

Pearls

- This protocol is only for use in patients with an Age > 12 or patients longer than the Broselow-Luten Tape.
- Capnometry (Color) or capnography is mandatory with all methods of intubation. Document results.
- **Continuous capnography (EtCO₂) is strongly recommended for the monitoring of all patients with a BIAD or endotracheal tube.**
- **If an effective airway is being maintained by BVM with continuous pulse oximetry values of > 90, it is acceptable to continue with basic airway measures instead of using a BIAD or Intubation.**
- **For the purposes of this protocol a secure airway is when the patient is receiving appropriate oxygenation and ventilation.**
- **An Intubation Attempt is defined as passing the laryngoscope blade or endotracheal tube past the teeth or inserted into the nasal passage.**
- **Ventilatory rate should be 6-10 per minute to maintain a EtCO₂ of 35-45. Avoid hyperventilation.**
- **It is strongly encouraged to complete an Airway Evaluation Form with any BIAD or Intubation procedure.**
- Paramedics should consider using a BIAD if oral-tracheal intubation is unsuccessful.
- Maintain C-spine immobilization for patients with suspected spinal injury.
- Do not assume hyperventilation is psychogenic - use oxygen, not a paper bag.
- Sellick's and **or BURP** maneuver should be used to assist with difficult intubations.
- Hyperventilation in deteriorating head trauma should only be done to maintain a EtCO₂ of 30-35.
- Gastric tube placement should be considered in all intubated patients if available.
- It is important to secure the endotracheal tube well and consider c-collar to better maintain ETT placement.



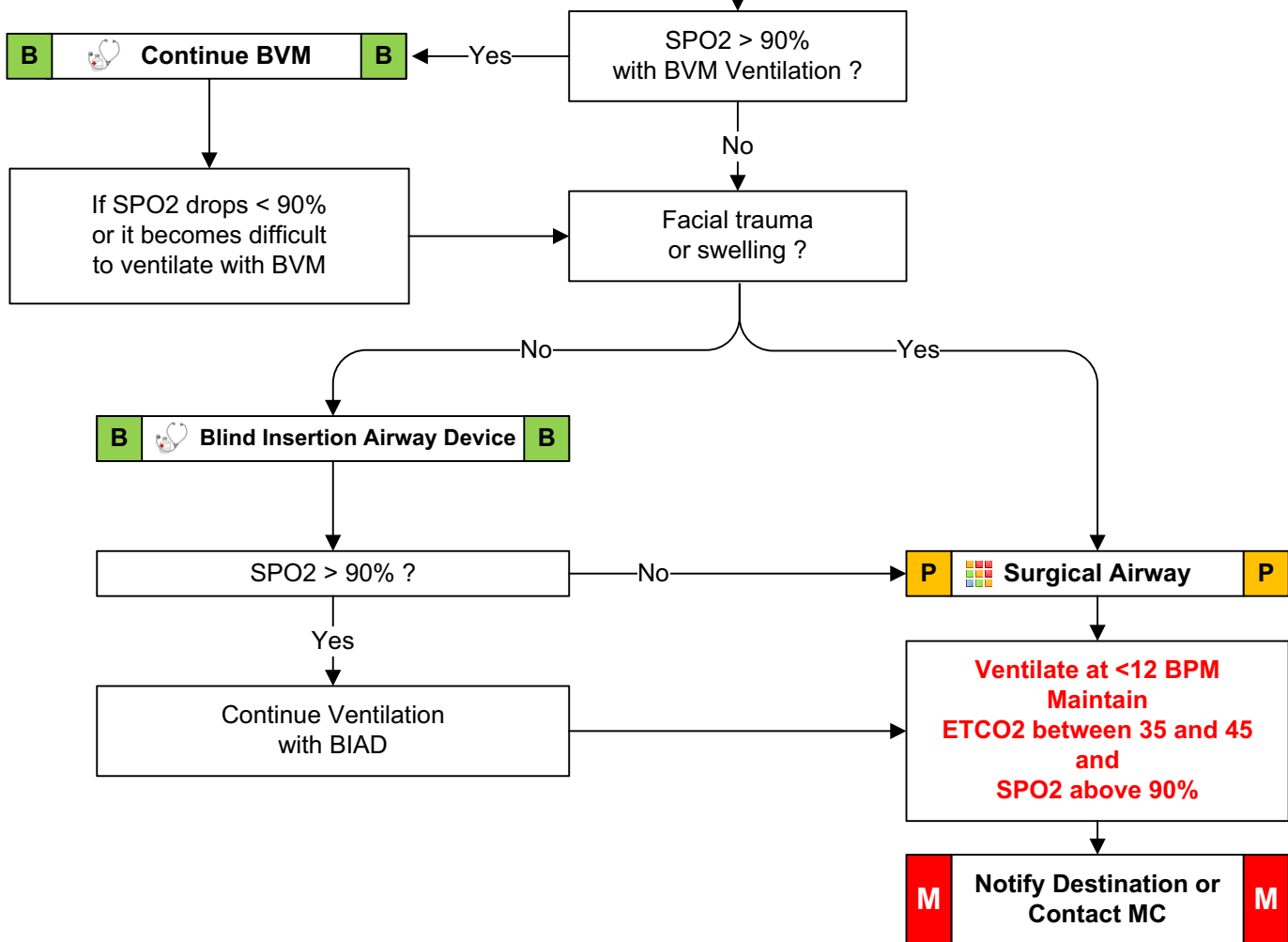
Airway, Adult-Failed



Legend		
	MR	
B	EMT	B
I	EMT- I	I
P	EMT- P	P
M	Medical Control	M

Two (2) failed intubation attempts by most proficient technician on scene or anatomy inconsistent with intubation attempts.

NO MORE THAN THREE (3) ATTEMPTS TOTAL



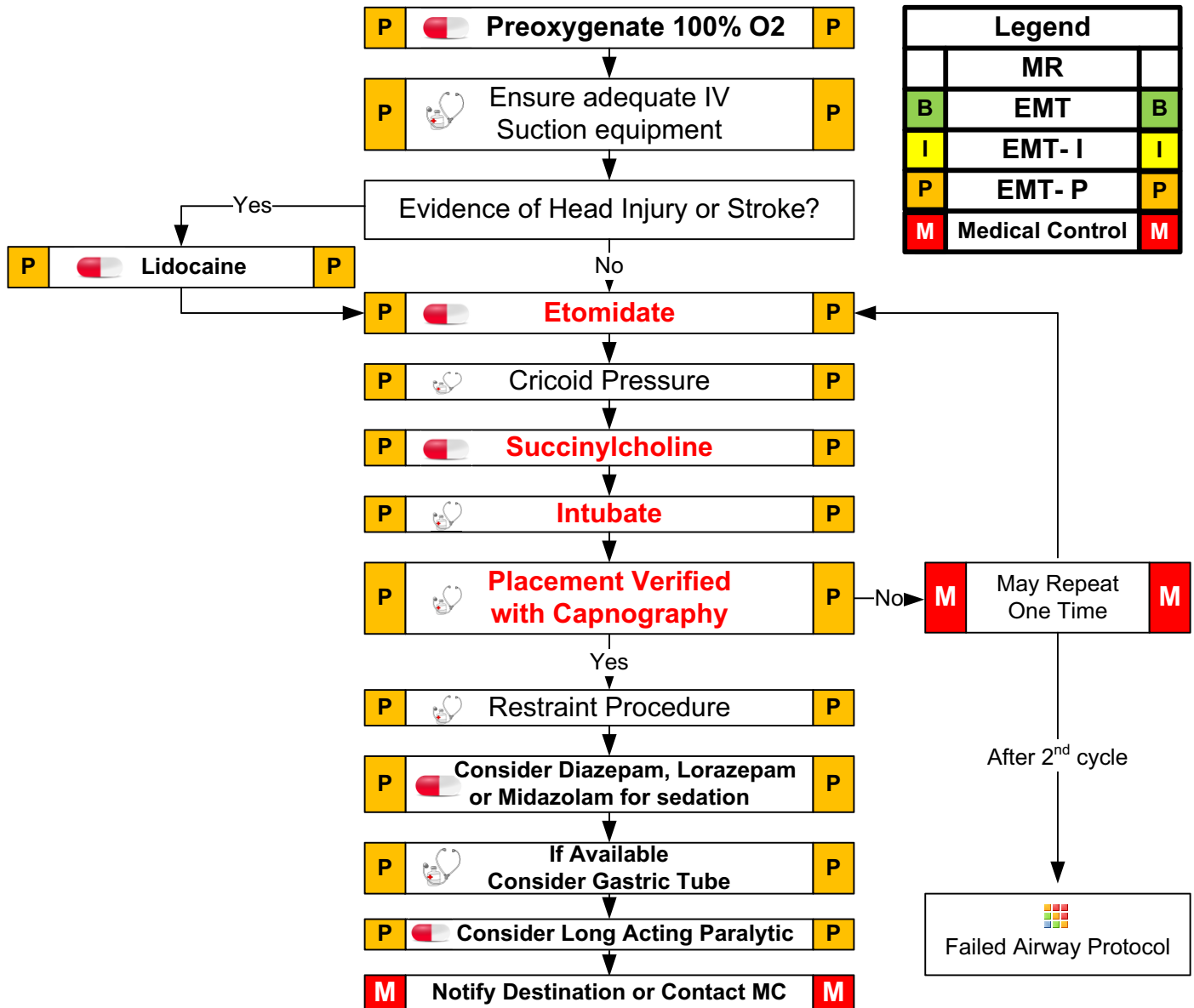
General Protocols

Pearls

- If first intubation attempt fails, make an adjustment and then consider:
 - Different laryngoscope blade
 - Gum Elastic Bougie
 - Different ETT size
 - Change cricoid pressure
 - Apply BURP maneuver (Push trachea Back [posterior], Up, and to patient's Right)
 - Change head positioning
- Continuous pulse oximetry should be utilized in all patients with an inadequate respiratory function.
- Continuous EtCO2 should be applied to all patients with respiratory failure or to all patients with advanced airways.
- Notify **Medical Control AS EARLY AS POSSIBLE** about the patient's difficult / failed airway.



Airway, Drug Assisted Intubation



General Protocols

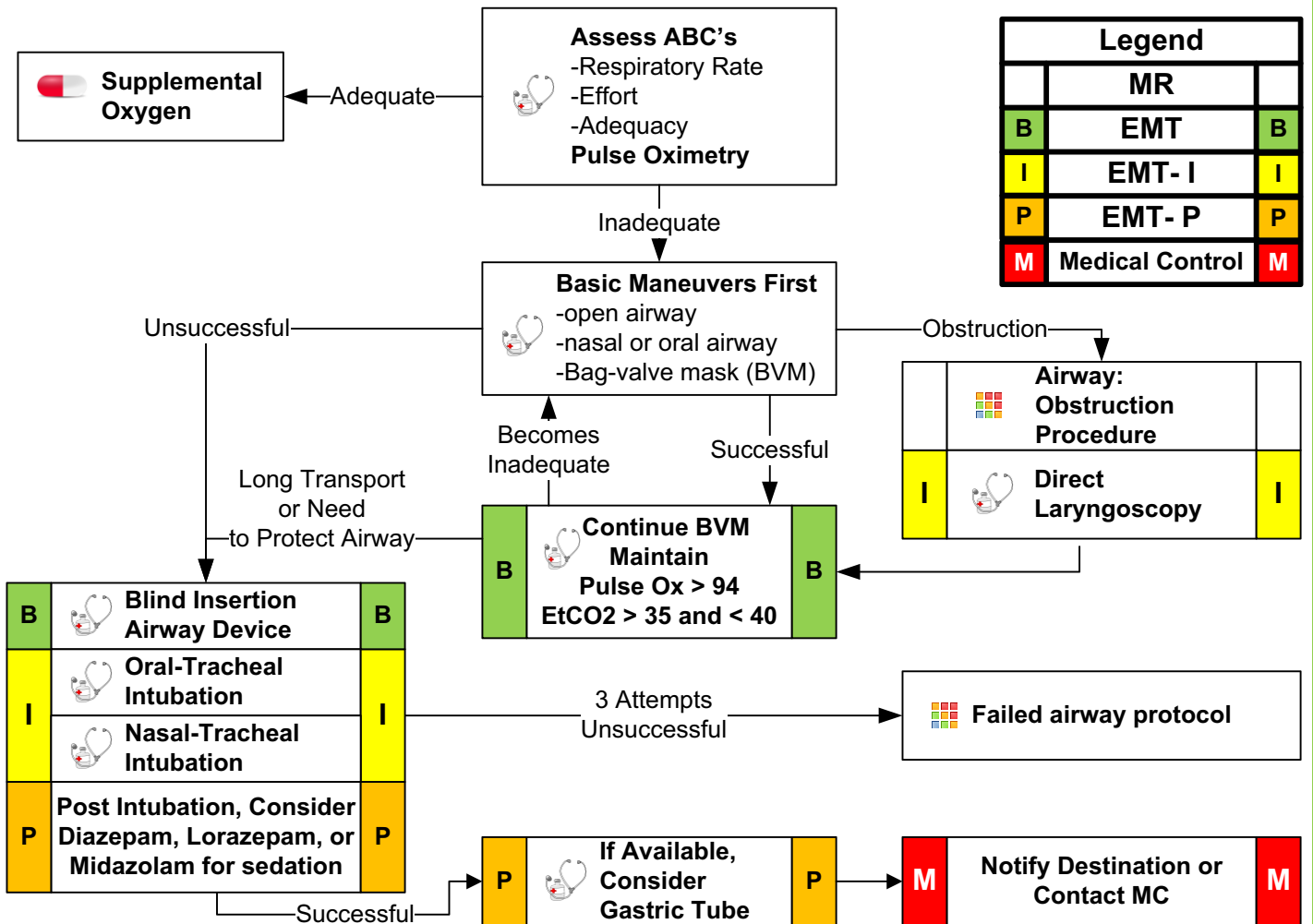
Pearls

- This protocol is only for use in patients with an Age > 12 or patients longer than the Broselow-Luten Tape.
- Once a patient has been given a paralytic drug, **YOU ARE RESPONSIBLE FOR VENTILATIONS!**
- Items in Red Text are the key performance indicators used to evaluate protocol compliance. An Airway Evaluation Form must be completed on every patient who receives Drug Assisted Intubation.
- This procedure will take away the patient's airway away so you must be sure of your ability to intubate before giving drugs.
- **Continuous Waveform Capnography and Pulse Oximetry and are required for intubation verification and ongoing patient monitoring**
- Before administering any paralytic drug, screen for contraindications with a thorough neurologic exam.
- If First intubation attempt fails, make an adjustment and try again:
 - Different laryngoscope blade
 - Change head positioning
 - Different ETT size
 - Continuous pulse oximetry should be utilized in all patients.
 - Change cricoid pressure
 - Consider applying BURP maneuver (Back [posterior], Up, and to pt's Right Pressure)
- This procedure requires at least 2 EMT-Paramedics. Divide the workload - ventilate, suction, cricoid pressure, drugs, intubation.
- All equipment must be in place and ready for use prior to administering any RSI drugs.
- Protect the patient from self extubation when the drugs wear off. Longer acting paralytics may be needed post-intubation.

Protocol 3

Any local EMS System changes to this document must follow the NC OEMS Protocol Change Policy and be approved by OEMS

2009



Pearls

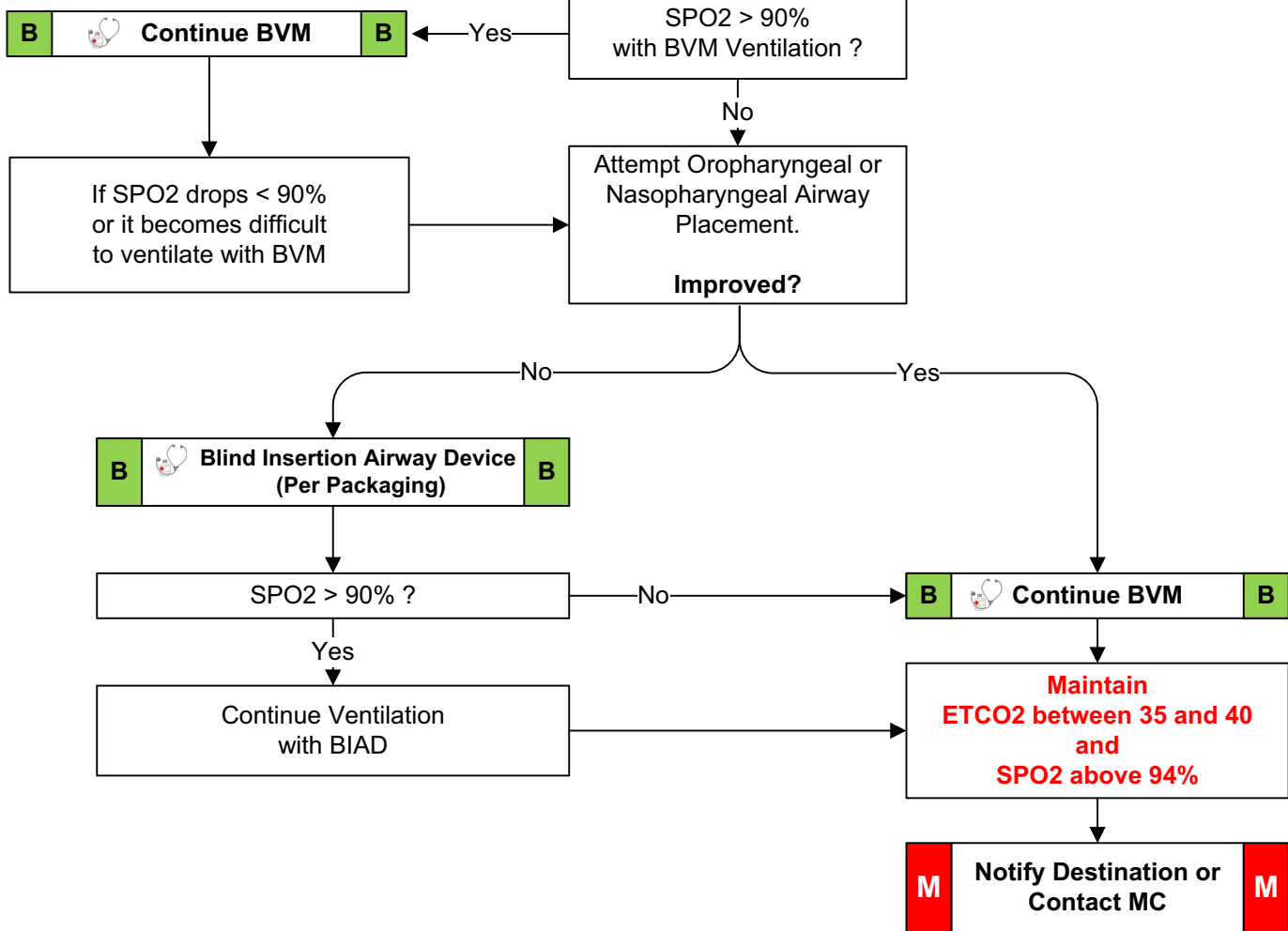
- For this protocol, pediatric is defined as less than 12 years of age or any patient which can be measured within the Broselow-Luten tape.
- Capnometry (color) or capnography is mandatory with all methods of intubation. Document results.
- **Continuous capnography (EtCO2) is strongly recommended with BIAD or endotracheal tube use.**
- **If an effective airway is being maintained by BVM with continuous pulse oximetry values of > 94, it is acceptable to continue with basic airway measures instead of using a BIAD or Intubation.**
- **For the purposes of this protocol a secure airway is when the patient is receiving appropriate oxygenation and ventilation.**
- **An Intubation Attempt is defined as passing the laryngoscope blade or endotracheal tube past the teeth or inserted into the nasal passage.**
- **Ventilatory rate should be 30 for Neonates, 25 for Toddlers, 20 for School Age, and for Adolescents the normal Adult rate of 12 per minute. Maintain a EtCO2 between 30 and 35 and avoid hyperventilation.**
- **It is strongly encouraged to complete an Airway Evaluation Form with any BIAD or Intubation procedure.**
- Paramedics should consider using a BIAD if oral-tracheal intubation is unsuccessful.
- Maintain C-spine immobilization for patients with suspected spinal injury.
- Do not assume hyperventilation is psychogenic - use oxygen, not a paper bag.
- Sellick's and **or BURP** maneuver should be used to assist with difficult intubations.
- Hyperventilation in deteriorating head trauma should only be done to maintain a pCO₂ of 30-35.
- Gastric tube placement should be considered in all intubated patients.
- It is important to secure the endotracheal tube well and consider c-collar to better maintain ETT placement.



Airway, Pediatric-Failed



Legend		
	MR	
B	EMT	B
I	EMT- I	I
P	EMT- P	P
M	Medical Control	M



General Protocols

Pearls

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 - Different laryngoscope blade
 - Gum Elastic Bougie
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 - Apply BURP maneuver (Push trachea Back [posterior], Up, and to patient's Right)
 - Change head positioning
- **Ventilatory rate should be 30 for Neonates, 25 for Toddlers, 20 for School Age, and for Adolescents the normal Adult rate of 12 per minute. Maintain a EtCO2 between 30 and 35 and avoid hyperventilation.**
- Continuous pulse oximetry should be utilized in all patients with an inadequate respiratory function.
- Continuous EtCO2 should be applied to all patients with respiratory failure or to all patients with advanced airways.
- Notify **Medical Control AS EARLY AS POSSIBLE** about the patient's difficult / failed airway.



Back Pain



History

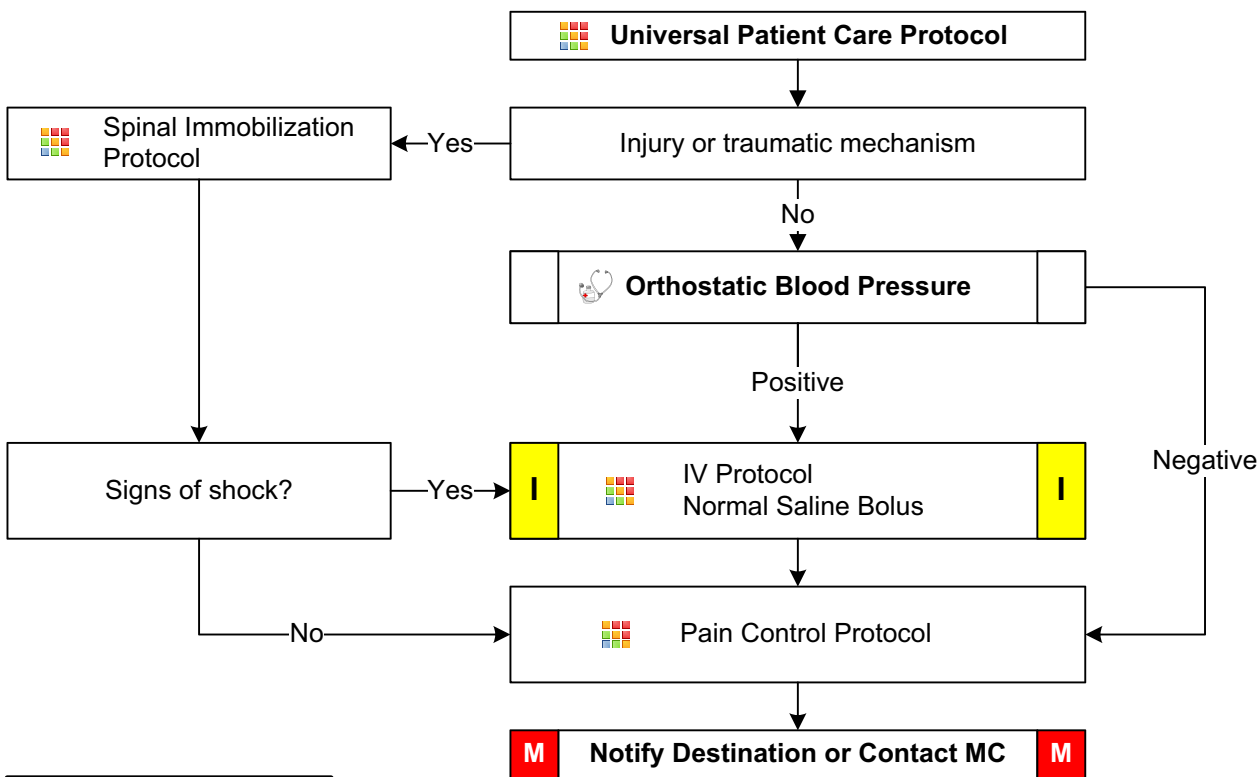
- Age
- Past medical history
- Past surgical history
- Medications
- Onset of pain / injury
- Previous back injury
- Traumatic mechanism
- Location of pain
- Fever
- Improvement or worsening with activity

Signs and Symptoms

- Pain (paraspinous, spinous process)
- Swelling
- Pain with range of motion
- Extremity weakness
- Extremity numbness
- Shooting pain into an extremity
- Bowel / bladder dysfunction

Differential

- **Muscle spasm / strain**
- **Herniated disc with nerve compression**
- **Sciatica**
- **Spine fracture**
- **Kidney stone**
- **Pyelonephritis**
- **Aneurysm**
- **Pneumonia**
- **Spinal Epidural Abscess**
- **Metastatic Cancer**



Legend		
	MR	
B	EMT	B
I	EMT- I	I
P	EMT- P	P
M	Medical Control	M

Pearls

- **Recommended Exam: Mental Status, HEENT, Neck, Chest, Lungs, Abdomen, Back, Extremities, Neuro**
- Abdominal aneurysms are a concern in patients over the age of 50
- Kidney stones typically present with an acute onset of flank pain which radiates around to the groin area.
- Patients with midline pain over the spinous processes should be spinally immobilized.
- Any bowel or bladder incontinence is a significant finding which requires immediate medical evaluation
- In patient with history of IV drug abuse a spinal epidural abscess should be considered.

Protocol 6



Behavioral



History

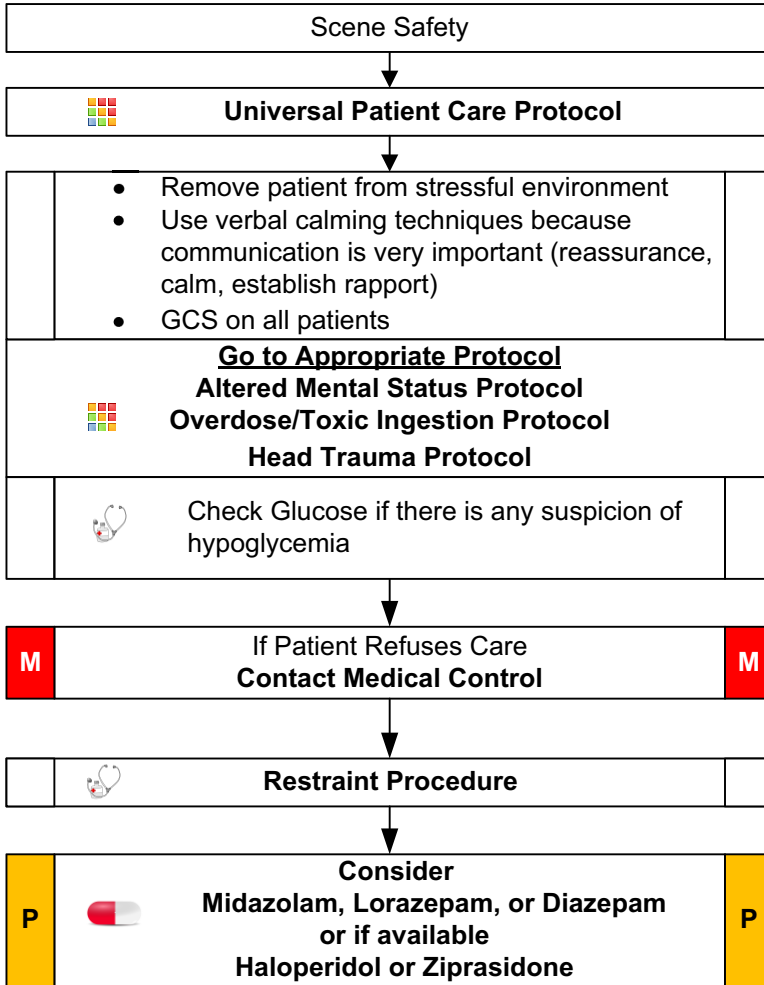
- Situational crisis
- Psychiatric illness/ medications
- Injury to self or threats to others
- Medic alert tag
- Substance abuse / overdose
- Diabetes

Signs and Symptoms

- Anxiety, agitation, confusion
- Affect change, hallucinations
- Delusional thoughts, bizarre behavior
- Combative violent
- Expression of suicidal / homicidal thoughts

Differential

- **see Altered Mental Status differential**
- **Alcohol Intoxication**
- **Toxin / Substance abuse**
- **Medication effect / overdose**
- **Withdrawal syndromes**
- **Depression**
- **Bipolar (manic-depressive)**
- **Schizophrenia**
- **Anxiety disorders**



Legend		
	MR	
B	EMT	B
I	EMT- I	I
P	EMT- P	P
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General Protocols

Pearls

- **Recommended Exam: Mental Status, Skin, Heart, Lungs, Neuro**
- Your safety first!!
- **Consider Haldol or Ziprasidone for patients with history of psychosis or a benzodiazepine for patients with presumed substance abuse.**
- Be sure to consider all possible medical/trauma causes for behavior (hypoglycemia, overdose, substance abuse, hypoxia, head injury, etc.)
- Do not irritate the patient with a prolonged exam.
- Do not overlook the possibility of associated domestic violence or child abuse.
- If patient is suspected of agitated delirium suffers cardiac arrest, consider a fluid bolus and sodium bicarbonate early.
- **All patients who receive either physical or chemical restraint must be continuously observed by ALS personnel on scene or immediately upon their arrival.**
- Any patient who is handcuffed or restrained by Law Enforcement and transported by EMS must be accompanied by law enforcement in the ambulance.
- Do not position or transport any restrained patient in such a way that could impact the patients respiratory or circulatory status.

Protocol 7

Any local EMS System changes to this document must follow the NC OEMS Protocol Change Policy and be approved by OEMS

2009



Fever / Infection Control



History

- Age
- Duration of fever
- Severity of fever
- Past medical history
- Medications
- Immunocompromised (transplant, HIV, diabetes, cancer)
- Environmental exposure
- Last acetaminophen or ibuprofen

Signs and Symptoms

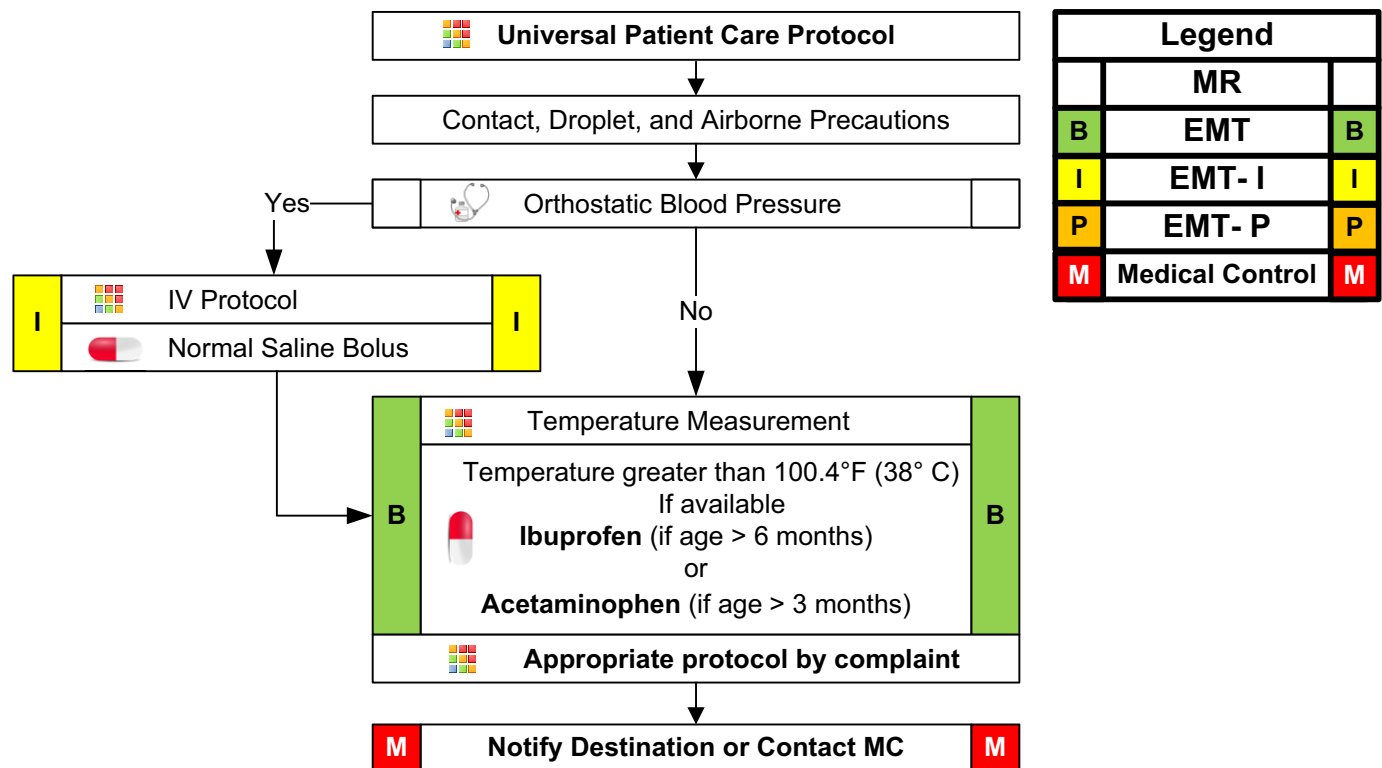
- Warm
- Flushed
- Sweaty
- Chills/Rigors

Associated Symptoms (Helpful to localize source)

- myalgias, cough, chest pain, headache, dysuria, abdominal pain, mental status changes, rash

Differential

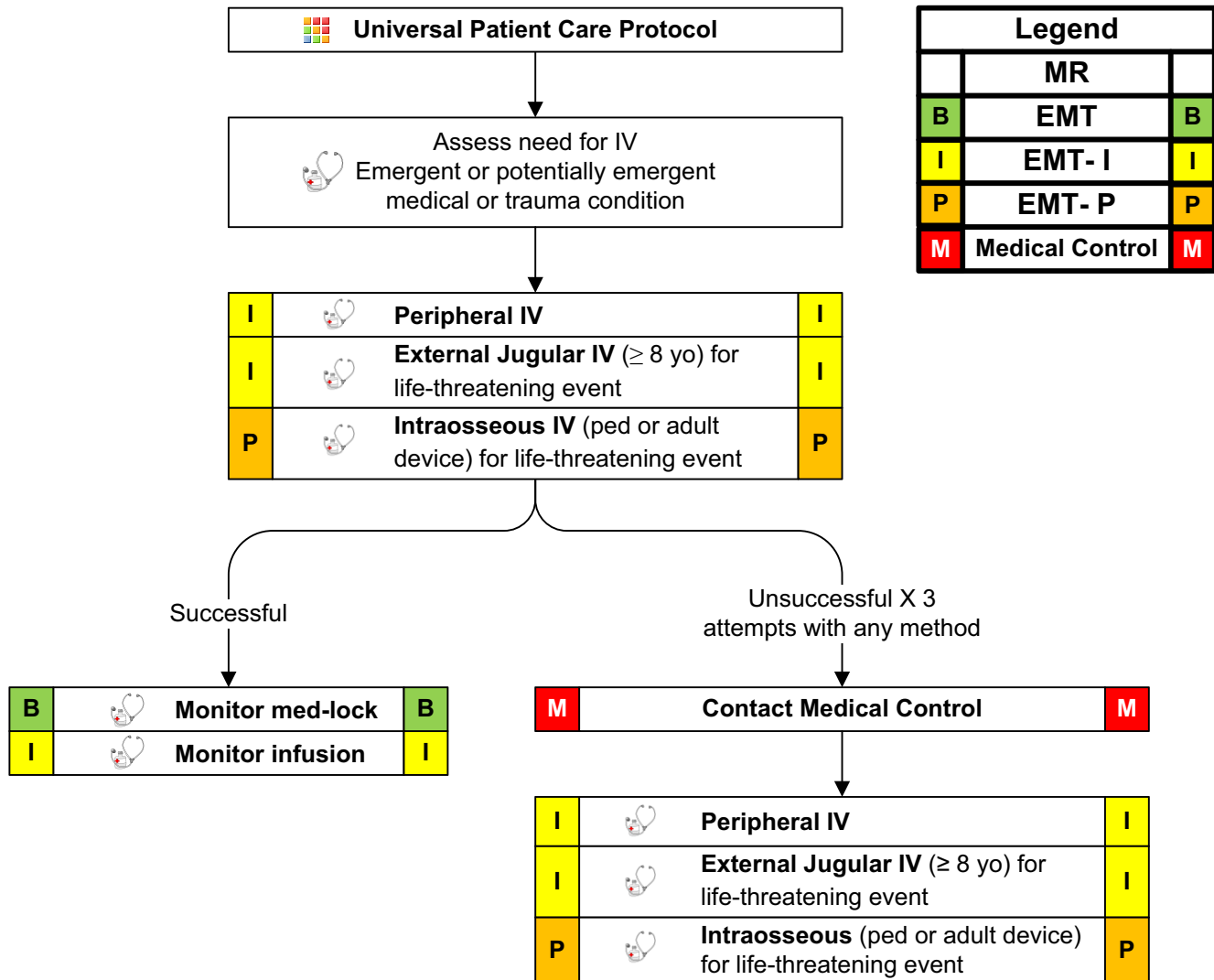
- Infections / Sepsis
- Cancer / Tumors / Lymphomas
- Medication or drug reaction
- Connective tissue disease
 - Arthritis
 - Vasculitis
- Hyperthyroid
- Heat Stroke
- Meningitis



General Protocols

Pearls

- **Recommended Exam: Mental Status, Skin, HEENT, Neck, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- Febrile seizures are more likely in children with a history of febrile seizures and with a rapid elevation in temperature.
- Patients with a history of Liver failure should not receive acetaminophen.
- **Droplet precautions** include standard PPE plus a standard surgical mask for providers who accompany patients in the back of the ambulance and a surgical mask or NRB O2 mask for the patient. This level of precaution should be utilized when influenza, meningitis, mumps, streptococcal pharyngitis, and other illnesses spread via large particle droplets are suspected. A patient with a potentially infectious rash should be treated with droplet precautions.
- **Airborne precautions** include standard PPE plus utilization of a gown, change of gloves after every patient contact, and strict handwashing precautions. This level of precaution is utilized when multi-drug resistant organisms (e.g. MRSA), scabies, or zoster (shingles), or other illnesses spread by contact are suspected.
- **All-hazards precautions** include standard PPE plus airborne precautions plus contact precautions. This level of precaution is utilized during the initial phases of an outbreak when the etiology of the infection is unknown or when the causative agent is found to be highly contagious (e.g. SARS).
- Rehydration with fluids increased the patients ability to sweat and improves heat loss.
- All patients should have drug allergies documented prior to administering pain medications.
- Allergies to NSAID's (non-steroidal anti-inflammatory medications) are a contraindication to Ibuprofen.
- NSAID's should not be used in the setting of environmental heat emergencies.
- **Do not** give aspirin to a child.



Legend		
	MR	
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Pearls

- In the setting of cardiac arrest, any preexisting dialysis shunt or external central venous catheter may be used.
- Intraosseous with the appropriate adult or pediatric device.
- External jugular (≥ 8 years of age).
- Any prehospital fluids or medications approved for IV use, may be given through an intraosseous IV.
- All IV rates should be at KVO (minimal rate to keep vein open) unless administering fluid bolus.
- Use microdrips for all patients 6 years old or less.
- External jugular lines can be attempted initially in life-threatening events where no obvious peripheral site is noted.
- In patients who are hemodynamically unstable or in extremis, **contact medical control** prior to accessing dialysis shunts or external central venous catheters.
- Any venous catheter which has already been accessed prior to EMS arrival may be used.
- Upper extremity IV sites are preferable to lower extremity sites.
- Lower extremity IV sites are discouraged in patients with vascular disease or diabetes.
- In post-mastectomy patients, avoid IV, blood draw, injection, or blood pressure in arm on affected side.



Pain Control: Adult



History

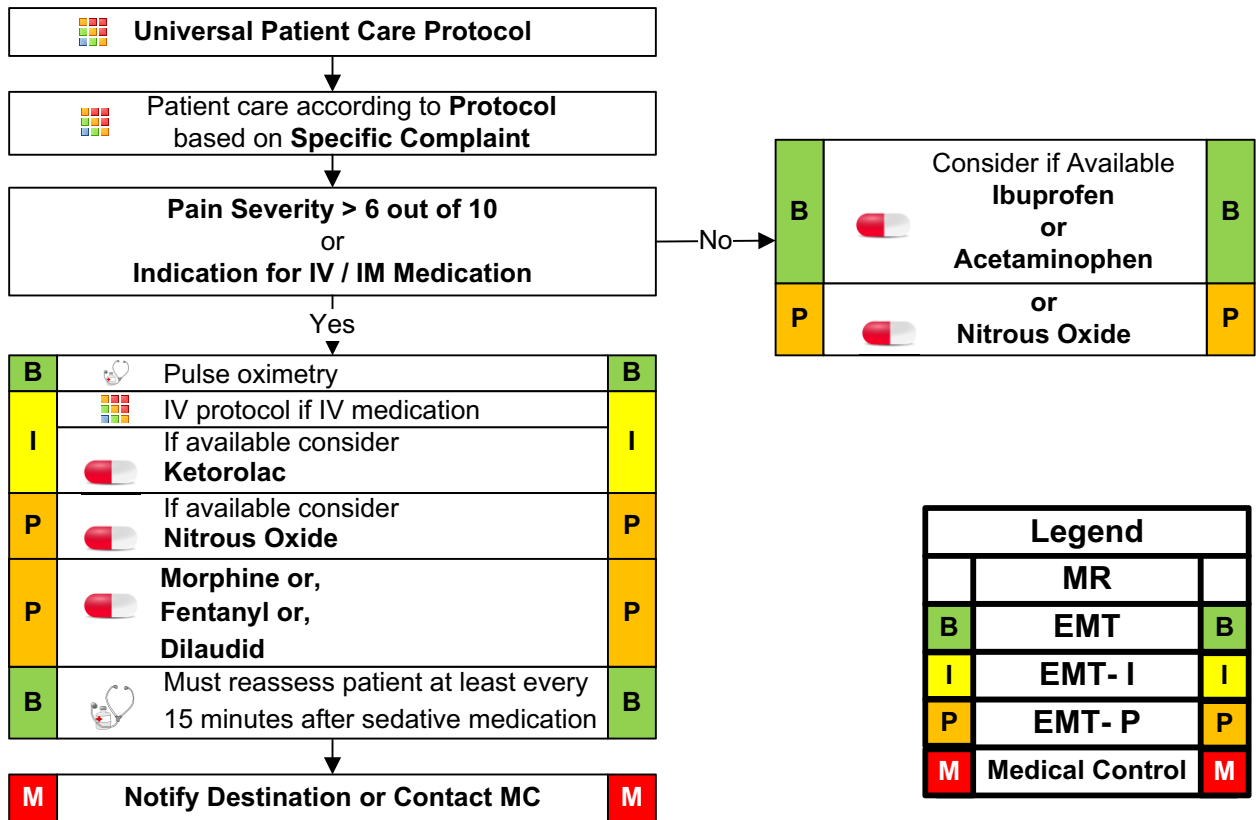
- Age
- Location
- Duration
- Severity (1 - 10)
- If child use Wong-Baker faces scale
- Past medical history
- Medications
- Drug allergies

Signs and Symptoms

- Severity (pain scale)
- Quality (sharp, dull, etc.)
- Radiation
- Relation to movement, respiration
- Increased with palpation of area

Differential

- Per the specific protocol
- Musculoskeletal
- Visceral (abdominal)
- Cardiac
- Pleural / Respiratory
- Neurogenic
- Renal (colic)



General Protocols

Legend		
	MR	
B	EMT	B
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Pearls

- **Recommended Exam: Mental Status, Area of Pain, Neuro**
- Pain severity (0-10) is a vital sign to be recorded pre and post IV or IM medication delivery and at disposition.
- Vital signs should be obtained pre, 15 minutes post, and at disposition with all pain medications.
- Patients with presumed kidney stone should first receive Toradol. A narcotic may then be considered.
- Contraindications to the use of a **narcotic** include hypotension, head injury, respiratory distress or severe COPD.
- **Ketorolac (Toradol) and Ibuprofen should not be used in patients with known renal disease or renal transplant, in patients who have known drug allergies to NSAID's (non-steroidal anti-inflammatory medications), with active bleeding, or in patients who may need surgical intervention such as open fractures or fracture deformities.**
- All patients should have drug allergies documented prior to administering pain medications.
- All patients who receive IM or IV medications must be observed 15 minutes for drug reaction.
- **Ibuprofen or Ketorolac** should not be given for headaches or abdominal pain, history of gastritis, stomach ulcers, fracture, or if patient will require sedation
- Do not administer any PO medications for patients who may need surgical intervention such as open fractures or fracture deformities, headaches, or abdominal pain.
- Do not administer **Acetaminophen** to patients with a history of liver disease.
- See drug list for other contraindications for Narcotics, Acetaminophen, Nitrous Oxide, Ketorolac, and Ibuprofen.



Pain Control: Pediatric



History

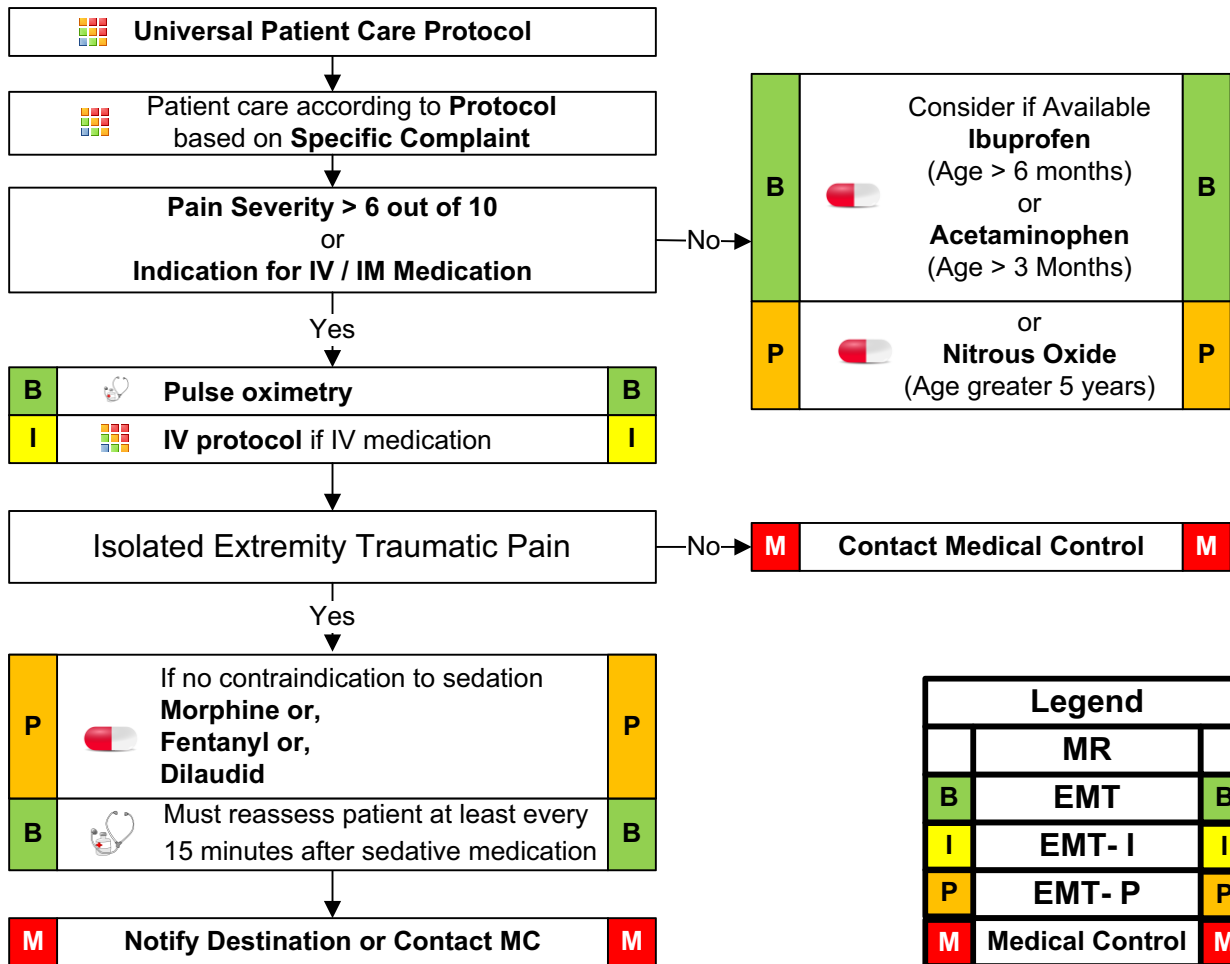
- Age
- Location
- Duration
- Severity (1 - 10)
- If child use Wong-Baker faces scale
- Past medical history
- Medications
- Drug allergies

Signs and Symptoms

- Severity (pain scale)
- Quality (sharp, dull, etc.)
- Radiation
- Relation to movement, respiration
- Increased with palpation of area

Differential

- Per the specific protocol
- **Musculoskeletal**
- **Visceral (abdominal)**
- **Cardiac**
- **Pleural / Respiratory**
- **Neurogenic**
- **Renal (colic)**



General Protocols

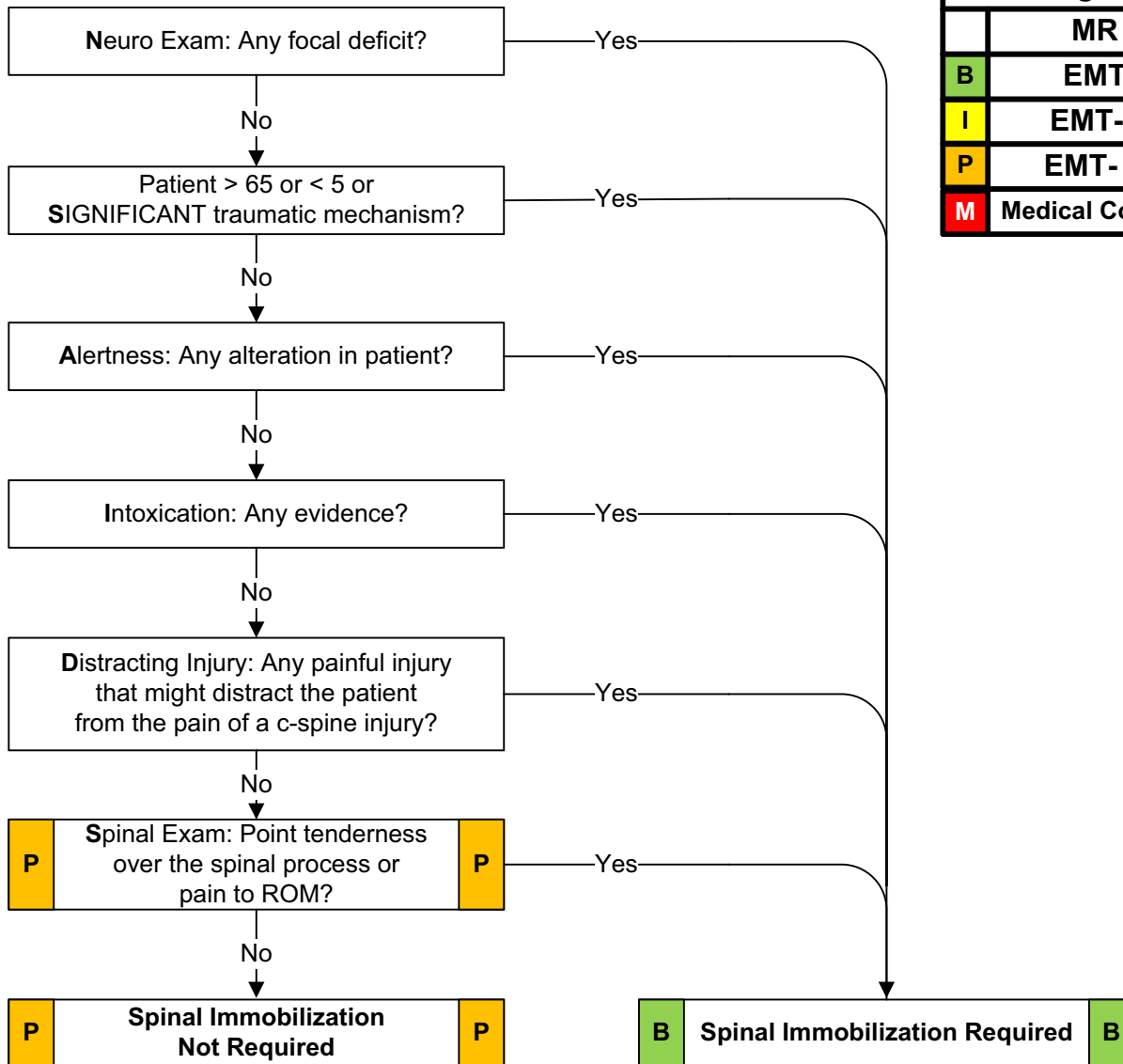
Legend		
	MR	
B	EMT	B
I	EMT- I	I
P	EMT- P	P
M	Medical Control	M

Pearls

- **Recommended Exam: Mental Status, Area of Pain, Neuro**
- Pain severity (0-10) is a vital sign to be recorded pre and post IV or IM medication delivery and at disposition.
- For children use Wong-Baker faces scale or the FLACC score (see Assessment Pain Procedure)
- Vital signs should be obtained pre, 15 minutes post, and at disposition with all pain medications.
- **Contraindications to Narcotic use** include hypotension, head injury, or respiratory distress.
- All patients should have drug allergies documented and avoid medications with a history of an allergy or reaction.
- All patients who receive IM or IV medications must be observed 15 minutes for drug reaction.
- **Ibuprofen** should not be given if there is abdominal pain, history of gastritis, stomach ulcers, fracture, or if patient will require sedation.
- Do not administer any PO medications for patients who may need surgical intervention such as open fractures or fracture deformities.
- See drug list for other contraindications for Narcotics, Nitrous Oxide, Acetaminophen, and Ibuprofen.



Spinal Immobilization Clearance



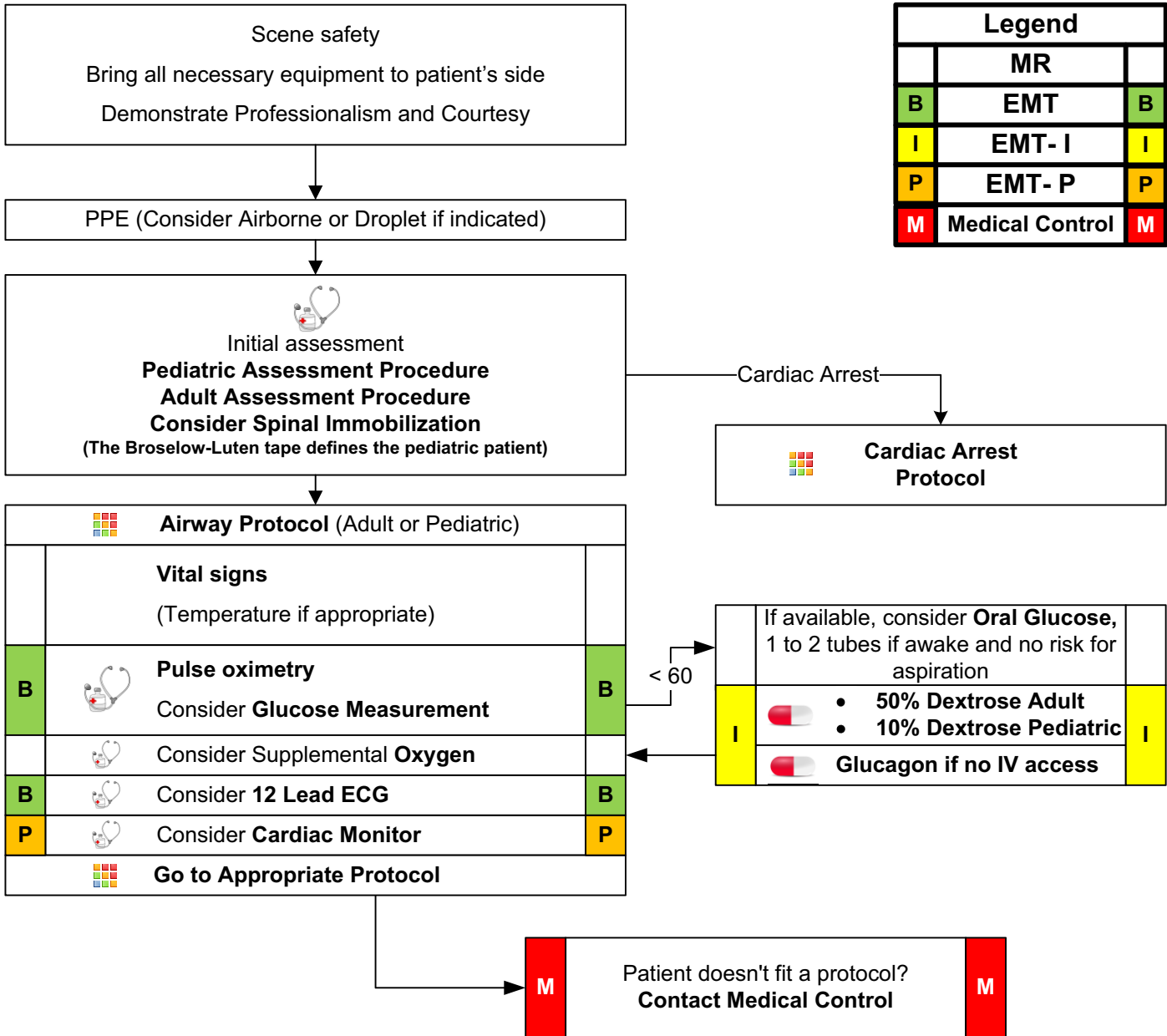
Legend		
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B	EMT	B
I	EMT- I	I
P	EMT- P	P
M	Medical Control	M

Pearls

- **Recommended Exam: Mental Status, Skin, Neck, Heart, Lungs, Abdomen, Back, Extremities, Neuro**
- **Consider immobilization in any patient with arthritis, cancer, or other underlying spinal or bone disease.**
- Significant mechanism includes high-energy events such as ejection, high falls, and abrupt deceleration crashes and may indicate the need for spinal immobilization in the absence of symptoms.
- Range of motion should NOT be assessed if patient has midline spinal tenderness. Patient's range of motion should not be assisted. The patient should touch their chin to their chest, extend their neck (look up), and turn their head from side to side (shoulder to shoulder) without spinal process pain.
- The acronym "NSAIDS" should be used to remember the steps in this protocol.
- "N" = Neurologic exam. Look for focal deficits such as tingling, reduced strength, or numbness in an extremity.
- "S" = Significant mechanism or extremes of age.
- "A" = Alertness. Is patient oriented to person, place, time, and situation? Any change to alertness with this incident?
- "I" = Intoxication. Is there any indication that the person is intoxicated (impaired decision making ability)?
- "D" = Distracting injury. Is there any other injury which is capable of producing significant pain in this patient?
- "S" = Spinal exam. Look for point tenderness in any spinal process or spinal process tenderness with range of motion.
- **The decision to NOT implement spinal immobilization in a patient is the responsibility of the paramedic.**
- **In very old and very young patients, a normal exam may not be sufficient to rule out spinal injury.**



Universal Patient Care Protocol



Legend		
MR		
B	EMT	B
I	EMT- I	I
P	EMT- P	P
M	Medical Control	M

General Protocols

Pearls

- **Recommended Exam: Minimal exam if not noted on the specific protocol is vital signs, mental status with GCS, and location of injury or complaint.**
- Any patient contact which does not result in an EMS transport must have a completed disposition form.
- Required vital signs on every patient include blood pressure, pulse, respirations, pain / severity.
- Pulse oximetry and temperature documentation is dependent on the specific complaint.
- A pediatric patient is defined by the Broselow-Luten tape. If the patient does not fit on the tape, they are considered adult.
- Timing of transport should be based on patient's clinical condition and the transport policy.
- Never hesitate to contact medical control for patient who refuses transport.
- Orthostatic vital sign procedure should be performed in situations where volume status is in question.



Police Custody



History

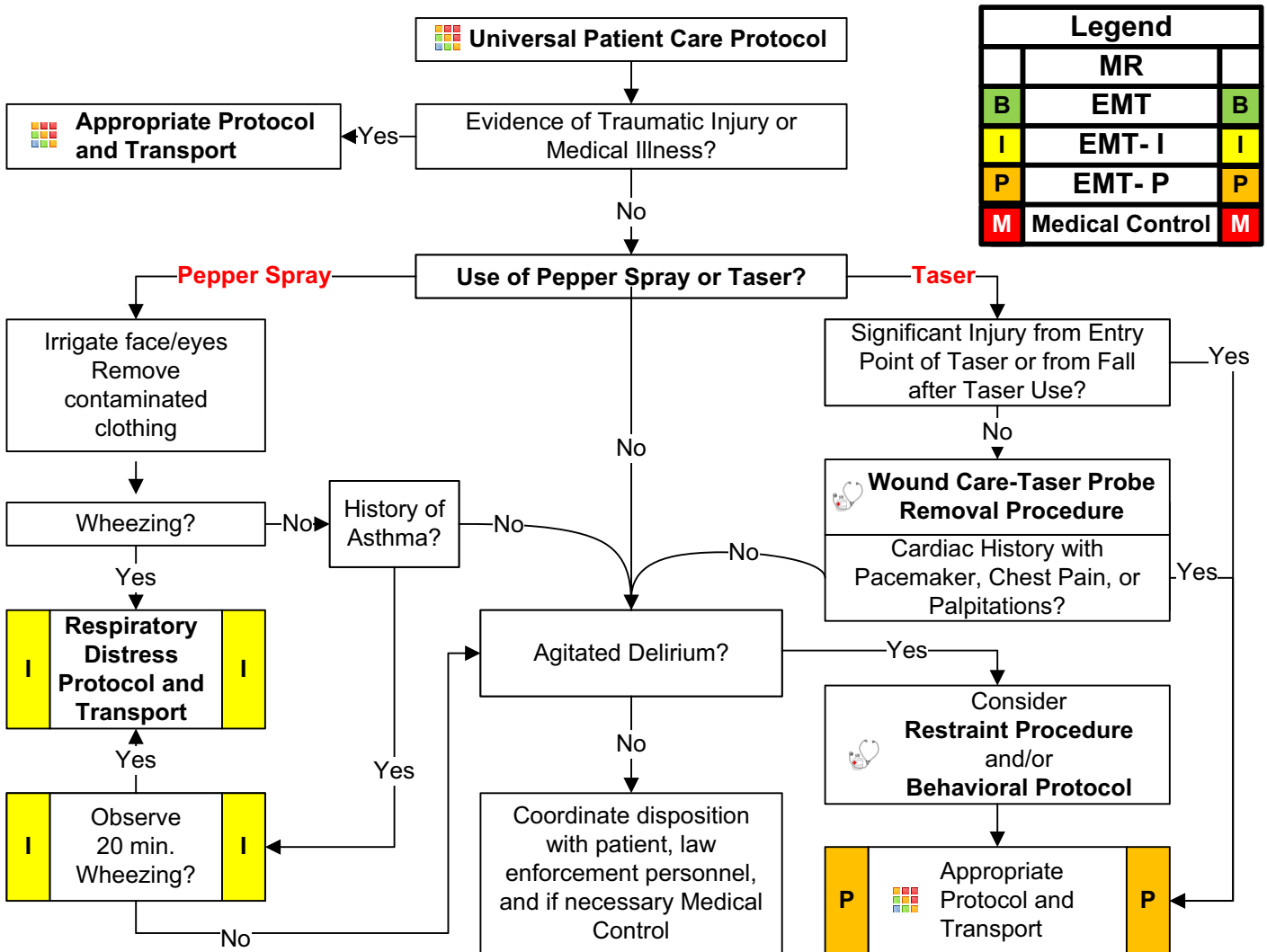
- Traumatic Injury
- Drug Abuse
- Cardiac History
- History of Asthma
- Psychiatric History

Signs and Symptoms

- External signs of trauma
- Palpitations
- Shortness of breath
- Wheezing
- Altered Mental Status
- Intoxication/Substance Abuse

Differential

- Agitated Delirium Secondary to Psychiatric Illness
- Agitated Delirium Secondary to Substance Abuse
- Traumatic Injury
- Closed Head Injury
- Asthma Exacerbation
- Cardiac Dysrhythmia



General Protocols

Pearls

- For this protocol to be used, the patient does not have to be under police custody.
- Agitated delirium is characterized by marked restlessness, irritability, and/or high fever. Patients exhibiting these signs are at high risk for sudden death and should be transported to hospital by ALS personnel.
- Patients restrained by law enforcement devices cannot be transported in the ambulance without a law enforcement officer in the patient compartment who is capable of removing the devices.
- If there is any doubt about the cause of a patient's alteration in mental status, transport the patient to the hospital for evaluation.
- If an asthmatic patient is exposed to pepper spray and released to law enforcement, all parties should be advised to immediately recontact EMS if wheezing/difficulty breathing occurs.
- All patients in police custody retain the right to request transport. This should be coordinated with law enforcement.
- If extremity/chemical/law enforcement restraints are applied, completed Restraint procedure in call reporting system.