cooperation, the patient should be given as many opportunities as possible to exercise some sense of control over the situation.

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## **RESTRAINED LIMB COMBINATIONS, BEGINNING WITH THE "LEAST RESTRICTIVE" AMOUNT OF RESTRAINT**

All of these combinations occur after the chest and lower limb safety belts have been engaged as restraints! Additionally, all of these combinations assume that the patient has mobility of all four limbs.

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**SINGLE LIMB (WRIST) RESTRAINT:** is indicated for use as

- IV protection for a mildly disoriented patient (postictal seizure or CVA pts.)
- IV protection for a patient anticipated to become mildly disoriented (improvement from unconsciousness!)

Although disoriented patients aren't always "combative," they rarely ever appreciate being stuck with a needle. Thus, non-combative disoriented patients require restraint - at least one wrist. When only one wrist requires restraint, secure *the dominant wrist above the patient's head* (at the central T-junction at the top of the pram). Start your IV in the unrestrained arm. Some providers make the mistake of securing the IV arm's wrist only. It's easy for the patient to use the "loose" arm and pull out the IV. A lot easier than having to sneak the IV arm way up above his head to the restrained wrist! Also, by restraining the dominant wrist up and out of the patient's view (above and behind the head) the patient will be less preoccupied by the restraint ("out of sight, out of mind").

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**BILATERAL WRIST RESTRAINT:** is indicated for use as

- IV protection for a VERY disoriented patient (moderately combative - one who pushes or pulls away from evaluation or care)
- IV protection for a patient anticipated to become VERY disoriented (history of combative response to dextrose as the initial improvement from unconsciousness).
- Restraint for any mildly combative patient.
- Restraint for EVERY intubated patient.

When both wrists are restrained, anchor one above the head (at the central T-junction at the top of the pram), and one below the waist at the patient's side. **This "splitting of the arms" interferes with the patient's ability to use his**

**strong abdominal muscles in an effort to defeat the chest restraint.** The patient's dominant wrist should be placed above the head, with the IV arm's wrist securely tractioned to the thigh area of the pram/board/scoop. When the chest belt and both wrists are secured appropriately, you can immobilize the entire IV arm by simply cupping the patient's elbow with the palm of your hand and hyperextending the patient's arm (pulling it toward you). Remember to use only enough force to immobilize the patient's arm - exerting excessive force becomes painful. Only if a patient is "divinely inspired" to be combative, will you need your partner to maintain shoulder control during IV access.

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**UNILATERAL WRIST/ANKLE RESTRAINT:** is indicated for use as

- Restraint for a disoriented CVA (TIA?) patient (IV protection, patient injury protection)

**RESTRAIN ONLY THE NON-DEFICIT-SIDE LIMBS!** First, it's unnecessary to restrain the side that can't move. Secondly, having the deficit side loose allows for notice of any return of mobility. Having the deficit side loose may also provide some warning of the onset of a seizure: CVA patients who seize frequently begin with a focal-motor seizure of the deficit side. Thus, you can quickly cut loose the restrained arms before the patient has a full-body seizure.

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**ANKLE RESTRAINTS:**

- SHOULD NEVER BE USED ALONE!

What would be the point? Ankle restraints are the last, "most restrictive," part of "4-POINT" restraints (chest and lower limb safety belt restraint, both arms, both ankles = body and all four limbs). After securing the chest and lower safety belts, and after both wrists are restrained, if the patient's efforts to defeat the lower safety belt restraint appear determined, then 4-point restraint is required. **Secure the ankles TOGETHER FIRST.** Then anchor the ankles to the end of the pram/board/scoop at a T-junction.

## **Section III: Special Patients Or Special Restraint Situations:**

**SEIZURES & RESTRAINTS** do NOT go together! If a patient begins to seize, **CUT THE RESTRAINTS LOOSE**. Rapid release from restraint is incredibly hard to accomplish if you're using leather or mechanical restraints - isn't it?!?!

Seizures produce violent muscular contractions that can fracture bones even when restraints are not being employed. If a restrained patient seizes, and the restraints remain in place, and the patient fractures something, **THE RESTRAINER MAY BE CONSIDERED RESPONSIBLE FOR THE FRACTURE!**

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**PEDIATRIC PATIENTS:** Tying up little kids seems like something right out of a horror film (or akin to child abuse). Emergencies are frightening enough without having to compound the experience with "bondage." However, at times, pediatric patients will require restraints to facilitate safe medical care. The most important thing to remember when restraining children is, "DON'T BE A "TROLL!"

Consider the situation from the child's point of view, and address the child's concerns!<sup>15</sup>

- A child's psychological well-being is just as much (if not more) dependent upon a sense of **PERSONAL CONTROL** as an adult's. Allow the child as much freedom as you can without compromising the child's medical needs. If a child requires an **IV**, it is entirely likely that the child requires at least one soft safety bracelet - on the non-IV arm.
- **DON'T USE BABY TALK!** Even before they develop the coordination to produce adult-like patterns of speech, children develop an understanding of the words they hear and the tones of voice others use to speak. If you address a child with respect and as a **PERSON** (rather than as a "baby"), the child will be more likely to respond to you favorably. If you talk "baby talk" to the toddler, then speak normally to those around you, the toddler will feel "demeaned" - even though she/he may not be able to verbalize an understanding of that feeling.
- If the parent present has her-/himself under control, **ASK THE CHILD** if he would like that parent to remain with him (but not within the parent's



- hearing - allow the child the opportunity to deny the presence of that parent without repercussion). If the parent present is NOT in control of her-/himself, ask the child, "Would you like Mommy/Daddy to meet you at the hospital?" In that way, you can still offer the child a "control" option when YOU have already decided that it would be detrimental to have the parent present during transport.
- NEVER, EVER LIE to a child!!! Once a child has been lied to by a health professional, that child will consider all subsequently encountered health professionals to be liars - for the rest of his life!! If something is going to hurt, admit it! Provide assurance (if true) that the hurt will be brief, but that the procedure is "VERY IMPORTANT." Providing DETAILED EXPLANATION of everything that will occur - before it occurs - is often reassuring. Never underestimate a child's ability to understand seemingly "complex" procedures.
  - USE A Kendrick Extrication Device (KED). Unless you carry a "papoose board," a KED is a perfect small-child restraint device. When you use it for child restraint, leave the child's arms outside the device, and allow them to remain free if at all possible. If not, try securing the dominant arm only. If both arms must be secured to obtain IV access, release at least the IV arm after the IV is secured. DO NOT SECURE THE KED TOO TIGHTLY AROUND THE CHEST! Chest restraint must not interfere with chest expansion.
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**SEVERELY DEVELOPMENTALLY DISABLED patients,  
PATIENTS ON PCP, or**

**PATIENTS EXPERIENCING METHAMPHETAMINE PSYCHOSIS:**

When combative, these types of patients are incredibly strong and pose a serious danger to themselves and care-providers! When a "normal" person exerts his muscles, the point at which he can no longer exert the muscle is the point at which a PAIN response is felt. One of the effects of PCP overdose or methamphetamine psychosis is a LOSS OF PAIN RESPONSE. This is why such patients can exhibit "superhuman" strength, seriously injure care providers who have less than an "army" present to control them, and even fracture their own bones once restrained. Similarly, severely developmentally disabled patients also frequently have NO PAIN RESPONSE. They feel a "stimulus" when pain is experienced, but they do not perceive the stimulus as "pain." They may even "entertain" themselves by self-mutilating acts such as peeling their cuticles down the length of their fingers, or banging their heads against brick walls. Because PCP users, patients experiencing methamphetamine psychosis,

and severely developmentally disabled patients lack a pain response, they are *extremely dangerous when combative*, and present a lethal hazard to EMS providers!

To "safely" restrain such patients, you must first have a small army available for safe manual restraint. If you do not have five or more people to help you control the patient, leave the patient alone! Remove all third parties from the patient's immediate vicinity and wait for additional assistance to arrive before approaching the patient. Once five or more team members are present, one person should "call the shots" and coordinate a safe and controlled take-down of the patient, subsequently coordinating application of chest and lower limb restraint belts, then double-strength soft safety bracelets. Again, appropriate anchoring is vitally important to the success of restraint.

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**PREGNANT WOMEN:** Why would you EVER need to restrain a pregnant woman?! For all the SAME REASONS you would need to restrain any other patient - that's why. With pregnant women, however, remember the SUPINE HYPOTENSIVE SYNDROME that can be caused by placing them flat on their backs. When a pregnant patient is placed in a supine position, the weight of her gravid uterus can compress the inferior vena cava and impede venous return to the heart. This causes hypotension and can threaten fetal perfusion. As with ANY transportation of a pregnant patient, keep the restrained pregnant patient's weight on her left side by counseling her to stay on her left hip.

If four-point restraints are required for a pregnant woman (one who will not cooperate with staying on her left side), restrain the chest and wrists as you normally would, BUT RESTRAIN THE ANKLES SEPARATELY, AT OPPOSITE CORNERS OF THE PRAM. This means that the left ankle is restrained to the right corner of the pram, and the right ankle is restrained to the left corner of the pram. Remember to place the lower safety belt over her legs, just above the knees. This positioning will "encourage" the patient to keep her weight on her left hip and help avoid supine hypotensive syndrome.

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**MALE vs. FEMALE PATIENTS AND RESTRAINTS:** Is there a difference? I have absolutely no research studies to cite. To my knowledge, no one has ever done a study of gender differences in combativeness, or restraint success or failure. However, having worked for many years at a state psychiatric facility (prior to my EMS training), I have a LOT of personal

experience in restraining violent men and women. It is my opinion that severely combative women are much more dangerous than combative men!

If you gather a small army and physically restrain a severely combative man, once manually restrained, he usually stops fighting. After he is placed in restraints, he'll often spend some time "testing" the restraints, but will eventually give up the struggle. Angry, severely combative women, however, will never stop trying to hurt you!

When restraining a WOMAN anticipate that she will continue trying to injure you in any way possible, no matter how many people are holding her down! She will continue trying to scratch you with a free fingernail, or bite you, or knee you, or injure you in any way possible - until HELL FREEZES OVER. This includes after she has been securely restrained with chest and thigh belts, and 4-point soft safety bracelets.

Again, this opinion is based only upon my personal observation and experience, but I believe it to be true. (Remember that, I'M A WOMAN, so don't get all up in arms about my opinion being sexist.) Watch out for combative women, they will hurt you!

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**RELEASE FROM RESTRAINTS:** If a patient was combative prior to restraints, THE RESTRAINTS SHOULD STAY ON UNTIL THE PATIENT HAS BEEN TRANSFERRED TO THE RECEIVING FACILITY!!! Do not allow "bargaining" - the safety of you and your patient is not up for debate. The only exception is the onset of seizures. If the patient seizes, CUT THE RESTRAINTS (good luck getting leather or mechanical restraints off quickly). Stop the ambulance and have your partner assist you with the care of the patient. Once the seizure has stopped, replace the restraints - unless you are dealing with STATUS seizures; then use PHARMACOLOGIC restraints, simultaneously treating the seizures.

If the patient was restrained because of confusion or anticipated combativeness (hypoglycemia, TIA, postictal states), the number of restraints may be reduced once the confusion is corrected. But some restraint (at least one wrist) still should be continued. Anyone who was combative because of hypoglycemia may become hypoglycemic (and combative) again. Combative postictal patients may have another seizure (become combatively postictal again). Combative TIA patients may have another TIA. And so on. If you remove all

restraint and the patient's combativeness returns, you've endangered yourself and your patient.

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## **Section IV: Spinal Immobilization Of Combative Patients:**

Combative patients who require spinal immobilization present a special challenge to emergency care providers. As a matter of fact, *they require a Spinal-Immobilization-Protocol all of their own!* Unfortunately, to date, NO ONE has researched and substantiated a protocol for the safe and medically appropriate method of spinally immobilizing a combative patient. What follows are my personal opinions and observations about this subject. *I do not have any medical research to base these upon!* They are developed solely from my personal experience, and my understanding of the kinetic forces involved with combative patients.

To a great extent, patients are responsible for assisting with - cooperating with - their own care. This basic assumption underlies the vast majority of emergency care protocols. However, when altered levels of consciousness (secondary to trauma or acute medical causes) impede a patient's ability to cooperate with appropriate, "standard," care procedures, *altered protocol procedures* must be employed. Patients are people. Their individual needs don't always follow "standard" protocols. As emergency care providers, our basic, universal goal is to provide the best, most appropriate, care and protection for each individual patient, without further injuring the patient or endangering others.

**My Protocol For Spinal Immobilization of Combative Patients** is based upon the following:

1. standard, historical spinal immobilization protocols (designed for cooperative patients)
2. common sense anticipation of stresses involved with combativeness and the application of standard spinal immobilization protocols
3. *altered* spinal immobilization protocol approaches anticipated to provide the best possible patient care and protection when the patient is combative and resistant to treatment.

Before any care or control can be safely initiated, enough providers must be present. At least FIVE or more people are required to safely control and treat

*any* combative patient - especially one requiring spinal immobilization. That's one provider per limb/major-body-section, and one provider to obtain and apply restraints/immobilization devices. (Prior to the accumulation of such a "small army" of providers, keep care providers and third parties away from the combative, probably spine-injured patient, to ensure their safety.)

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**RULE #1: GO TO GROUND AND STAY THERE!** Providers must act simultaneously, as a team, and control the "take-down" of the patient so that a minimum of additional injury is risked. Get the patient on the ground and keep him there. As soon as possible, make sure that the patient is placed supine (see positional asphyxia information in SECTION II).

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**RULE #2: AVOID WRESTLING WITH THE PATIENT'S HEAD!** If the mechanism of injury suggests potential cervical spine (C-spine) injury, you must assume that C-spine injury exists. In my opinion, following the "standard" spinal immobilization protocol of immediately controlling (immobilizing/restraining) the patient's head and C-spine when the patient is physically resistive to immobilization increases the risk of neurologic compromise should C-spine injury actually exist. Attempts to manually restrain a patient's head against his will - wrestling with the patient's head - significantly increases the stresses upon the patient's C-spine. I suggest that, leaving the combative patient's head alone causes less cervical spine stress and less risk of increased injury.

As soon as a patient evidences strong (combative) physical resistance to C-spine control, such control should be *discontinued*. Then, immediately employ these three simple, specific *verbal cues*:

1. "Please stop moving your head."
2. "You probably have a neck injury from the force of that accident."
3. "If you keep moving your head you may become paralyzed or even die."

Continue repeating these three verbal cues throughout the remaining steps of immobilization. No, these verbal cues probably won't work - remember, these patients have an altered level of consciousness and are unlikely to understand or follow cues. But these cues sound a lot better on video tape than yelling, "**Stop moving your head!**" and the like (or worse). Avoid arguing with the

patient. Simply keep repeating the three magic cues, and carry on with patient care.

If head-banging ensues, provide padding around the patient's head. A blanket or "head bed" will eventually be needed for spinal immobilization anyway.

If the patient attempts to bite or injure others with her/his head, then you will be forced to restrain the patient's head to prevent injury of others. Although in-line cervical spine "traction" was discontinued years ago, it is probably the best, most effective way to restrain a combative patient's head and still protect her/his C-spine. Anchor your fingers around the patient's jaws and apply slight in-line, axial traction. ***Avoid hyperextension*** and apply ***only enough in-line traction to prevent biting and head-butting***. Once this sort of in-line traction is applied, however, it must be manually continued, without pause, until the patient is completely immobilized and no longer combative!

Likewise, do not attempt to wrestle a cervical collar onto a combative patient. Since any cervical collar (C-collar) provides little (true) immobilization, one may or may not be applied after the patient is better controlled.

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**SPECIAL NOTE:** Once the patient is manually restrained, if you have the ability to administer a chemical restraint, you may consider doing so. Unfortunately, you'll have to inject it intramuscularly (IM), because you don't have an IV established and are unlikely to establish one until after the patient is completely restrained and immobilized. Thus, the amount of time before onset of IM injected chemical restraint will be lengthy in most cases. Additionally, I do not advocate the use of chemical restraint prior to complete examination and thorough evaluation of the patient's injuries and medical condition (especially when the patient's problem may be related to toxic or poisonous chemicals already present in his system). Thus, I prefer to wait until the patient is restrained, immobilized, examined, and evaluated before introducing any EMS chemicals.

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**RULE #3: BRING THE BACK BOARD TO THE PATIENT!** Remember RULE #1? "Go To Ground And Stay There." That means that the back board must come to the patient. If you attempt to lift and move a combative patient - even when manually restrained by a provider holding each limb and major

body part - you risk dropping the struggling patient, risking further injury to both patient and providers.

In a lovely, level, and clear environment (such as clear streets and highways), it shouldn't be a problem to slide a long back board under a manually restrained patient. Rather than sliding the board in from the side, however (where two or more providers are positioned, restraining the patient), slide the board under the patient from the head-down (or the feet-up).

Unfortunately, uneven terrain or piles of debris will interfere with sliding a board under the patient. In that case, get the board as close to and as level with the patient as possible. Working as a team, all providers must minimally lift and slide the patient onto the board.

Scoop stretchers are rarely helpful in any combative-patient restraint or immobilization situation. First, there's too many bodies on and about the patient to allow for efficient "scooping." Additionally, if attempting to "scoop" a patient who is on uneven or debris-filled terrain, you invariably meet with problems. Either you unevenly scoop-and-stress the patient's spine, or you scoop-up a bunch of debris along with your patient. Use a long back board. It's a good thing.

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**RULE #4: SILVER DUCT TAPE IS YOUR FRIEND!** If applied in correct order and utilizing a specific manner of body-part restraint/immobilization application, silver duct tape can be a very effective, rapid method of securing the combative patient to a spine board. If you don't have silver duct tape, strong (double-folded) versions of **Kerlix**<sup>(r)</sup> or **Kling**<sup>(r)</sup> roller gauze are your next-best friends.

Whatever you use - duct tape or roller gauze - apply the restraint/immobilization material in the following order and manners:

1. **Immediately above the patient's knees:** Attach one end to one side - above the knee - draw it tightly across the patient's legs, and attach the other end to a corresponding site on the other side. By attaching/immobilizing the patient's knees first, you immediately "free" two providers (the ones holding each leg) to assist with rapid application of the remaining restraint/immobilization devices.
2. **"Cross" ("X") the patient's shoulders:** Attach one restraint end to the board immediately above one shoulder, then run it diagonally across the

- very top of the patient's chest to the opposite side, pulling it tightly, and attach it to the board immediately below the opposite armpit. Repeat on the other side. This technique successfully immobilizes the patient's chest to the board by means of an "X" over the shoulders. This technique is specifically designed to avoid interference with chest expansion (respiration).
3. **"Cross" ("X") the patient's hips:** As with the shoulder restraint, begin by attaching the restraining material to one side of the board, at a site above one hip. Then run the restraint diagonally across the pelvis, pulling it tightly before attaching it to the opposite side of the board, about where the femur joins the pelvis. Repeat on the other side.
  4. **Immobilize each wrist:** If the patient is persistently combative, attempting to defeat the shoulder restraints, consider restraining one wrist above the head, the other below the hips. Remember to apply gentle traction of the extended wrist, anchoring the restraint at a point distal to the hand/wrist, so that this limb is "restrained" in an extended position and truly immobilized - not simply "tied up."
  5. **Next, wrap a restraint around the ankles and attach it from side to side over the ankles.**
  6. Now you must decide whether to immobilize the combative patient's head, or to obtain IV access and initiate chemical restraint. If IV chemical restraint is at your disposal, it may be a better choice at this point (thus minimizing the amount of patient resistance to head immobilization, and minimizing the stresses placed upon the patient's unprotected, unsupported C-spine). However, remember that you haven't performed a full examination or evaluation of the patient's injuries or medical condition as yet. Thus, chemical restraint may be equally as deleterious as head immobilization while the patient is still resistive and combative for unknown reasons.
  7. Whatever you do, when you are ready to immobilize the patient's head, use **TAPE** (silver duct tape or white-cloth) **and apply it across the patient's forehead, from side to side, placing it DIRECTLY OVER THE PATIENT'S EYEBROWS!** The eyebrows (the patient's superior orbits) will provide a substantial anchor for keeping the resistant patient's head from moving. This is not a cruel or depilatory manner of immobilization! As long as the tape is torn down the middle and removed by pulling it from the center out (in the direction of eyebrow hair growth), only a very few eyebrow hairs will be removed with the tape.
  8. And, now you may attempt to **slide a C-collar into place - as long as it doesn't require struggle and manipulation of the C-spine to apply it!** If



any struggle or cervical spine manipulation is required to apply a C-collar, you are risking further injury to a patient who is already (for all intents and purposes) fully immobilized.

At this point, your combative, spine-injured patient has been completely immobilized in a manner that has minimized potential for care-provider-caused ("iatrogenic") aggravation of injuries! You may now cut away the patient's clothing, conduct a thorough and unimpeded exam, and perform all necessary care measures.

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## **Section V: Miscellaneous Restraint Techniques:**

**SHEETS AS RESTRAINTS** can be handy if your safety belts are missing, nonfunctional, or the patient is too obese for the belts to safely reach across his chest. First, fully unfold a sheet. With a partner's assistance, each of you take opposite corners and twirl the sheet to wind it up upon itself, forming a fabric "rope," of sorts. Draw the rolled sheet all the way around the patient and pram/board/scoop if possible. If not, securely anchor one side first, then draw it over the patient and pull the rolled sheet tightly across to the other side. Then securely anchor the other end. Placement of sheet restraints is the same as that of belt restraints. Be sure to anchor the sheet in a manner that will prevent it from sliding downward, impeding the patient's ability to breath or allowing the patient mobility of his upper body.

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**SPIT SHIELDS** are difficult to argue as being for "patient safety," but easily defensible as precautionary measures to prevent the spread of communicable diseases (protection of third parties and care providers). However, placing a roll of gauze into someone's mouth constitutes assault, battery, and medical negligence (especially if the patient proceeds to vomit and aspirate). Likewise, covering a patient's face with a sheet or towel impedes your ability to monitor the patency of your patient's airway (especially in the event of emesis).

The 1994 DOT EMT BASIC CURRICULUM suggests "Cover face with surgical mask if spitting on EMT Basics." I find that directive outrageous and criminal! A surgical mask, or other form of paper mask, does not allow you to visualize the collection of sputum or emesis. Thus, the patient may be placed at risk for aspiration.

Additionally, if someone has an "altered level of consciousness" - such as when a patient is combative and spitting - that person ought to be given oxygen!

SHAME ON THE DOT!!!

Every ambulance carries a nonrebreather oxygen mask or a simple oxygen mask. When employed with an appropriate oxygen flow, these devices are easily documented as "administration of oxygen," and will also provide protection from the patient spitting at you. However, never use an oxygen mask (especially a nonrebreather) as a spit shield unless you are simultaneously administering oxygen. To do so will cause hypoxia.

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### **THE SINGLE-HANDED-PROVIDER RESTRAINT APPLICATION**

**TECHNIQUE:** Sometimes, waiting for others to arrive and assist in application of restraints is not an option. In times like this, when you must physically continue restraining a limb while also applying a restraint, use these tips:

- Use your dominant (strongest) hand to restrain one of the patient's limbs.
- If your roller gauze isn't already open and hanging on the bar of your ambulance's patient compartment, open a roller gauze package (OK, with your teeth) and grasp the end of the roll.
- Holding the end, unfurl the roll and then pick up the other end so that you have both ends in your free hand. Now you are holding the ends of a doubled length of roller gauze.
- "Launch" the doubled length of roller gauze into the air, and catch it over the back of your free wrist (palm facing the floor). Scoot your wrist as needed so that it arrives at the middle of the doubled length of roller gauze.
- Reach downward with your free hand, keeping your wrist high, to grasp the lengths on either side of your wrist together.
- Holding onto the two sections, whip the middle of the roll from above your wrist over your hand (or rub it off of your wrist, using your thigh) - thus forming a loop.
- Widen the loop you have just made.
- Slide the loop onto your own (free) wrist.
- Now change hands, by grasping the patient's limb with your roller-gauze-loop-covered hand.
- Quickly slide the restraint ("soft-safety-bracelet"!) from your wrist onto the patient's wrist and snug it down.

- Secure the restrained limb to an appropriate anchor point.
- Check for circulation impairment!

This technique produces a "slip knot" restraint. Thus, if the patient struggles against it, the restraint will become tighter and tighter, potentially impairing circulation and allowing "play" between the wrist and the restraint anchor site. If transport time is short, you may leave the "quick restraints" in place, loosening them slightly upon your arrival at the ED. If transport time will be greater than 15 to 30 minutes, you should re-restrain these limbs using a "locked" clove hitch (as demonstrated in class), a "full knot" restraint (described in the next handout segment), or any other method of tying that prevents restraint tightening. Then cut away the slip-knot, "quick" restraint.

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### **THE "FULL KNOT" METHOD OF LIMB RESTRAINT:**

- Take a doubled length of roller gauze and place it around the patient's wrist, with the wrist at the center of the roller gauze length.
  - Tie a half-knot, tightening the restraint until it cannot be slid off the patient's wrist, but does not occlude distal circulation.
  - Finish the knot by tying another half-knot once the appropriate size is reached - this is a "full" knot.
  - Anchor the full-knotted-restraint at the same T-junction that any other restraint is anchored. (If replacing a slip-knot, be careful to tie this new restraint above or below the slip-knot. If tied on top of the slip-knot, when the old restraint is severed, the full-knot's material will become loose, also loosening the new anchor.)
  - Check for circulation impairment.
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### **THE "LOCKED" CLOVE HITCH RESTRAINT:**

- Using a doubled length of strong roller gauze, assemble a clove hitch. (If you don't know how to do one, find a Boy or Girl Scout and ask them to instruct you!)
- Slide the clove hitch onto the patient's limb and snug it down so that it is tight enough to prevent sliding off of the patient's hand, but not tight enough to impair distal circulation.

- Tie a "half knot" on top of the snugged clove hitch. This will "lock" the clove hitch so that it will not become tighter - in spite of patient struggles to defeat or escape from such a "soft safety bracelet."
- Anchor the locked clove hitch restraint at the same T-junction that any other restraint is anchored. (If replacing a slip-knot, be careful to tie this new restraint above or below the slip-knot. If tied on top of the slip-knot, when the old restraint is severed, the full-knot's material will become loose, also loosening the new anchor.)
- Check distal circulation.

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**TAKE-DOWN TECHNIQUES FOR THE UNCOOPERATIVE AND/OR COMBATIVE PATIENT:** I don't care how much barbell weight you can lift, or how big you are, or how good you were in high school wrestling tournaments; **TWO PROVIDERS (FOUR HANDS) CANNOT SAFELY CONTROL FOUR EXTREMITIES AND A BODY.** There are many different techniques of safely and effectively, physically, controlling a patient - only a few general tips are presented here. If you have not been trained in "take-down" techniques, ask your local Police department or psychiatric care hospital to provide your service with a patient-take-down training session. Whatever methods you are trained in, remember: practice makes perfect! So get together with co-workers and practice these techniques from time to time!!!

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**GENERAL RULES FOR SAFE "TAKE DOWN" METHODS OF PATIENT CONTROL:**

- A minimum of three people (preferably five) are required for a SAFE "take-down" of a truly combative patient. Work as a team.
- **IF ONE PERSON GRABS HOLD OF ONE HAND/WRIST, ANOTHER PERSON SHOULD BE GRABBING THE OTHER HAND/WRIST, SIMULTANEOUSLY!**
- Do not let go of the wrist you are holding until your partner lets go of the other wrist!!! To do so sets your partner up for receiving a "round-house" to the face or other vital organs from the fist at the end of the wrist you should have held on to!
- **DO NOT ATTEMPT TO WRESTLE WITH THE PATIENT WHILE EVERYONE IS STILL STANDING!! TAKE THE PATIENT TO THE GROUND!! DO NOT CONFUSE THIS MANEUVER WITH BODY SLAMMING, HOWEVER!!** Again, work as a team. Everybody must go

to the ground together. Use your body weight to assist and control the descent to avoid injury to yourself or the patient.

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## **ADDITIONAL PHYSICAL RESTRAINT CONSIDERATIONS & TECHNIQUES:**

- A jaw thrust airway maneuver will control the patient's head in an extremely effective manner! Capture the patient's jaws and apply only enough traction to counteract the amount of force the patient is exerting to combatively move his head. Do not employ simultaneous hyperextension of the patient's neck if C-spine injury is suspected. However, if C-spine injury is not indicated by mechanism, hyperextension will further assist in head control.

The biggest advantages to this maneuver are:

1. no threat of airway occlusion
2. no threat of vagal stimulation (as may occur when a patient's head is forcefully turned to one side)
3. minimal threat of bystanders and family members observing this maneuver and perceiving it as being a "cruel" or "excessive force" activity on the part of care providers.

Frequently, this maneuver also preoccupies the patient with his head, diminishing the amount of limb combativeness performed, and making it easier for others to safely control the limbs!

- If used, a "thumb lock" does not have to be constantly painful! Simply maintain control of the patient's thumb, exerting pressure (pain stimulus) only if the patient is resisting your control. **WHEN THE PATIENT IS NOT RESISTING, DISCONTINUE THE PAIN STIMULUS.**
  - An arm/wrist lock: SEE "THUMB LOCK" = SAME STUFF!
  - Remember that patient restraint is **PRIMARILY FOR PATIENT SAFETY**. If you find yourself using restraint as **PUNISHMENT** you need to **GET OUT OF THIS BUSINESS!**
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## **Pocket Card For Restraint Situations**

The following text is intended for reproduction, reduction, and lamination so that care providers who do not have the JEMS EMS Pocket Guide will have a handy, pocket reference for restraint situations and documentation.

### **"QUICK LOOK" for determining patient INCOMPETENCE:**

- any acutely suicidal patient
- any physically/verbally hostile patient
- any intoxicated patient who is injured or ill
- any confused patient
- any developmentally or mentally disabled patient who is injured or ill
- any unconscious patient

### **DOCUMENT:**

- the "emergency" that existed
- that the need for treatment was explained to patient
- that the patient refused treatment or was unable to consent (unconscious)
- evidence of the patient's incompetence to refuse Tx.
- the failure of less restrictive methods
- that the treatment was for the patient's benefit
- that the restraints were for the patient's safety
- that reasons for restraint were explained to the pt.
- the type of restraint used
- the limbs restrained
- any injuries that occurred during restraint
- circulation checks (every 15 min)

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