Minneapolis Fire Department

EMS

2008
Patient Care Guidelines

Charlotte Holt, MFD EMS Chief
Brian Mahoney, MD HCMC Emergency Medical Services
Cindy Anderson, HCMC EMS Instructor (MFD EMS Coordinator)
George Vasquez, HCMC EMS Instructor (CPR Study Coordinator)

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SECTION 1 ADMINISTRATION

Purpose: 1.a

The information contained in these guidelines should be used as a field guide in the management of the sick and/or injured. Effective use of these guidelines requires complete and thorough knowledge of the content herein.

Scope: 1.b

These Patient Care Guidelines apply to all fire department personnel that render care to the sick or injured on behalf of the Minneapolis Fire Department.

SECTION 2 GENERAL GUIDELINES

Response Obligations 2.a

Obligated to Assess & Treat

When you respond to an emergency medical call, you are obligated to assess and treat the patient. Responsibility for the patient continues until a higher medical authority (paramedic, registered nurse, and/or physician) assumes care.

Discontinued Prior to Arrival

If you are called to the scene of an emergency but are discontinued prior to your arrival by EMS or the police, you may return to service.

On-Scene & Dispatch Advises Discontinue

If you are already on the scene, but are told by MECC to discontinue response, determine if there are people on the scene with any medical complaints, signs and/or symptoms. If there are not, return to service and clear the scene. If there are, render necessary and/or appropriate care according to these "Patient Care Guidelines" and contact MECC dispatch asking them to continue EMS response to the scene. Wait until EMS arrival, assisting the paramedics as necessary and/or appropriate until released from the scene.

Family Advises NO Medical Treatment Denies Access to Patient

Should you arrive on the scene to find family or friends who state medical attention is no longer needed and/or you are denied access to the patient, contact MECC and ask that MPD be dispatched to the scene. Once MPD arrives, evaluate whether or not the patient is alert, oriented to person, place and time. If the patient is alert, oriented, and refusing care without grave bodily injury, then return to service and clear the scene. If not, contact MECC and have EMS respond to the scene. Wait until EMS arrives, assist the paramedics as necessary and/or appropriate until released from the scene.

Patient Refuses Care w/Unexplained Disorientation

If you arrive on the scene and you find a person that denies medical complaints and refuses care, but presents with unexplained disorientation or mental status changes, contact MECC and ask that EMS be dispatched to the scene. Wait until EMS arrives, assist the paramedics as necessary and/or appropriate until released from the scene.

Nursing Home Staff Requests "Transport Only"
In the event you are called to a nursing home and you are told by the nursing home staff they called 911 for "transportation only" you are obligated to assess and treat the patient. It is possible you were called at the request of the ambulance service based on the nature of the call. After assessing and treating the patient, wait for the paramedics to arrive and clear you from the scene.

Nursing Home Refuses Access to Patient
Should the nursing home staff refuse you access to the patient, wait for the ambulance to arrive. Explain the situation to the paramedics and wait for them to clear you from the scene.

Assist-a-Disability Calls
Remember to conduct a complete physical exam on all "assist-a-disability" patients. Find out from the patient or their caregiver if there are any recent changes or worsening of their condition or disability just prior to their call for help. If you find ANY signs, symptoms or medical complaints, error on the side of safety and request MECC dispatch ALS EMS to the scene. Always get a patient name and document your findings in the NARRATIVE section of the NFIRS screen.

Discontinuing Ambulance Response on Medical Calls
According to our medical director, *MFD personnel may discontinue ambulance response prior to their arrival ONLY when ALL the following conditions have been met:*

1. *Patient is **ALERT, ORIENTED TO PERSON, PLACE & TIME**.*
2. *Patient has **NO MEDICAL COMPLAINTS**.*
3. *Patient has **NO OBVIOUS INJURIES**.*
4. *Patient has **NORMAL Vital Signs** (blood pressure, pulse and respiratory rate).*
5. *Patient states they do **NOT** want an ambulance.*
6. *Patient is of legal age (18 years old).*

(OR)

7. *Patient is breathless, pulseless, and cold in a warm environment with lividity (pooled discoloration of skin) or rigors (stiff), and/or signs of obvious mortal trauma consistent with the cause of death. (MPD should be called and they will contact the Medical Examiner).*

*Enter these calls in FIREHOUSE, using incident type (**300A**) document patient name in the **"NOTES" Section** and the patient findings noted in #1 –# 6 above in the **"NARRATIVE" Section.***

If you EVER have doubt about whether or not a patient meets any of these criteria, ALWAYS error on the side of safety and have EMS continue to the scene Code 2.

Safety **2.b**

Always consider the safety of the scene to minimize the risk to rescuers and additional harm to patients.

- **a.** Assess the need for extra personnel and/or special equipment.
- **b.** Remove patients from immediately hazardous situations.
- **c.** Always err on the side of safety when it comes to PPE.
- **d.** When responding to a call where terrorist activity is suspected. Be aware of the possibility of secondary (e.g. explosive or aerosolizing) devices targeted against rescuers.
- **e.** Be suspicious of a toxic release when multiple casualties have the same medical complaint (e.g. SOB or choking).
- **f.** Note an increase in the number of multiple same symptom 911 responses (e.g. flu-like symptoms).
- **g.** Control potentially hazardous areas and prevent any additional casualties.

When scene safety is a law enforcement responsibility, fire personnel are not obligated to place themselves at undue risk until the police secure the scene.

- **a.** Wait for the police to call MECC with a "Code 4" before entering the scene.
- **b.** The Fire Captain is ultimately responsible for making the determination about whether or not a scene is safe enough for a fire crew to enter.

Crime Scene Preservation **2c**

While responding to medical emergencies the obvious priority is to provide emergency medical treatment of any injured parties at the scene. The needs of the injured and scene safety take priority over any other considerations. It is important, however to preserve, within our priorities, any evidence or possible evidence that may be present at the scene. Do not move, touch, or disturb anything that is not necessary to render appropriate patient care. Keep in mind that as a responder that is quickly on the scene, the details that you observe will be important to crime scene investigators. Keep in mind that the body of a deceased person becomes part of the scene and is evidence and should not be disturbed unless necessary. People who are obviously deceased should not be approached if possible. Trace evidence has become very important in the eventual prosecution of crimes. Any time you move around a crime scene, you will leave trace evidence and disturb evidence already present.

Patient Confidentiality **2.d**

Employees of the Minneapolis Fire Department are responsible for complying with the various rules, regulations and laws (refer to the "Infection Control Policy"), governing the collection, creation, storage, maintenance, dissemination and access to all patient information.

Infectious Disease Precautions 2.e

What are Standard Precautions?

Standard Precautions should be used with all patient contact. Treat blood and body fluids of all patients as potentially infectious. Wear N-95 particulate respirator (TB masks) when a patient is suspected of having an airborne or droplet disease or a simple mask when assisting with procedures where you anticipate splash, gagging, coughing or spray.

What is a "Significant Exposure"?

- Patient's blood or body fluids contact an opening in your skin (e.g. cuts, abrasions, dermatitis or blisters) or there is prolonged contact or an extensive area is exposed.
- Blood or body fluids sprayed into your eyes, nose or mouth.
- Puncture wound from a needle, human bites or other sharp object that has had contact with the patient's blood or body fluids.
- Potential exposure or known exposure to airborne transmitted organisms (e.g. Tuberculosis) or droplet transmitted organism (e.g. Meningitis).

How do I prevent a "Significant Exposure"?

- Use gloves for patient contact, shielded face masks and/or mask with safety goggles for airway management, shielded masks with disposable sleeves or gowns for obstetrical deliveries, N-95 TB masks for patients coughing bloody sputum with a history of night sweats and weight loss or for patients who have recently returned from travel abroad with recent onset of cough, rash and/or fever. Wear turnout gear, helmets with visors down and leather gloves for extrications, body recoveries or other hazardous environments (consider SCBA's).

What if a "Significant Exposure" Occurs?

- Wash the exposed skin, blow your nose, irrigate your eyes, and consider gargling as soon as possible.
- Report the incident immediately to your supervisor.
- Follow the infectious source (patient) to the hospital for a post exposure evaluation.
- Return to the station and complete a "Supervisors Report of Injury".
- Lab results will be mailed to you or you will be contacted by the health care provider by phone 48-72 hours after the incident. Any necessary follow up appointments should be set up through the EMS Deputy Chief's office or the Administrative Deputy Chief's office.

Minneapolis Fire Department

"GENERAL"

Patient Care Guidelines

History Taking

- Patient name
- Patient age
- **S**pecific complaint or presenting signs & symptoms
- **A**llergies
- **M**edications
- **P**ast Medical Problems

  Cardiac
  Respiratory
  Hypertension
  Diabetes
  Seizures
  Recent surgery
  Recent trauma

  (* medic alert tags)

  - **L**ast Oral Intake
- **E**vents leading up to the injury or illness

General Patient Care Guideline (3.a)

SCENE SURVEY

- Hazards
- Mechanism of Injury
- Consider Spinal Stabilization
- BSI
- Number of Victims
- Additional Resources

I

ESTABLISH LOC

A=Alert, V=Responds to Voice, P=Responds to Pain, U=Unresponsive

I

HEAD STABILIZATION

manually stabilize head if trauma is suspected

I

AIRWAY

Establish and maintain open airway
Place oral or nasal airway if unconscious

I

BREATHING

Administer oxygen at 10-15 L/min by mask or
If breathing inadequate begin ventilations

I

CIRCULATION/PERFUSION

Assess pulses
Assess skin color and capillary refill
Apply AED if patient in full arrest (**see "AED" Protocol**)

I

BLEEDING

Apply direct pressure to external bleeding and
Use pressure points for uncontrolled bleeding

I

VITAL SIGNS

Obtain Respiratory Rate, Pulse Rate, B/P & Perfusion Status

I

HISTORY

I

HEAD-TO-TOE-EXAM

All life-threatening problems should be treated as they are found

Assisting Medics

- **Parking**

  Parking that allows easy access to the building should be reserved for the ambulance.

- **Access to Patient**

  Ensure access to the patient by leaving a door open or sending someone back down to meet the paramedics.

- **Updating**

  Update dispatch with significant information to be relayed to ambulance (e.g. changing a response code from code 3 to code 2 for non-emergent patients).

  Update paramedics on patient condition when they arrive, give them a copy of the MFD FMO Information Pad.

  Assist Medics:

  IV set up

  Airway Management

  CPR

  Vital signs

  Transport to Hospital

Pediatric Considerations 3.b

A Airway and breathing problems are the most common cause of cardiac arrest in children.
A Do not hyperextend the neck when opening the airway in newborns or infants.
A Use a Bag-Valve-Mask (BVM) or mouth to mask with one-way valve with supplemental oxygen to ventilate a child.
   a. 0yr. To 5 yr. - 400cc BVM (infant size)
   b. 5yr. To Adult. – 1000cc BVM (child size)
4. Newborns and infants are more prone to becoming hypothermic (cold). Prevent heat loss.

VITAL SIGN REFERENCE

Age	Respiratory Rate	Heart Rate	Systolic B/P
Newborn	**30-60**	**120-180**	**50-70**
Infant (<1)	**20-30**	**80-140**	**70-100**
Toddler (1-3)	**20-30**	**80-130**	**80-110**
Child (3-8)	**20-30**	**80-120**	**80-110**
Child (8-12)	**20-30**	**70-110**	**80-120**
Adolescent (13+)	**12-20**	**55-105**	**100-120**
Adult	**12-20**	**60-100**	**120**

Trauma Considerations 3.c

Airway
Airway remains the top priority while maintaining spinal precautions:

a. Establish and maintain an open airway using the modified jaw thrust.
b. All unconscious patients require an oral or nasal airway (do **NOT** use a nasal airway on patients with significant facial trauma).
c. Begin oxygen therapy as soon as possible.
d. If the patient vomits or has fluids in airway: **MAINTAIN HEAD STABILIZATION AND LOG ROLL PATIENT TO SIDE AS A UNIT** to clear out or suction the airway.

Spinal Precautions/Immobilization:
The Patient Assessment Tool in part B must be utilized on all patients having a Mechanism of Injury (MOI) with the potential to cause spinal injury**.**

Standing Orders
1. Mechanism of Injuries include:
   A Any injury to the head, neck, torso, or pelvis.
   A Any incident with a sudden acceleration, deceleration, or lateral movement (neck/torso).
   A Any fall (especially in the elderly) or diving incident.
   A Any ejection from a motorized or human powered machine.

2. Patient Assessment Tool – If any single indicator is present, or you are unable to assess an indicator, go to part C.
   a. Altered mental status
   b. Evidence of intoxication and/or drug use.
   c. Neurological deficit
   d. Suspected extremity fracture
   e. Any cervical (neck) pain
   f. Any cervical (neck) tenderness
   g. Any thoraco/lumbar pain
   h. Any thoraco/lumbar tenderness

3. Positive indicator or unable to assess
   If yes to any indicator in part B, or you are unable to assess an indicator, spinal precautions should be applied as follows:
   a. Non-ambulatory patients – If yes to any indicator or you are unable to assess, full spinal immobilization including a c-collar and backboard (if able) should be applied.
   b. Patients who currently are or have been ambulatory:
      1. If yes or unable to assess indicators 1-6 only, apply spinal precautions including a c-collar and secure to stretcher (if able).
      2. If yes or unable to assess indicators 7-8 only, secure to stretcher (if able).

4. All other patients
   Spinal precautions (backboards and/or cervical collars) may be used at any time if the attending ambulance personnel feel it is useful and appropriate (e.g. extremes of age, very frail, falls in pts > 65 yrs of age with underlying bone disorders). If the patient is on a backboard prior to the ambulance arrival they should remain on the backboard.

No longer will simply "mechanism of injury" be enough to warrant a backboard. EMS will now only board those patients that have "mechanism of injury with a potential to cause spinal injury" who also meet one of the listed #1(a-h) criteria.

In addition, those patient(s) who are or have been out of their vehicles (up walking around) after the accident, who also meet the #1(a-h) criteria, may ONLY be put in a cervical collar (but NOT necessarily a backboard) and placed on an ambulance stretcher.

This is a change from what you have been taught but these changes are consistent with the latest spinal precautions research and the protocol has been approved by each of the Hennepin County EMS medical directors.

Minneapolis Fire Department

"SPECIFIC"

Patient Care Guidelines

Respiratory Distress

Signs & Symptoms

- Difficulty breathing and speaking
- Cyanosis
- Anxiety, decreased LOC
- Abnormal respiratory rate (<12 or >20)
- Decreased respiratory depth
- Noisy or labored breathing
- INADEQUATE BREATHING = Rate<8/min or Insufficient depth of respiration's or obstruction

Causes

- Asthma or Airway Obstruction
- Anaphylaxis
- Hyperglycemia
- Infection
- Trauma
- Drug overdose/Chemical (toxic) exposure
- Heart or Stroke
- Pulmonary edema or embolism

History

- **S**igns & symptoms:
- **A**llergies
- **M**edications
- **P**ast Medical
  - Respiratory problems
  - Cardiac history
  - History hypertension
  - Recent delivery or pregnancy
  - Smoke or drug use
  - Recent surgery
- **L**ast oral intake
- **E**vents leading up to incident
  - Exertion
  - Bee sting
  - Spider bites
  - Exposures
  - Eating
  - Recent trauma

Treatment

AIRWAY

Establish and maintain open airway

POSITION

Place patient at rest in position of comfort
Sitting up if conscious
Recovery position if vomiting or oral secretions

OXYGEN

Administer oxygen at 10-15L/min by mask
(OR) if breathing is inadequate
Begin Ventilations

VITAL SIGNS

Assess respiratory rate, pulse, blood pressure and perfusion status or Level of Consciousness

MEDICATION ASSISTS *see protocols

Asthma-Metered Dose Inhaler
Anaphylaxis-EpiPen
Organophosphate (OR) Nerve Agent-Mark I Kit

Assist Paramedics

Paramedics may request

- IV set up
- Assistance intubation w/(cricoid pressure)
- Assistance with PPV
- Vital signs
- Assistance with metered dose inhalers or CPAP
- Assistance during transport

Pediatric Considerations

- Do NOT hyperextend the neck in newborns or infants
- To ventilate a child use only a BVM or mouth to mask with one way valve and supplemental oxygen
  - 0yr. To 5yr. = small BVM
  - 5yr. to Adult = large BVM

Troubleshooting

- Ensure a good mask to face seal, no air should escape around the mask during PPV, keep suction handy, ensure oxygen is connected and monitor supply.
- Patients who become unconscious should be laid down
- Nasal cannula is reserved for patients with COPD who complain of only mild distress without symptoms
- Treat asthma patients in respiratory arrest with a slow ventilation rate (PPV 8 – 10 min or once every 7 – 8 seconds)

Pulmonary Edema

Signs & Symptoms

- Appears anxious, agitated
- Difficulty breathing
- Fast, shallow breathing
- Fatigue
- Noisy or "wet-sounding" breathing
- May have wheeze
- May have edema (swelling) to feet and legs

Causes

- Congestive heart failure (CHF)
- Heart attack (MI)
- Inhalation injury (chemical or nerve agent)
- Smoke inhalation
- Drug overdose
- Heat
- Cold

History

- **S**pecific complaint or signs & symptoms
- **A**llergies
- **M**edications
- **P**ast Medical Problems:
  - Cardiac
  - Respiratory
  - Exposures
  - Recent trauma
  - Drug use

  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the injury

Treatment

REASSURE

Reassure to decrease anxiety

POSITION OF COMFORT

Place patient in position of comfort

Usually this is seated, head elevated

OXYGEN

Administer oxygen at 10-15L/min mask (OR)

If breathing inadequate begin ventilations

VITAL SIGNS

Assess respiratory rate, pulse, and blood pressure

Check perfusion status/LOC

Assist Paramedics

- **Assist Medics**:

  IV set up

  Airway Management
  - O2
  - Assist w/ET
  - PPV
  - Nebulizers
  - CPAP

  Vital signs

  Transport

Pediatric Considerations

- To ventilate a child use only a BVM or mouth to mask with one way valve and supplemental oxygen
  - 0yr. To 5yr. = small BVM
  - 5yr. to Adult = large BVM

Troubleshooting

- Be assertive with oxygen even if the patient resists
- Patients experiencing "air hunger" are very anxious, and require constant reassurance

Chest Pain (Suspected MI or Heart Attack)

Signs & Symptoms

- Chest pain, pressure or discomfort in any adult
- Unexplained jaw, neck, back, arm or shoulder pain
- Syncopal episode (passing out) in any adult
- Unexplained shortness of breath, fatigue, diaphoresis (sweating, pale skin) in any adult (especially elderly)
- Ashen, pale or cyanotic color
- Irregular pulse
- Anxiety, nausea &/or vomiting
- Altered Level of Consciousness (LOC)

Causes

- Coronary Artery Disease
- Spasm or Blockage of the coronary arteries (little to no oxygenated blood flow to cardiac muscle)
- Myocardial Infarction (heart muscle death)

History

- **S**pecific complaint or signs & symptoms
- **A**llergies
- **M**edications
- **P**ast Medical Problems:
  - Cardiac
  - Respiratory
  - Hypertension
  - Diabetes
  - Recent surgery
  - Recent trauma
  - Drug Use

  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the injury or illness

Treatment

REASSURE

Reassure to decrease anxiety

POSITION OF COMFORT

Place patient in position of comfort
Usually this is seated, head elevated

OXYGEN

Administer oxygen at 10-15L/min mask (OR)
If breathing inadequate begin ventilations

VITAL SIGNS

Assess respiratory rate, pulse, and blood pressure
Check perfusion status/LOC

MEDICATION ASSIST *see protocol

Chest Pain-Patient prescribed Nitroglycerin

Assist Paramedics

- **Assist Medics**:

  IV set up

  Airway Management

  Vital signs

  Transport

Pediatric Considerations

- Chest pain as a result of cardiac problems is rare in children, consider other sources for the child's pain.
- History taking and information gathering will be of utmost importance
- Special needs children with congenital cardiac problems will have an extensive cardiac history and the child's guardian(s) should be a reliable source of information

Troubleshooting

- Assisting in the administration of nitroglycerin will require frequent vital signs, consider placing the patient on the automatic blood pressure monitor once an initial manual set of vital signs has been obtained.

Cardiac Arrest

Signs & Symptoms

- Unresponsive
- Not breathing
- No pulse
- Multiple unconscious victims (no signs of trauma) GET OUT!

Causes

- Airway obstruction
- Heart attack (MI) &/or cardiac arrhythmia
- Drowning
- Drug overdose
- Electrocution
- Hypothermia
- Nerve agent or organophosphate poisoning
- Cyanide
- Trauma

History

- **S**&S leading to arrest
- **A**llergies
- **M**edications
- **P**ast Medical:
  - Cardiac
  - Respiratory
  - Recent surgery
  - Recent trauma

  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the injury or illness

  Bystander CPR
  Down Time
  Witnessed Arrest

Treatment

AIRWAY

Establish and maintain open airway

Place oral or nasal airway

BREATHING

Begin (BVM) Ventilations *

CIRCULATION

Expose chest and begin chest compressions *

AED

Attach Semi-Automatic Defibrillator (AED) **

**When you find a public access defibrillator already in use, use the pre-attached pads and the device unless the pads are incorrectly placed or the device is malfunctioning. An LMA should not be placed in pediatric patients until the AED has first analyzed and advised to shock or not to shock.

*Use of POD and PUMP dependent on study randomization

Assist Paramedics

- IV set up
- Airway Management
  O2
  Assist w/ET
  BVM
- CPR
- Backboard should be placed on stretcher
- Transport

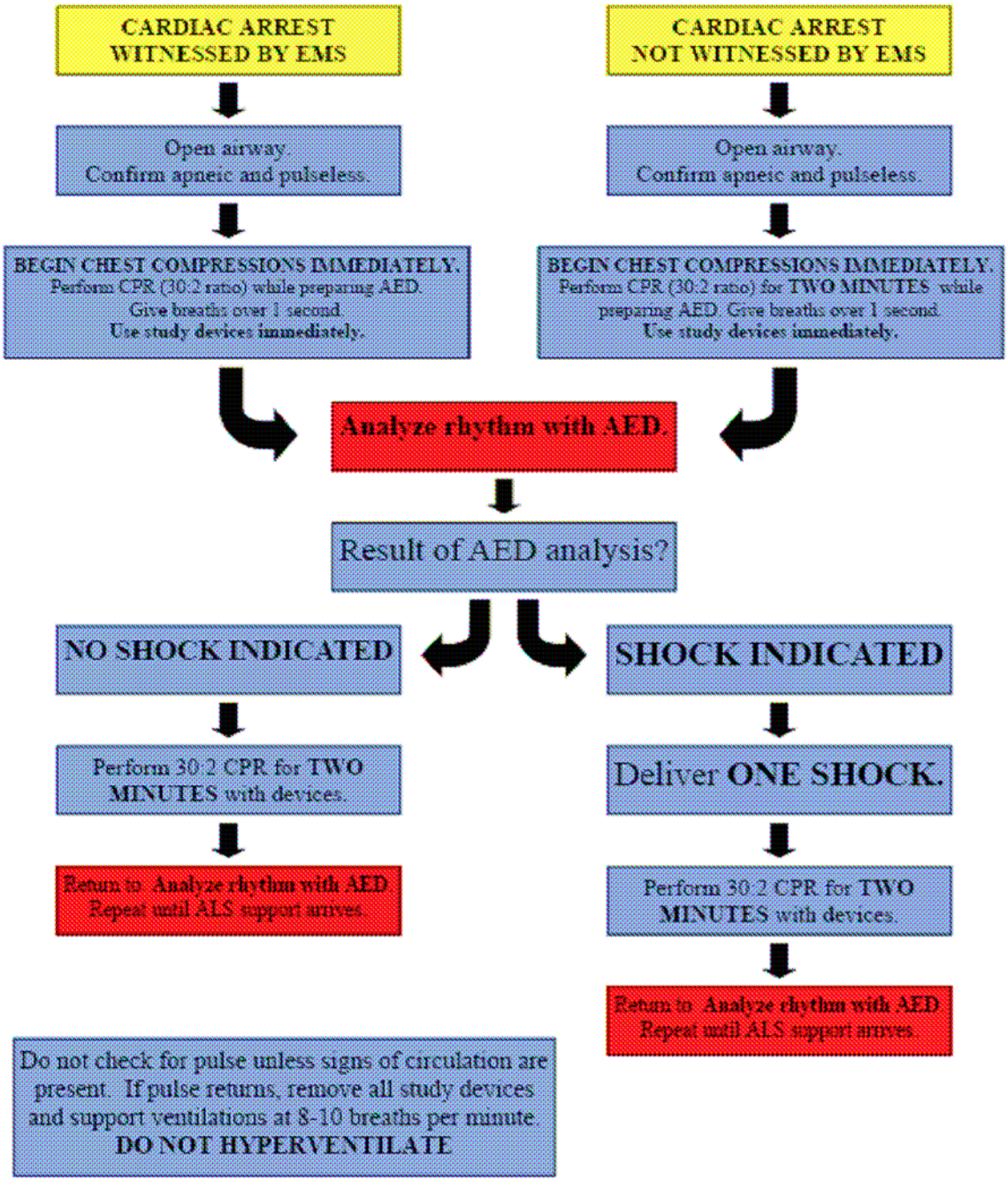
Pediatric Considerations

- Airway and breathing problems are the most common cause of cardiac arrest in children.
- Do not hyperextend the neck when opening the airway in newborns or infants.
- Use only a BVM or mouth to mask with one way valve and supplemental oxygen
  - 0yr. To 5yr. = small BVM
  - 5yr. to Adult = large BVM

Troubleshooting

- Move patient to a workable space if appropriate:
  - Out of confined space
  - Onto hard surface
  - Out of bed
- Bring in reserve oxygen tank, assure properly connected
- Ensure good mask seal
- Gastric distention may be caused by
  - Not opening the airway enough
  - Ventilating with too much volume
  - Ventilating too rapidly
- If vomiting roll patient to side, clear airway, suction

BLS Cardiac Arrest Algorithm for the ResQ Trial



Adult Return of Spontaneous Circulation & Cardiac Cooling

Standing Orders
For post-cardiac arrest Return of Spontaneous Circulation (ROSC):

1. Initiate cardiac cooling measures if possible and if time allows:

   Inclusion Criteria:

   a. Patient must be 18 years of age or older.

   b. Initial arrest appears to be primary cardiac arrest (non-traumatic in origin).

   c. Patient had ROSC in the field.

   d. Patient is unconscious.

   e. Patient has a BP greater than or equal to 90 systolic.

2. Procedure: place five (5) standard chemical ice packs in the following locations:

   a. One on the neck covering both carotid arteries.

   b. One in each of the axiallae.

   c. One over each of the femoral vasculature in the groin.

   d. Consider other measures (e.g. removal of the patient's clothes, turn on the ambulance AC in the patient compartment and direct air flow over the patient).

3. Advise the emergency department personnel upon arrival that you have initiated the cooling process.
4. Glucose check if possible and if time allows.
5. Obtain a 12-lead ECG if possible and time allows.

Healthcare Provider Summary of Steps of CPR for Adults, Children, and Infants

CPR	Adult and Older Child (puberty and older)	Child (1 year old to puberty)	Infant (Less then 1 year old)
Establish that the victim does not respond Activate your emergency response system.	Activate your emergency response system as soon as the victim is found.	Activate your emergency response system after giving 5 cycles of CPR	
Open the airway Use head tilt-chin lift.	Head tilt-chin lift (Suspected trauma: jaw thrust)		
Check Breathing If the victim is not breathing, give 2 breaths that make the chest rise.	Open the airway, look, listen and feel. Take at least 5 seconds and no more than 10 seconds.		
First 2 breaths	Give 2 breaths (1 second each)		
Check pulse At least 5 seconds and no more than 10 seconds.	Carotid pulse (if no pulse, start CPR)	Carotid pulse (if no pulse or pulse is <60 bpm with signs of poor perfusion start CPR)	Brachial pulse (if no pulse or pulse is <60 bpm with signs of poor perfusion, start CPR)
Start CPR			
• Compression location	Center of breastbone between nipples		Just below nipple line on breastbone
• Compression method	Heel of 1 hand, other hand on top (or 1 hand for small victims)		2 fingers (2 thumb-encircling hands for 2 rescuer CPR)
• Compression depth	1 ½ to 2 inches	1/3 to ½ depth of chest	
• Compression rate	100 per minute		
• Compression-ventilation ratio	30:2 (1- or 2- rescuer CPR)	30:2 for 1-rescuer CPR (15:2 for 2-rescuer CPR)	

Altered Level of Consciousness

Signs & Symptoms

- Confusion
- Change in level of alertness
- Bizarre behavior
- Combativeness
- Drowsiness
- Unconsciousness

Causes

- Diabetic emergency
- Drugs/alcohol/poisons (carbon monoxide/pesticides)
- Cardiac Problems
- Respiratory Distress (low oxygen states)
- Seizure
- Head Injuries
- Exposure to Environmental Extremes (heat/cold)
- CVA or stroke
- Infections

History

- **S**&S (baseline)
- **A**llergies
- **M**edications
- **P**ast Medical:
  - Cardiac
  - Neurological
  - Respiratory
  - Diabetes
  - Exposures
  - Ingestions
  - Drug Use
  - Recent trauma

  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the injury, illness or fever, any witnesses

Treatment

SPINAL PRECAUTIONS
Take spinal precautions on ANY patient with altered LOC (OR) when trauma cannot be ruled out

AIRWAY
Establish and maintain open airway
Place oral or nasal airway if unconscious

OXYGEN
Give oxygen at 10 – 15 L/min by mask (OR)

If breathing inadequate begin ventilations

VITAL SIGNS
Assess respiratory rate, pulse, B/P and perfusion status
Assess (LOC) Orientation to Person, Place & Time

ASSESS LOC/PUPILS
Note an improvement or deterioration in LOC

Assist Paramedics

- IV set up
- Airway Management O2
- Assist w/ET PPV or BVM
- Vital Signs
- Assist with backboarding
- Assist with restraints
- Assist with transport to hospital

Pediatric Considerations

- To ventilate a child use only a BVM or mouth to mask with one way valve and supplemental oxygen
  - 0yr. To 5yr. = small BVM
  - 5yr. to Adult = large BVM

Troubleshooting

- Be prepared for vomiting
- Turn to side and clear airway. If the patient is on a backboard, maintain in-line cervical stabilization and turn the patient as a unit (log roll) to side and clear out airway.

Seizures

Signs & Symptoms

- Generalized (Full Body) Seizure: uncoordinated muscular activity accompanied by LOC
- Partial or Complex Seizures: abnormal behavior, convulsion of part of the body
- Status Seizure: prolonged generalized (full body) seizure and/or no recovery from postictal state between seizures

Causes

- Epilepsy
- Diabetic Problem
- Head Injury
- Brain Tumor or Stroke
- Cardiac Arrest
- Alcohol/Drug Overdose or Withdrawal
- Infections
- Chemical Exposures

History

- **S**&S (last seizure)
- **A**llergies
- **M**edications
  Are they taking their prescribed seizure medications?
- **P**ast Medical:
  Cardiac
  Respiratory
  Exposures
  Ingestion
  Recent trauma
  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the seizure, witnesses, LOC, what seizure looked like, duration

Treatment

SPINAL PRECAUTIONS

Always consider spinal precaution

(During Seizure)

Oxygen

Give oxygen (blow-by) & protect patient from harm

POSITION

Support unresponsive non-trauma patient in recovery position

(After Seizure)

Airway

Position to maintain open clear airway
Roll to side to allow secretions to drain

Oxygen

Give oxygen at 10 – 15 L/min by mask (OR)
If breathing is inadequate begin ventilations

Vital Signs

Assess respiratory rate, pulse, B/P or perfusion status

Assist Paramedics

- IV set up
- Airway Management
  O2
  Suctioning
  Positioning
  PPV or BVM
- Vital Signs
- Assist w/back-boarding if patient sustained trauma before or during seizure
- Assist w/transport to hospital (status)

Pediatric Considerations

- Febrile seizures are common in children less than 5 years old. Remember to remove clothing and provide oxygen. Enlist the child's guardians to assist as necessary and appropriate.

Troubleshooting

- Be prepared for the possibility that the patient sustained a traumatic injury during the seizure or that the seizure is a result of trauma. When in doubt use spinal precautions.
- Assess the airway for tongue lacerations or obstructions such as gum. Suction the airway as needed or appropriate.
- As seizure patients awaken, anticipate spitting or spewing of oral secretions and use shielded facemask or safety glasses.

Diabetic Emergencies

Signs & Symptoms

- Hypoglycemia (Low Blood Sugar): rapid onset, pale sweaty skin, light headedness, confusion, unusual behavior, may appear drunk.
- Hyperglycemia (High Blood Sugar): gradual onset, warm dry flushed skin, drowsy to comatose, deep rapid fruity (acetone) smelling breath.

Causes

- Hypoglycemia (Low Blood Sugar): usually has taken insulin but has not eaten or expending more energy than usual through exercise, fever, illness
- Hyperglycemia (High Blood Sugar): has not taken insulin, fever, illness

History

- **S**&S (skin moist pale or dry flushed)
- **A**llergies
- **M**edications (Insulin)
- **P**ast Medical:
  - Diabetes
  - Exposures
  - Ingestions
  - Drug Use
  - Recent illness

  (* Medic alert tags)
- **L**ast Oral Intake, Last Insulin
- **E**vents leading up to the illness

Treatment

Airway
Establish and maintain open airway
Place oral or nasal airway if unconscious

Position
Support unresponsive non-trauma patients in recovery position

Oxygen
Give oxygen 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

Vital Signs
Assess respiratory rate, pulse, B/P or perfusion
Assess Level of Consciousness (LOC)

Medical Assist *see protocol
Hypoglycemia – Give Oral Glucose

Assist Paramedics

- IV set up (with altered level of consciousness)
- Airway Management

  O2
  PPV or BVM
- Vital Signs
- Assist with combative or belligerent patients

Pediatric Considerations

- Children with Juvenile Onset Diabetes are often considered "brittle" diabetics and have difficulty regulating their diabetes. Encourage participation from child's family and/or friends. Gather as much information as possible concerning the events leading up to the incident.

Troubleshooting

- Patient may present combative, protect the patient from harm
- NEVER give oral glucose or any liquid source of sugar to a patient that is unable to protect their own airway. Patient MUST be able to speak and have an intact gag reflex

CVA (Cerebrovascular Accident or Stroke)

Signs & Symptoms

- Confusion, decreased coordination
- Weakness and/or paralysis (usually one sided)
- Slurred speech or inability to speak
- Facial drooping, sensory changes
- Difficulty swallowing or breathing
- High blood pressure
- Headache, gaze preference

Hypoglycemia can have identical signs!

Causes

- Hypertension
- Drug Abuse
- Birth Control Pills
- Cerebrovascular disease
- Cardiac Arrhythmia
- Congenital vascular malformations
- Diabetes (causes brittle blood vessels)
- Smokers
- Sickle Cell Disease

History

- **S**pecific complaint or signs & symptoms (onset & duration)
- **A**llergies
- **M**edications
- **P**ast Medical Problems:
  - Cardiac
  - Hypertension
  - Diabetes
  - Recent surgery
  - HX CVA/TIA

  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the incident

Treatment

AIRWAY
Establish and maintain open airway
Place an oral or nasal airway if patient is unconscious

POSITION
Roll non-trauma patient on to side (recovery position)

OXYGEN
Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations
Unconscious patients with signs (*) of swelling of the brain hyperventilate once every 4 seconds

VITAL SIGNS
Obtain respiratory rate, pulse, B/P or perfusion status

ASSESS LOC/CMS
Assess Orientation to Person, Place & Time
Assess patient's strength and ability to move extremities

Assist Paramedics

- IV set up
- Airway
  - O2
  - PPV, BVM
  - Assist w/ET
- Vital Signs
- Transport

Pediatric Considerations

- Strokes are possible in children but rare.

Troubleshooting

- Stroke may be so severe the person is unconscious and may have signs of swelling in the brain **(*unequal pupils, irregular breathing, posturing).** Treat with mild hyperventilation via PPV. Give normal size breath at a rate of once every 4 seconds.
- Monitor and protect all paralyzed limbs when moving patients.
- These patients have difficulty protecting their own airways. Aggressively treat airway problems.
- Be patient with stroke victims as they try to communicate.
- May be eligible for clot busters meds, expedite transport

Overdose/Poisoning

Signs & Symptoms

- Presenting signs & symptoms will depend on the product, agent or drug the patient contacted, ingested, inhaled and/or injected.
- Environmental cues become extremely important (empty bottles, drug paraphernalia, product containers, lingering smells or odors, dead animals, vomitus, pills, spray paint cans).

Causes

- Inhalation
- Ingestion
- Injection
- Skin contact

Examples
drugs, medications, alcohol, carbon monoxide, household products, plants, or chemical.

History

- **S**pecific signs & symptoms, length of exposure, time of ingestion, vomiting
- **A**llergies
- **M**edications (Ipecac)
- **P**ast Medical Problems:
  - Cardiac
  - Suicide Attempts
  - Exposures
  - Drug Abuse

  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the incident

Treatment

AIRWAY
Establish and maintain open airway
Place an oral or nasal airway if patient unconscious

POSITION
Support non-trauma patient in a recovery position

OXYGEN
Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

VITAL SIGNS
Assess respiratory rate, pulse, B/P or perfusion status

ASSESS LOC
Assess Orientation Time, Place, Person

CONTACT POISON CENTER
Call HCMC Poison Center 1-800-222-1222

MEDICATION ASSIST *see protocols
Organophosphate Poisoning or Nerve Agent Toxicity
Mark 1 Antidote Kit

Assist Paramedics

- IV set up
- Airway Management
  - O2
  - Assist w/ET
  - PPV or
  - BVM
- Vital Signs
- Assist with restraints or backboarding a violent patient
- Assist with transport to the hospital

Pediatric Considerations

- To ventilate a child use only a BVM or mouth to mask with one way valve and supplemental oxygen
  - 0yr. To 5yr. = small BVM
  - 5yr. to Adult = large BVM

Troubleshooting

- Anticipate vomiting
- Roll to side and clear airway
- Drug induced behavior is often unpredictable behavior, always leave yourself an exit
- Be suspicious of an MCI involving a number of patients complaining with the same complaints (shortness of breath, drooling, pin-point pupils, tearing, unable to control bowel or bladder, seizures). If found, GET OUT!

Shock (Pump, Pipe or Volume Problem)

Signs & Symptoms

- Pale
- Diaphoretic (sweaty)
- Fast breathing
- May or may not have a fast heart rate
- Altered level of consciousness
- Hypotension (low blood pressure) *late sign
- Confusion & anxiety

Causes

- Spinal cord injury
- Severe burns
- Blood loss (external or internal)
- Severe dehydration
- Anaphylaxis
- Heart problems
- Overdose
- Severe infection
- Cardiac Tamponade or Tension Pneumothorax

History

- **S**igns & Symptoms
- **A**llergies
- **M**edications
- **P**ast Medical:
  - Cardiac
  - Respiratory
  - Exposures
  - Drug Use
  - Vomiting
  - Fever
  - Recent Trauma

  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the illness or injury

Treatment

SPINAL PRECAUTIONS

Manually stabilize head to immobilize neck

When moving the patient, keep spine aligned

AIRWAY

Establish and maintain open airway

Place oral or nasal airway if patient unconscious

OXYGEN

Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

CONTROL BLEEDING

Expose injury sites and apply direct pressure
Cover open wounds with sterile dressings
If direct pressure does not control bleeding use pressure points

VITAL SIGNS

Obtain respiratory rate, pulse, B/P and/or perfusion status
Assess Level of Consciousness (LOC)

POSITION

Lie patient flat and elevate lower extremities
Keep Patient Warm & Assist w/PCT "MAST" Trousers

Assist Paramedics

- IV set up
- Airway Management
  - O2
  - Assist w/ET
  - PPV or BVM
- Vital Signs
- Assist with PCT application
- Assist w/backboarding
- Transport

Pediatric Considerations

- Children in shock may maintain a "normal" blood pressure for a long time. Aggressively treat shock symptoms, even with a normal blood pressure.
- To ventilate a child use only a BVM or mouth to mask with one way valve and supplemental oxygen
  - 0yr. To 5yr. = small BVM
  - 5yr. to Adult = large BVM

Troubleshooting

- Remember a few of the earliest signs of shock are irritability, anxiety, restlessness, increase in heart rate and/or thirst.
- Low blood pressure is a late sign of shock.

Head and Spine Injuries

Signs & Symptoms

- May have few signs or symptoms, just mechanism of injury alone
- **Head Injuries:** may be unconscious, unequal pupils, irregular breathing, drainage from ears or nose, posturing with arms flexed inward or outward
- **Spinal Injuries**: numbness & tingling arms/legs, inability to feel or move extremities, pain, difficulty regulating temperature, abnormal response to pain, urinating on self, sustained penile erection

Causes

- Trauma
- Disease States (cancer)
- Infections

History

- **S**igns & Symptoms
  Mechanism of Injury
  CMS, AOX3, pupils
  Vomiting/LOC
  DCAP-BTLS
- **A**llergies
- **M**edications
- **P**ast Medical History:
  Seizures
  Cardiac/CVA
  Brain Injuries
  Paralysis
  Cancer
  Arthritis
  Osteoporosis
  Trauma
  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up

Treatment

SPINAL PRECAUTIONS

Manually stabilize head to immobilize neck
When moving patient keep spine aligned

AIRWAY

Establish and maintain open airway
Place oral or nasal airway if unconscious

OXYGEN

Give oxygen 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations
Unconscious patients with signs (*) of swelling of the brain hyperventilate once every 4 seconds

VITAL SIGNS

Obtain respiratory rate, pulse, B/P and/or perfusion status
Assess Orientation to Person, Place & Time

ASSESS CMS

Check Circulation, Motion & Sensation (CMS) in arms/legs before and after back boarding this patient

Assist Paramedics

- IV Set Up
- Airway Management
  O2
  Assist w/ET
  PPV or BVM
- Vital Signs
- Assist with back boarding
- Assist with transport to hospital

Pediatric Considerations

- Vomiting is common in children who have suffered a head injury
- To ventilate a child use only a BVM or mouth to mask with one way valve and supplemental oxygen
  - 0yr. To 5yr. = small BVM
  - 5yr. to Adult = large BVM

Troubleshooting

- Anticipate vomiting, if vomiting occurs the spine must be protected. Roll the immobilized patient as a unit careful to keep the spine in alignment.
- Some head injuries are so severe that the person is unconscious and may have signs of swelling in the brain **(*unequal pupils, irregular breathing, posturing, fluid in ears or nose).** Treat with mild hyperventilation via PPV. Give a normal size breath once every 4 seconds.

Fractures, Dislocations & Sprains

Signs & Symptoms

- Deformity
- Pain
- Swelling
- Discoloration

Causes

- Disease States (osteoporosis, cancers)
- Trauma

History

- **S**igns & Symptoms
  Mechanism of Injury
  CMS, DCAP-BTLS
- **A**llergies
- **M**edications (aspirin or coumadin)
- **P**ast Medical History:
  Arthritis
  Cancer
  Osteoporosis
  Paralysis
  Trauma
  (* Medic alert tags)
- **L**ast Oral Intake
- **E**vents leading up to the injury

Treatment

Priorities Remain: SPINAL PREACAUTIONS AIRWAY,BREATHING,CIRCULATION

STABILIZE INJURY
Stabilize in position found until ready to splint

EXPOSE INJURY SITE

CONTROL BLEEDING
Apply direct pressure if uncontrolled use pressure points

COVER OPEN WOUNDS
Apply sterile dressings to open wounds

ASSESS CMS
Assess Circulation, Motion & Sensation before and after splinting, if pulseless or cold do NOT splint

SPLINT FRACTURES
Immobilize joint above and below fracture site
Splint joints in position found
Straighten midshaft fractures before splinting
Apply ice packs and elevate

Assist Paramedics

- IV Set Up
- Assist w/splint

  Rigid splint (SAM)
  Hare Traction
  Sling & swathe
  Back boarding
  PCT (pelvis)
- Assist w/extrication, movement and/or transport to hospital

Pediatric Considerations

- When traction-splinting thigh injuries in children, be sure to use appropriately sized splints.
- Studies of mechanisms of injury indicate that infants and children with fractured femurs often also have injuries to internal organs
- Inspect the scene carefully and get as much history as possible. Do injuries fit mechanism?

Troubleshooting

- If there is a possible cervical spine injury do NOT tie a sling around the patients neck.
- If there is a pulse, motor or sensory problem with an injured limb, stabilize the limb in the position found and notify EMS immediately upon their arrival.

Wound Care

Signs & Symptoms

- **Closed Wounds** (contusion, edema, discoloration, deformity, pain, decreased sensation, hematoma)
- **Open Wounds** (bleeding, abrasion, laceration, puncture or penetration, avulsion, amputation)

Causes

- **Closed Wounds** (blunt trauma or crushing injuries)
- **Open Wounds** (any sharp object, penetration via impaled objects, knives or firearms, spontaneous rupture of blood vessel, impact)

History

- **S**igns & Symptoms DCAP-BTLS
- **A**llergies
- **M**edications Blood Thinners Blood Pressure
- **P**ast Medical History Bleeding Disorders Hypertension Cardiac Problems Respiratory Last Tetanus Shot
- **L**ast Oral Intake
- **E**vents leading up to injury or incident

Other Considerations

- Manual stabilization of flail chest might include the palm of a hand, a folded towel or the use of pillow. May tape the flail segment but ONLY if the patient in shock.

Treatment

Priorities Remain: Spinal Precautions, Airway, Breathing, Circulation, Control of Bleeding and Oxygen.

WOUNDS

1. **EXPOSE** injury site
2. **COVER** open wounds w/dressings
3. **CONTROL BLEEDING** w/direct pressure.

If bleeding persists, continue direct pressure, consider elevation, pressure dressing and pressure points

NOSEBLEEDS

1. Keep patient in **SITTING** position
2. Lean patient **FORWARD**
3. Let blood drain from mouth
3. Apply **DIRECT PRESSURE**
4. **PINCH** nostrils together

Slide fingers down bony part to cartilage then pinch & hold

AMPUTATIONS

1. **CONTROL BLEEDING**
2. **COVER STUMP** w/saline soaked dressing
3. **WRAP AMPUTATED PART** in dressing
4. **MOISTEN DRESSING** with saline
5. Place in **PLASTIC BAG**
6. Place **ON ICE**, keep cool but do NOT freeze

IMPALED OBJECTS

1. **IMMOBILIZE OBJECT** in place, do NOT remove

Exception: objects impaled in cheek may be removed to ensure a patent airway. Be ready for bleeding inside mouth.

CHEST INJURIES

Sucking Chest Wound: (look & feel subcutaneous air under skin)

1. **COVER w/OCCLUSIVE** dressing
2. **MONITOR** signs of increased respiratory distress
3. If present LIFT one side of dressing
4. Allow AIR TO ESCAPE

Flail Chest:

1. Manually **STABILIZE** flail segment
2. Give **OXYGEN** or consider **PPV**

NECK INJURIES:

1. **COVER w/OCCLUSIVE** dressing
2. Apply **DIRECT PRESSURE**
3. After bleeding stopped then apply dressing

Assist Paramedics

- IV Set Up
- Airway Management O2 Assist w/ET BVM or PPV
- Assist w/splinting, back boarding
- Assist w/PCT
- Vital Signs
- Assist w/thoracotomy
- Assist w/transport to hospital

Troubleshooting

- Signs of increased respiratory distress include decreased LOC, cyanosis, tracheal deviation, diminished or absent breath sounds.
- Monitor for signs and symptoms of shock.

Thermal Burns

Signs & Symptoms

- **Superficial Burns**: involves the outer layer of skin, characterized by reddening of the skin and swelling (looks like a sunburn)
- **Partial Thickness Burn:** involves the second layer of skin, there will be intense pain, noticeable reddening, blisters and mottled (spotted) appearance
- **Full Thickness Burns:** all layers of the skin damaged, charred black or brown or dry and white, may have severe pain or there may be no pain at all

Causes

- Flame
- Radiation
- Excessive heat from fire
- Steam
- Hot liquids
- Hot objects

History

- **S**igns & Symptoms
  Mechanism of Injury
  How long exposed
  Confined space
  Facial burns
  Sooty sputum
  Stridor or SOB
  Burn Process Stopped
  Change in Voice
- **A**llergies
- **M**edications
- **P**ast Medical History
  Respiratory
  Cardiac
  Immune
  Vascular
  (alert tags)
- **L**ast oral intact
- **E**vents leading up to incident

Treatment

SCENE SAFETY

Always consider the source of the burn as potentially dangerous to yourself

STOP BURNING PROCESS

Flame: Wet down, smother, then remove clothing/jewelry
Semi-solid (grease, tar, wax): Cool w/water do NOT remove

AIRWAY

Establish and maintain an open airway
Place an oral airway if unconscious

OXYGEN

Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

VITAL SIGNS

Obtain respiratory rate, pulse, B/P and/or perfusion status

COVER WOUNDS

Estimate burn area using "rule of palm" (patient palm = 1%)
Place moist cool sterile dressings on burns <20%
Dry sterile dressings on burns >20% to prevent hypothermia
Do NOT allow chilling or shivering
(if cold was applied for how long)

Assist Paramedics

- IV Set Up
- Airway Management
  O2
  Assist w/ET
  PPV or BVM
- Vital Signs
- Assist w/transport to hospital

Pediatric Considerations

- Burns pose greater risks to infants and children because their body surface area is greater in relation to their total body size. This results in greater fluid and heat loss.
- When a child has been burned consider the possibility of child abuse.

Troubleshooting

- Always consider the possibility of an inhalation injury with facial burns, sooty sputum, respiratory distress, voice change and singed facial hair.
- For burns to hands and feet, be sure to remove rings and jewelry so that swelling does not constrict blood flow. Separate fingers and toes with sterile gauze.
- For burns to eyes, do NOT open eyelids if burned. Apply sterile pad to both eyes to prevent sympathetic movement.

Chemical Burns (Contact or Vapor)

Signs & Symptoms

- Irritation or redness to the skin
- Burning to the eyes or other mucous membranes
- Shortness of breath
- Choking or coughing
- Pain at burn site or with deep breath
- Excessive salivation or tearing of the eyes
- Vomiting, defecation
- Seizures
- Respiratory Failure

Causes

- **Acids:** Wash even after the burning has stopped.
- **Dry Lime:** Brush lime off FIRST then wash continuously.
- **Carbolic Acid:** Do NOT mix with water.
- **Sulfuric Acid:** Heat is produced when water is added, flush with copious amounts of water and continue to flush.
- **Hydrofluoric Acid:** Flood with water, burns are delayed.
- **Inhaled Vapors:** Remove from environment, give high flow oxygen, transport ASAP.

History

- **S**igns & Symptoms
  Mechanism of Injury
  How long exposed
  Confined space
  Contact &/or vapor
  Type exposure
  Burn Process Stopped
- **A**llergies
- **M**edications
- History
  Respiratory
  Cardiac
  (medical alert tags)
- **L**ast oral intact
- **E**vents leading up to incident

Treatment

SCENE SAFETY

Always consider the source of the burn as potentially dangerous to yourself. Wear appropriate PPE.

STOP BURNING PROCESS

Remove clothing, brush off chemicals from skin
Continuously irrigate eyes or skin with water
Do NOT use neutralizers like vinegar or baking soda in eyes

AIRWAY

Establish and maintain an open airway
Place an oral airway if unconscious

OXYGEN

Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

VITAL SIGNS

Obtain respiratory rate, pulse, B/P and/or perfusion status

COVER WOUNDS

Cover burned skin with a sterile dressing or burn sheet
After washing eyes, cover both eyes with moistened pads

Rescuers suffering severe inhalation injuries due to nerve agents should be given Mark 1 Antidote Kit

Assist Paramedics

IV Set Up

Airway Management

O2
Assist w/ET
PPV or BVM

Vital Signs

Assist w/contact lens removal & flush chemical burns to eyes with Normal Saline

Assist w/transport to hospital

Pediatric Considerations

- When a child has been burned consider the possibility of child abuse.

Troubleshooting

- Maintain continuous flushing of eyes until the paramedics arrive.
- Protect yourself during the washing process. Wear protective gloves and eyewear and control the wash to avoid splashing.
- Do NOT contaminate skin that has not been in contact with the chemical

Electrical Burns

Signs & Symptoms

- Burns where energy enters & exits the body
- Restless or irritable
- Muscle tenderness or twitching
- Respiratory difficulties or arrest
- Irregular heart beat or cardiac arrest
- Elevated or low blood pressure (shock)
- Fractures
- Seizures
- Visual disturbances

Causes

- Alternating current
- Direct current
- Lightening

History

- **S**igns & Symptoms
  Mechanism of Injury
  How long exposed
  Current & voltage
  Location of wounds
  Points of contact
  Power source off
  Trauma (thrown)
- **A**llergies
- **M**edications
- Past Medical History
  Respiratory
  Cardiac
  (medic alert tags)
- **L**ast oral intact
- **E**vents leading up to incident

Treatment

SCENE SAFETY

Before entering the scene, make sure the patient is not in contact w/any electrical source, downed or broken wires

STOP BURNING PROCESS

Ensure the power source has been turned off

SPINAL PRECAUTIONS

Manually stabilize head to immobilize neck
When moving patient keep the whole spine aligned

AIRWAY

Establish and maintain an open airway
Place an oral airway if unconscious

OXYGEN

Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

VITAL SIGNS

Obtain respiratory rate, pulse, B/P and/or perfusion status

COVER WOUNDS

Cover wounds with a sterile dressing or burn sheet

SPLINT FRACTURES

Splint above & below fracture site **(see "Fractures" Protocol)**

Assist Paramedics

- IV Set Up
- Airway
  O2
  Assist w/ET
  PPV or
  BVM
  - Vital Signs
- CPR/AED
- Assist w/back boarding
- Assist w/transport to hospital

Pediatric Considerations

- All unconscious, breathless, pulseless patients (1 years old or older) treat according to the "Cardiac Arrest/AED Protocol"

Troubleshooting

- Make certain that you and the patient are in a SAFE ZONE
- Electricity may cause severe injuries with little exterior damage
- Direct attention to monitoring pulse, treating shock and stabilizing injuries.
- All unconscious, breathless, pulseless patients should be treated according to the "Cardiac Arrest/AED Protocol"

Hypothermia

Signs & Symptoms

- (99F-96F) shivering
- (95F-91F) intense shivering, difficulty speaking
- (90F-86F) muscle rigidity, uncoordinated, think slow
- (85F-81F) decreased LOC, slow pulse & respiration
- (80F-78F) LOC, few reflexes, heart rate erratic

Causes

- Conduction-direct transfer of heat from one material to another through direct contact
- Convection-currents of air or water pass over the body
- Radiation-is heat the body sends out in waves
- Evaporation-occurs when the body perspires or gets wet and vaporizes
- Respiration-warmth lost through exhaled air

History

- **S**igns & Symptoms
  Predisposing factors
  Length of exposure
  Type of heat loss
- **A**llergies
- **M**edications
- **P**ast Medical History
  Alcohol Abuse
  Drug Use
  Circulatory Disorders
- **L**ast Oral Intake
- **E**vents leading up to incident

Treatment

AIRWAY

Establish and maintain an open airway
Place an oral or nasal airway if unconscious

OXYGEN

Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

VITAL SIGNS

Obtain respiratory rate, pulse, B/P and perfusion status
Do pulse check for 30-45 seconds
If no pulse start CPR attach AED

REWARM PATIENT

Remove wet garments and cover patient with blankets
Handle patient gently
If available apply warm packs to neck, armpits, groin

Frostbite

Frozen limbs should be handled gently, Do NOT rub
Do NOT allow the patient to walk on frozen limb
Cover and immobilize the affected part

Assist Paramedics

- IV Set Up
- Airway
  O2
  Assist w/ET
  PPV or
  BVM
- Vital Signs
- CPR
- Assist w/warming
- Transport (gentle movement)

Pediatric Considerations

- Since infants and young children are small with large skin surface areas in relation to their total body mass and little body fat, they are especially prone to hypothermia.
- Because of their small muscle mass, infants and children don't shiver very much at all, this contributes to their susceptibility to hypothermia.

Troubleshooting

- Factors that contribute to hypothermia are alcohol ingestion, underlying illness, overdose or poisoning, trauma, being outdoors and decreased ambient temperature
- Hypothermia can develop in temperatures well above freezing. Be aggressive w/hypothermic arrests!
- Active rewarming of frozen parts is seldom recommended in the field.

Hyperthermia

Signs & Symptoms

- **Heat Exhaustion:** muscle cramps, weak, dizzy, rapid shallow breathing, weak pulse, heavy perspiration
- **Heat Stroke:** rapid shallow breathing, full rapid pulse, 50% of patients will continue to perspire, dilated pupils, seizures, loss of consciousness or altered mental status
- **Febrile States:** rapid pulse, high fever, irritable, restless, seizure, loss of consciousness, signs & symptoms of infection

Causes

- **Heat Exhaustion:** Heavy perspiration leads to salt loss. This causes thirst. The patient may compensate by drinking large quantities of water, which causes further perspiration, additional salt loss and the presenting symptoms.
- **Heat Stroke:** The body's temperature regulating mechanisms fail and the body can no longer rid itself of excessive heat. This is a true emergency.
- **Febrile State:** Most often seen in patients with an infectious process going on or in children.

History

- **S**igns & Symptoms
  Moist or Dry Skin
  Neurological Changes
- **A**llergies
- **M**edications
- **P**ast Medical History
  Respiratory, Cardiac
  Infections (OR)
  Alcohol or Drug Use
  Exertion
  Recent Illnesses (medical alert tags)
- **L**ast oral intake (what & how much)
- **E**vents leading up

Treatment

AIRWAY
Establish and maintain open airway
Place oral or nasal airway if unconscious

OXYGEN
Give oxygen at 10 – 15 L/min by mask (OR)
If breathing inadequate begin ventilations

VITAL SIGNS
Obtain respiratory rate, pulse, B/P and perfusion status
Assess LOC or Orientation to Person, Place & Time

REMOVE FROM ENVIRONMENT
Remove the patient from the warm environment

ACTIVE COOLING
If the patient is confused or unconscious begin active cooling
Remove clothing; apply cool packs to neck, groin and armpits
Keep the skin wet & cool air moving across it
Give water only if patient can manage his or her own airway
Do NOT allow the patient to chill or shiver

Assist Paramedics

- IV Set Up
- Oral Fluids
- Airway Management
  O2
  Assist w/ET
  PPV or BVM
- Vital Signs
- Active Cooling (ice packs)
- Assist with transport to hospital

Pediatric Considerations

- Febrile seizures are common in children less than 5 years of age. Give blow-by oxygen and remove their clothing.
- Monitor children and adults for uncoordinated movement and new or sudden mental status changes as signs of heat stroke.

Troubleshooting

- Anticipate vomiting in the heat exhausted patient, roll the patient to the side and clear airway.
- An increased body temperature or overheating associated with a change in level of consciousness, such as confusion or unconsciousness, indicates a life-threatening emergency.

Labor and Delivery

Signs & Symptoms

- Crowning
- Urge to push or move bowels
- Frequent contractions (1-2 minutes apart)
- Prior babies

Causes

- Full term pregnancy
- Imminent delivery

History

- **S**igns & Symptoms of
  Imminent delivery
  Any Prenatal care
  Meconium
  Due Date
- **A**llergies
- **M**edications
- **P**ast Medical History
  Diabetes
  Hypertension
  Hypotension
  Pre-eclampsia
  Cardiac Problems
  Respiratory Problems
  Drug Use
- **L**ast Oral Intake
- **E**vent leading up to delivery

Treatment

PREPARE FOR DELIVERY
Reassure and comfort mother
Provide a clean environment

ASSIST DELIVERY
Support baby's head during delivery
Clear baby's mouth first then nose w/bulb syringe
(See Care of the Newborn)

UMBILICAL CORD
If available double clamp cord 8 – 10 inches from baby

PLACENTA
Placenta should deliver within 20 minutes
Save placenta and keep with patient
Do NOT pull on cord

CONTROL BLEEDING
Gently message abdomen over uterus
Place pad between legs

VITAL SIGNS
Obtain respiratory rate, pulse, B/P and perfusion status
Monitor for signs & symptoms of shock

Assist Paramedics

- IV Set Up
- Assist w/care of newborn
- Assist w/care of mother
- Vital signs
- Assist with transport to hospital

Newborn Considerations

- Some deliveries are explosive. Do NOT squeeze the baby, but DO provide adequate support. You can prevent an explosive delivery by using one hand to maintain slight pressure on the baby's head, avoiding direct pressure on the infant's soft spot on the skull.
- Do NOT cut or clamp a cord that is still pulsating.
- After the delivery, dry and wrap the baby, place the infant on the mother's abdomen.

Troubleshooting

- For delivery complications (e.g. limb presentation, prolapsed cord, prolonged delivery, heavy bleeding) give **oxygen** at 10 – 15 L/min by mask and **elevate hips**.
- Update MECC dispatch on patient's condition if complications noted upon your arrival.

Care of the Newborn

Signs & Symptoms

- Premature Newborn is one that weighs less than 5 ½ pounds at birth or one that is born before the 37th week of pregnancy.
- Full-term newborn (37-40 weeks)
- Greater than 40 weeks gestation, greater risk of complications

Causes

- Delivery of the full-term newborn
- Delivery of the premature newborn. Premature newborns need special care from the moment of birth. The smaller the baby, the more important is the initial care.

History

- **S**igns & Symptoms
  Due date
  Time of delivery
  Color of amniotic
- **A**llergies
  - Not established in the newborn
  - Ask mother regarding her allergies
- **M**edications
  - Ask mother regarding her medications/drug
- **P**ast medical history
  - Mothers
  - Prenatal
- **L**ast oral intake
- **E**vents (abnormal) leading up to delivery

Treatment

AIRWAY

Clear mouth first, then nose of newborn w/bulb syringe

MINIMIZE HEAT LOSS

Dry newborn well
Increase room temperature or move to warm environment
Wrap newborn in blanket and cover newborns head

VITAL SIGNS

Monitor respiratory rate (normal 30-60/min)
Monitor pulse rate (normal 120-189)
May obtain an APGAR score on newborn (see below)

If breathing minimal or absent:
Provide physical stimulation (rub newborns back)
If breathing inadequate begin ventilations
(Attach BVM or mask to supplemental oxygen)

If pulse <60/min after 30 seconds of ventilation:
Begin CPR

Assist Paramedics

- Assist w/care of newborn
- Assist with care of mother
- Assist with transport to hospital

Newborn APGAR

	0 points	1 point	2 points
heart rate	absent	<100	>100
respiratory effort	absent	slow or irregular	strong
muscle tone	floppy	movement	active
irritability	no response	some	vigorous
color	blue, pale	blue & pink	pink

Troubleshooting

- Newborns born before 24 weeks gestation generally do not survive. If ALS EMS is not yet on the scene, error on the side of safety and resuscitate all newborns.
- When the nostrils are suctioned the baby may gasp or begin breathing and aspirate or suck any meconium, blood, fluids or mucus from its mouth into its lungs. That is why you suction the mouth before the nostrils.
- Most newborns respond well to drying, stimulation, oxygen and if needed bag-mask-ventilation.

Minneapolis Fire Department

EMS ISSUES

SECTION 5 EMS ISSUES

DEAD ON ARRIVAL (DOA) 5.a

DOA Criteria Defined:

When a patient is found to be without breathing and pulse: **Promptly Begin CPR.**

***Exception**:*

1. Breathless, pulseless (at-home) patient has a ***Minnesota Medical Association DNR Form*** (see "FORMS" Section) signed by themselves or their guardian, a witness and their physician. **MUST** be signed by all three.
2. Breathless, pulseless (nursing home) patient has an order in their medical record signed by their physician. This order (does not need to be the formal DNR Form)
3. Breathless, pulseless patient has rigor (stiff) or lividity (pooled discoloration).
4. Breathless, pulseless patient is cold in a warm environment with evidence the patient has been dead for an extended period of time. **Begin CPR immediately when patient is found cold in a cold environment (hypothermia**).
5. When a trauma victim is found breathless and pulseless despite an open airway. Make sure the airway is open and that the mechanism of injury is consistent with a fatal injury. **Apply AED when a breathless, pulseless patient does NOT have signs of obvious trauma consistent with death**.

When in doubt, always begin or continue CPR!

Obvious DOA

When MFD is first on the scene of an obvious DOA, you should cancel the ambulance and remain on the scene:

1. Make sure MPD has been dispatched and request an ETA.
2. MPD will call the Medical Examiner's office upon arrival.
3. If MPD has not arrived within 15 minutes call dispatch and request an ETA.

DNR AND LIVING WILLS **5.b**

Living Wills

The presence of a living will should not alter your care. The living will cannot be interpreted in the field.

DNR (Do Not Resuscitate)

1. CPR may be withheld if breathless, pulseless (at-home) patient has a ***Minnesota Medical Association DNR Form*** (see "FORMS" Section) signed by themselves or their guardian, a witness and their physician. **MUST** be signed by all three.

2. CPR may be withheld if breathless, pulseless (nursing home) patient has an order in their medical record signed by their physician. This order (does not need to be the formal DNR Form)

3. When the patient is **NOT** breathless and pulseless, standard medical care should be provided regardless of their DNR status.

The only **Valid HOME DNR Order** is a ***Minnesota Medical Association DNR Form*** (see "FORMS" Section) signed by the patient or their legal guardian, a witness and their physician. All three signatures MUST be present. Copies are valid. No validation stamp or notarization is necessary. A **VALID Nursing Home DNR Order** is a signed physician order that can be found in the patient's medical chart.

CRITICAL INCIDENT STRESS DEBRIEFING (CISD) 5.c

In responding to an incident, you may be exposed to sights, sounds, smells, emotions, thoughts or demands that exceed normal working conditions or life experiences. It is common for firefighters to experience emotional "aftershocks" at the end of a tragic event. Peer support is helpful but on occasion Critical Incident Stress Defusing or Debriefings (CISD), are warranted and should be encouraged by all MFD supervisory personnel. Ideally, a defusing should be conducted within 1-8 hours and take no longer than 20-45 minutes. Debriefings are a group intervention technique applied between 24 – 72 hours after an incident and may involve more than one public safety discipline. Participation in either a defusing or a debriefing is voluntary. The Minneapolis Fire Department has its own mental health professional skilled in CISD counseling to assist supervisory staff in setting up or conducting these sessions. This individual may be contacted by calling 612-919-7794. Any employee communication is considered private and confidential.

Company Guidelines:

1. The Chief of the Department has stated that personnel involved in responding to critical incidents will not be mandated to attend. However, Chiefs and Captains are encouraged to seek guidance and request them as necessary.
2. Companies will be allowed to go out of service to attend a defusing or debriefing.
3. Chiefs are encouraged to prompt their Captains to consider calling for a defusing or debriefing regarding any particular disturbing or stressful call their crew is involved in.
4. The Captain will have the final decision as to whether or not his or her crew will attend.
5. Chiefs or Captains are encouraged to call the employee assistance office at 612-370-3845 or 612-919-7794 for additional consultation or guidance. You may also download the complete CISD guidelines from the M:/drive by clicking on [Fire], then [CISM].

To request a defusing, debriefing or Metro CISM Team peer support:

1. Call Mark Olson, MFD MSW Employee Assistance at 612-919-7794.
2. If MFD Employee Assistance is unavailable, call the Metro CISM Coordinator through the duty Deputy at 612-347-5710 to request a defusing or debriefing.

For information or to set up an appointment for individual or family counseling:

1. Contact the MFD Employee Assistance Office at 612-919-7794.
2. Contact Midwest Employee Assistance at 1-800-383-1908 or 651-451-9108.
3. Contact Behavioral Health Counseling at 1-800-662-9524
4. Contact Fire Department Chaplain at 763-520-5627.

Traumatic or Life-threatening injuries to MFD Personnel.
Whenever a crew member(s) witnesses a traumatic, life threatening event or injury to another crew member(s) while responding to a call or while operating at and incident, that/those crew member(s) who witnessed the event will be assessed by a licensed mental health practitioner (MHP) before returning to work for the remainder of the shift. If it is concluded by the mental health practitioner that the crew member is not emotionally fit to return to work, the crew member will be sent home for the remainder of the shift.

To be assessed, personnel will meet the following criteria:

- The person exposed to the traumatic event must have experienced, witnessed or been confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of themselves or other crew members.

- The person's response involved intense fear, helplessness, or horror.

If the MHP or other responsible person doing the assessment is not on scene, the person(s) who witnessed the event will be secured by _____at the scene until the MHP arrives.

If the incident is a large scale response and/or longstanding operation, and manpower and additional resources are a concern, the IC will have the authority to suspend any mental health assessments to personnel until all resources and personnel are in place and the incident is under control. If this is the case, on scene support will be provided by CISM personnel.

MANDATORY REPORTING ISSUES **5.d**

It is mandatory to report certain crimes and failure to report these incidents may be a crime itself. There is also a strong moral obligation to report these crimes. Minnesota offers immunity from liability for people who report incidents in good faith. When required to report these incidents you are exempt from patient confidentiality requirements.

Minnesota State statute (626.556-67) requires the EMT-B to report the following:

Child Abuse	348-3552
Vulnerable Adult Abuse (elderly, spouse, mentally challenged)	348-8526
Sexual Assault (MECC/MPD-Sexual Response Unit)	348-7251
Prenatal Exposure (OB Patient) to Controlled Substance	348-3552
Gunshot Wounds (MPD/MECC)	348-7251

Emergent

Most often MPD and EMS will be enroute or already on the scene. When this is the case, inform both the police and the paramedics about your observations or concerns. If not, contact dispatch and request that MPD and/or EMS be dispatched to the scene. Wait until they arrive and inform them of the situation. These calls are unsettling. The victims of these crimes rely on you as an allied health care professional to report these incidents on their behalf.

Non-Emergent

In those (non-emergent) cases where you feel the patient's health or safety is threatened based on deplorable living conditions, self or caregiver neglect or abandonment, contact the appropriate office listed above or send a description of your findings via email (with a patient name) to the EMS Chief.

Minneapolis Fire Department

DRUG ADMINISTRATION

SECTION 6 DRUG ADMINISTRATION

METERED DOSE INHALERS 6.a

Usually small canisters of medication that deliver an aerosol spray inhaled through the mouth deep into the lungs where it is absorbed by the lung tissue.

Medication Name: Albuterol, Proventil, Ventolin, Metaproterenol, Alupent, Metaprel

Actions: dilates bronchioles

Indications:

- Signs & Symptoms of respiratory distress (i.e. wheezing, cough, shortness of breath, use of accessory muscles to breath, nasal flaring, cyanosis)
- The patient is prescribed a metered dose inhaler.

Contraindications:

- Patient is unable to use the device (not alert or unable to be coached)
- Metered dose inhaler is not prescribed for the patient.

Dose: 1 or 2 inhalations every 4 – 6 hours

MDI Administration:

1. Check right medication, right dose, right patient, right route, expiration date.
2. Use a spacer if the patient has one.
3. Assure the inhaler is at room temperature.
4. Shake canister vigorously.
5. Ask patient to exhale deeply and place lips around inhaler opening.
6. Ask patient to inhale slowly and deeply as they depress the canister.
7. Have the patient hold their breath for as long as comfortably possible.
8. Replace oxygen mask on patient.
9. Record medication activity and time on the "MFD Patient Information Sheet" for the paramedics.
10. Repeat second dose as needed in approximately one minute.

*If the patient is on a home nebulizer than connect it to 6 liters of oxygen and keep them on it.

Side Effects: increases pulse rate, causes tremors or nervousness

Ongoing Assessment: Continue to assess and monitor airway, breathing, circulation and level of consciousness. Continue high-flow oxygen; take frequent vital signs (pulse, respirations, and blood pressure). Observe for deterioration and assist patient with additional puffs of inhaler and/or be prepared to assist ventilations.

NITROGLYCERIN **6.b**

Supplied as either a spray or a very small tablet that the patient places under their tongue where it is rapidly absorbed into the bloodstream.

Medication Name: nitroglycerin, Nitrostat, Nitrolingual, Nitrodur

Actions: Relaxes or dilates blood vessels and decrease the workload of the heart.

Indications: (**ALL** of the following **MUST** be met)

- Patient complains of chest pain.
- Has a history of cardiac problems & is prescribed nitroglycerin.
- Systolic blood pressure is 110 or greater.

Contraindications:

- Patient's systolic blood pressure is less than 110.
- Patient has a head injury.
- Patient has exceeded the maximum prescribed dose (3 sprays or tablets).
- The patient is an infant or child.
- The patient has taken **ANY** medications for erectile dysfunction within the last 24 hours.
- B/P < 140/systolic for patients with signs & symptoms of pulmonary edema.

Dose: One tablet or spray. If the patient still has chest pain and their systolic blood pressure remains above 110 you may repeat this dose every 5 minutes until a total of 3 doses have been given.

Nitroglycerin Administration:

1. Make sure Nitroglycerin is indicated and the patient has no contraindications.
2. Take blood pressure.
3. Assure right medicine, right patient, right dose, right route, check expiration date.
4. Assure patient is alert.
5. Question the patient regarding their last dose and it's effects.
6. Ask patient to lift tongue and place one tablet or spray dose under tongue (while wearing gloves) or have patient place tablet or spray under tongue.
7. Have patient keep mouth closed with tablet under tongue (ask them not to swallow) until the tablet or spray is dissolved.
8. Record the medication activity and time on "MFD Patient Information Sheet" for the paramedics.
9. Repeat a blood pressure and reassess the patient's chest pain.

Side Effects: hypotension (low blood pressure), headache, pulse rate change

Ongoing Assessment: Continue to assess and monitor airway, breathing, and circulation. Continue high-flow oxygen; take frequent vital signs (pulse, respirations, and blood pressure).

ORAL GLUCOSE **6.c**

Oral glucose is a form of simple sugar that is often supplied as a gel in a toothpaste-type tube. It is administered orally to conscious diabetic patients whose blood sugar is thought to be low.

Medication Name: Glucose, Glutose, Insta-glucose

Actions: Increases the blood sugar

Indications:
- Patient with altered mental status
- Patient with known history of diabetes mellitus

Contraindications: (do **NOT** give if)
- Patient is unconscious (**OR)**
- Unable to swallow, drooling or does not have a gag reflex

Dose: One tube

Glucose Administration:

1. Ask patient to squeeze a small amount of the gel between their cheek and gum until the entire tube has been administered.

2. Assist the patient **ONLY** if they are conscious and able to speak or swallow.

3. **NEVER** administer if the patient can not protect their own airway (gag reflex **MUST** be present).

4. Record medication activity and time on "MFD Patient Information Sheet" for the paramedics.

Side Effects: None when administered properly. May be aspirated (sucked into the lung) by a patient without a gag reflex.

Ongoing Assessment: Continue to assess and monitor airway, breathing and circulation. Monitor for seizures and/or changes in the patient's level of consciousness (make note of changes in patient's Glasgow Coma Scale), take frequent vital signs (pulse, respiration's, blood pressure).

EPINEPHRINE **6.d**

Supplied in a spring-loaded syringe that is used to inject epinephrine through a hypodermic needle into the thigh of the patient. Epinephrine is a hormone produced by the body and is used to treat severe allergic reactions.

Medication Name: Epinephrine, Adrenaline, EpiPen or EpiPen Jr.

Actions: Dilates the bronchioles and constricts blood vessels.

Indications: (**MUST** meet **ALL** the following conditions)

- Exposure to allergen.
- Signs & Symptoms of severe allergic reaction (red, itchy skin, swelling of the face, neck, hands, feet or tongue, tightness in throat or chest, cough, rapid breathing, labored or noisy breathing, stridor, wheezing, increased heart rate, decreased blood pressure, altered mental status).
- Medication is prescribed for the patient.

Contraindications: none when used in life threatening situation

Dose: Adult-single auto-injector (0.3 mg)
Infant & Children-one junior auto-injector (0.15 mg)

Epi-Pen Administration:

1. Obtain patient's prescribed auto-injector and ensure:
   a. Prescription written for patient experiencing the severe allergic reaction.
   b. Medication (if you can see it) is **NOT** discolored.
2. Remove cap from auto-injector
3. Place tip of auto-injector against patient's thigh:
   a. lateral (side) portion of thigh
   b. midway between waist and knee
4. Push the injector firmly against the thigh until the injector activates.
5. Hold the injector in place until the medication is injected (at least 10 seconds).
6. Record medication activity and time on "MFD Patient Information Sheet" for the paramedics.
7. Dispose of used auto-injector in the biohazard "sharps" box inside the ambulance.

Side Effects: increased heart rate, pallor, dizziness, chest pain, headache, nausea, vomiting, excitability, and/or anxiety

Ongoing Assessment: Continue to assess and monitor airway, breathing and circulation. Continue high-flow oxygen; take frequent vital signs (pulse, respiration, blood pressure). Treat for shock as needed and be prepared to provide life support (PPV, CPR, AED).

MARK 1 "NERVE AGENT" ANTIDOTE KIT **6.e**

Nerve agents are the most toxic of the known chemical agents. Agents such as sarin (GB), soman (GD), tabun (GA) and VX are considered major terrorist threats. These agents are organophosphate compounds similar to the pesticides parathion and TEPP. These agents are hazards in their liquid and vapor states and can cause death within minutes after exposure. In their liquid state symptoms may be delayed for hours. Treatment of a victim with nerve agent intoxication consists of immediate decontamination, ventilation, administration of antidotes (Atropine & Pralidoxime Chloride) and supportive therapy. The antidote comes in a double-barreled auto-injector and administration is similar to the Epi-Pen. The Mark 1 Antidote Kit is primarily reserved for the rescuer and/or for paramedic administration. However, in the event a patient is critical and in the warm-zone, Minneapolis Firefighters may be called on to administer a Mark 1 if the resources are adequate.

Location: Adult auto-injectors (8) can be found tab-locked in a clear case wall mounted inside all fire apparatus, (25) in each BC's vehicle and (50) on each heavy rescue rig**.** Pediatric auto-injectors can be found in each EMS Duty Supervisor's vehicle.

Medication Name: Adult Auto-injector #1 (Atropine 2mg)
Adult Auto-injector #2 (Pralidoxime Chloride 600 mg)
Pediatric Auto-injectors (Atropine 1mg) – Purple
Pediatric Auto-injectors (Atropine 0.5 mg) - Blue

Actions: Atropine blocks the effects of excess acetycholine, dries secretions and decreases wheezing.
Pralidoxime Chloride attaches to the nerve agent inhibiting the enzyme that is normally used to break down acetycholine restoring it to its normal activity.

Indications:

- Unexplained Multiple Casualties Incident (MCI)

  - Signs & symptoms of nerve agent toxicity or organophosphate poisoning:
    Mild Symptoms: runny nose, small pupils and eye pain
    Moderate Symptoms: D-Diarrhea, **U**-Urination, **M**-Miosis (**pinpoint pupils**), **B**-Bronchospasms (wheezing), **E**-Emesis (vomiting), **L**-Lacrimation (tearing), **S**-Salivation (drooling) = **DUMBELLS**
    Severe Symptoms: loss of consciousness, seizures and apnea

Contraindications: Adult auto-injectors (Mark 1 Kits) are contraindicated for pediatric patients or patients < 40 kg. Pediatric Atropine auto-injectors can be found in each EMS Duty Supervisor's vehicle.

Adult Dose: Use 2 or 3 Mark 1 Kits (#1 Atropine 2 mg & #2 Pralidoxime Chloride 600 mg) for patients over 90 lbs with seizures, severe shortness of breath or unconsciousness (moderate to severe symptoms).

Pediatric Dose: 1 mg (purple) Atropine auto-injector: 40-90 lbs (4 to 10 year old)
0.5mg (blue) Atropine auto-injector: 15-40 lbs (6 month to 4 years old)

Give one every 5 minutes to control secretions.

MARK 1 KIT (Continued)

Mark 1 Kit Administration:

1. Remove victim from the environment. Remove victims clothing and jewelry.
2. Decontaminate immediately using gross amounts of water.
3. Maintain an open airway & suction as necessary.
4. Administer high-flow oxygen.
5. Remove cap from auto-injector # 1 (Atropine)
6. Place tip of auto-injector against patient's thigh:
   a. lateral (side) portion of thigh
   b. midway between waist and knee
7. Push the injector firmly against the thigh (can be administered through clothing) until the injector activates.
8. Hold the injector in place until the medication is injected (at least 10 seconds).
9. Repeat the process for the second auto-injector.
10. Move the patient or rescuer to the front of the triage line and inform the paramedics of all medication activity.
11. In an MCI event, take a black marker and write "Mark 1" on the patient's forehead and note the time given.
12. Dispose of used auto-injector in a biohazard "sharps" box.

Side Effects: dilated pupils, decrease wheeze, decrease respiratory secretions

Ongoing Assessment: Continue to assess and monitor airway, breathing, circulation, continue high-flow oxygen. Be prepared to suction if necessary. Secondary contamination is a significant risk; rescuers should use appropriate level of contact and respiratory protection.

OXYGEN **6.f**

ACTION: Increases arterial oxygen tension (saO2) and hemoglobin saturation

INDICATIONS: LOW CONCENTRATION (24 – 44%):
1. History of chronic obstructive pulmonary disease (emphysema, chronic bronchitis, asthma in adult, heavy smoker [40 pack years or more]) found in mild shortness of breath.
2. Patients with SaO2 readings >=95%

INDICATIONS: HIGH CONCENTRATION (60-≈100%):
1. Smoke, carbon monoxide, or toxic gas inhalation
2. Trauma or suspected blood loss
3. Hypoxia (SaO2<95%) from any cause
4. Respiratory distress, poor capillary refill or other indications of poor oxygenation
5. Unresponsive patient
6. Obstetric patients with known or suspected complications

CONTRAINDICATIONS:
1. None in the prehospital setting

PRECAUTIONS:
1. This guideline refers to spontaneously breathing and adequately ventilating patients only
2. High concentration O2 in some cases (emphysema and asthma) may depress respiratory drive; be prepared to assist ventilation, but don't allow patients to become severely hypoxic for fear of respiratory arrest
3. Agitation or restlessness can be a sign of hypoxia
4. Do not use in the presence of open flames
5. Treatment for anxiety hyperventilation should be treated with reassurance and coaching to slow breathing. If the possibility of another underlying cause exists (i.e. pulmonary embolus, asthma, MI) then the patient should be treated with oxygen. DO NOT treat any patient by having them breathe into a paper bag or O2 mask that is not supplied with O2.

ADVERSE REACTIONS/SIDE EFFECTS:
1. Non-humidified oxygen can dry mucous membranes, but humidified O2 is not indicated in the prehospital setting

ADMINISTRATION:
1. Deliver low concentrations via nasal cannula @ 1-6 lpm
2. Deliver high concentrations via non-rebreather mask @ 6-15 lpm
3. Attempt to obtain and document pulse oximetry readings before and during oxygen therapy

PEDIATRIC CONSIDERATIONS:
1. Use pediatric mask or blow-by if mask is not tolerated

SPECIAL NOTES: If oximetry is unavailable, patients should receive high concentration oxygen unless low concentration is indicated.

Minneapolis Fire Department

EMS EQUIPMENT & PROCEDURES

SECTION 7 EMS EQUIPMENT & PROCEDURES

National Institute of Health (NIH) CPR Study **7.a**

On **Saturday December 17th, 2005 at 0800** the Minneapolis Fire Department in conjunction with EMS began participation in a CPR study involving ADULT patients using 2 different treatments for a period of 3 years or 3100 patients. At the present the study is on-going.

One treatment will look at cardiac arrest survival rates using a new and improved CPR method known as the "five-finger-fulcrum" technique (study tools associated with this treatment arm are stored in a **PURPLE** bag).

The second treatment will add a suction cup device (referred to as the "Pump") which draws more blood into the heart and air into the lungs (study tools associated with this treatment arm are stored in a **YELLOW** bag).

STUDY INDICATIONS:

- Adults ONLY that are unconscious, not breathing, no pulse
  - Adult defined as anyone that appears to be an ADULT (OR)
  - Age-Based (18 years old)
  - AND Presumed non-traumatic cardiac arrest

STUDY CONTRAINDICATIONS:

- Any patients less than 18 years old.
- Obvious or likely traumatic etiology (penetrating or blunt trauma)
- Pre-existing DNR orders
- Obvious signs of clinical death (rigor mortis, lividity)
- Family member who request you not utilize the investigational devices
  - Consent forms are not necessary but family members can refuse
  - "Scripted" cards will be made available to hand family explaining study
  - Should they refuse or demand we use "normal" CPR then stop use of the study protocol & use "regular" CPR w/PPV Mask & BVM (we will no longer carry adult LMA's)
- In-hospital cardiac arrest
- Prisoners
- For use of PUMP, recent incision through sternum (open heart surgery) within 6 months or appearing not healed.

STUDY PROCEDURES:

During Weekly EMS Inventory (EVERY Saturday)…

- Look at "Color-Coded" calendar attached or inside the FMO Airway Bag
- Find "today's date" & note the COLOR.
- Go to Station's EMS Locker & pull out the designated or SAME color bag
  - Place (2) SAME color bags on the fire apparatus (place one inside the airway bag & one inside the spare-oxygen compartment)
  - This will facilitate serial EMS responses should a company get a full arrest before returning to the station to restock.
- REMOVE any "off-week" color bags, returning them to the EMS locker.

Reporting On-Shift…

- Listen to AM Radio-Test
  - Dispatch will announce "Code Condition Color" (i.e. "Code Condition Purple"
- Perform Daily Check of EMS Bags
- Look at the Calendar (that day's color should match the color of the CPR study bag-if NOT exchange it)

Making a "Full Arrest" Response…

- Upon arrival pull out "color-coded" bag
  - Check color of bag against that day's date on the color-coded calendar attached or inside the FMO Airway Bag
  - They should be the SAME color! ***If they are not, only perform standard CPR***
  - Open the colored bag and use the equipment inside (there is a different color for each of the two different treatments)

    - **YELLOW** color bag will contain (1) clear plastic bag with a POD, PPV Mask & syringe, 2 razors, 1 plastic bag, 1 study card & 1 PUMP
    - **PURPLE** color bag will contain (1) purple plastic bag with a PPV Mask & syringe

- Using the PUMP may spark Family interest/questions…
  - Pull out a "scripted card" from the YELLOW bag and hand it to them.
  - If they insist you stop & return to "normal" CPR, do so!

During Transport…

- **ONLY** MFD, HCMC EMS & North EMS personnel may use the PUMP!
  - This applies while enroute or at the hospital.
  - Both HCMC EMS & North EMS will participate in the pre-hospital study.
- The resuscitation effort will continue for a full 30 minutes AFTER MFD CPR begins.

At the END of an EMS Response…

- PPV Masks are disposable (throw them away)
- Place dirty POD's & PUMPS in the plastic bag found inside the YELLOW color coded bag and return to the station.
- All Fire Companies will carry an extra appropriately "color-coded" bag (inside the spare O2 compartment) in the event they should get a 2nd call prior to cleaning and/or restocking.

Upon Return to the Station…

- Remove used or dirty POD &/or PUMP off the fire apparatus
- Place dirty POD's in the collection bin entitled, "USED POD's" near the station slop sink. (If you had a problem with this device during the resuscitation effort call the study HOTLINE 1-866-871-9784) or George Vasquez (HCMC Study Coordinator 612-336-1483).
- Used POD's can be disposed of when your next shift begins assuming there are no inquiries from the HCMC research team.
- Place used PUMP in the collection bin entitled, "USED PUMP" near the station slop sink. These should be cleaned as time allows according the following procedure:
    - Mix a ¼ cup bleach to 1 gallon water in a bucket
    - The blue plastic cup on the PUMP should be pulled off
    - Submerge the blue plastic piece in the bucket (NOT the handle)
    - Allow the part to soak for 30 minutes
    - Pour off bleach-water solution, rinse & dry parts
    - Re-insert the blue cup in the PUMP stem
    - Place a clean PUMP, (1) clear plastic bag with POD, PPV Mask w/adapter & syringe, (2) razors, (1) plastic bag, (1) CPR Study Card in the YELLOW color bag it was removed from. (Supplies can be found in the EMS Lockers).

- Return "Rescue Ready" AED (indicated by green light in the device handle) AND that day's appropriate "color coded" bag with CPR Study Equipment in it to the response apparatus.
- Complete NFIRS Cardiac Arrest Screen.
- Download AED according to "Quick Reference Sheet" (pg 68).
- Contact MCV driver if unable to download AED in stations for transport to tower.
- Replace electrodes, batteries, cases at Stores.

ResQ Trial Resource Guide

Randomization (pre-assignment to study arm) is assigned by week. The week begins & ends on:

Saturdays at 8:00 a.m.

Perform the appropriate CPR method on everyone who meets the following inclusion/exclusion criteria:

INCLUSION CRITERIA: Patients must meet ALL of the following	EXCLUSION CRITERIA: DO NOT include a patient if they meet any one or more of the following
Age: known or presumed to be ≥ 18 years	**Age**: known or presumed to be < 18 years
Etiology: Presumed non-traumatic cardiac arrest; includes, for example: • Cardiac or respiratory causes • Unknown causes • Stroke • Overdose • Smoke inhalation or burns • Drowning • Metabolic imbalance • Seizures	**Etiology:** Obvious or likely traumatic (blunt or penetrating) injuries causing cardiac arrest (includes hangings)
	Pre-existing DNR orders
	Signs of obvious clinical death (e.g. rigor, lividity)
	Family or legal guardians **request that the subject not be entered in the study** at the time of arrest
	In-hospital cardiac arrest
	Recent sternotomy - wound not appearing completely healed (if unknown) or < 6 months (if known)
	Prisoners

Before all Cardiac Arrest Runs:

1. Make sure your vehicle has the proper study devices (in color coded bags) available for all calls.
2. Make sure all crew members are clear as to what CPR method is indicated for the week.

During all Cardiac Arrest Runs:

1. Assess the patient for inclusion/exclusion criteria.
2. **If eligible, begin the randomized CPR method as soon as possible. Upon arrival, perform 2 minutes of CPR (with devices if indicated) before analyzing ECG rhythm.**
   Exception: EMS-witnessed arrest: analyze and shock immediately if indicated.
3. Attempt resuscitation for a minimum of 30 minutes or until pulse returns. Be equally aggressive with all resuscitation efforts (e.g. meds, length of effort, etc.) regardless of CPR method.
4. Resuscitation at the scene is generally preferred over transport with CPR in progress.
5. Always monitor for, manage and report any adverse events (unusual symptoms or events).

After all Cardiac Arrest Runs:

1. Complete your patient care record as accurately and completely as possible, especially information related to initial cardiac arrest rhythm, patient height and weight, race, whether arrest was witnessed or bystander CPR was performed.
2. Print an ECG code summary and attach it to the run report form.
3. Replace all used supplies/devices.
4. **Immediately after the run (24/7), the paramedic should call the Research Hotline after EVERY cardiac arrest** (run where the patient had an absence of pulse for ANY period of time). This includes cardiac arrests where resuscitation was not initiated (e.g. DOAs) and arrests where the patient was not entered into the study (e.g. pediatric or traumatic arrests).

Call the Research Hotline (1-866-871-9784) at any time (24/7) with study questions!

RESQ TRIAL RESOURCE GUIDE

PERFORMING PROPER S-CPR

Devices for this week of the study (facemask & syringe) are supplied in **PURPLE** colored study bags labeled "S-CPR".

	Unsecured Airway (Facemask Ventilation)	Secured Airway (ET tube, Combitube or LMA)
Ventilations	**30:2** Compression to ventilation ratio; ventilate over 1 second until you see chest rise.	Ventilate at 10/min (once every 10 compressions) over 1 second until you see chest rise.
Compression Pauses	PAUSE for 2 ventilations.	DO NOT PAUSE for ventilations.
Compression Depth	"Push hard" (depth of 1.5 – 2")	
Compression Rate	"Push fast" (100/min)	
Decompression	Assure that chest wall recoils COMPLETELY.	
Rotate Duties	Rotate duties every 2 – 3 minutes to prevent fatigue.	

Important Reminders

1. Upon arrival, perform 2 minutes of CPR before analyzing ECG rhythm.
   Exception: EMS-witnessed arrest: analyze and shock immediately if indicated.
2. Assure tight facemask seal throughout chest compressions (2-handed technique is preferred).
3. Attempt resuscitation for 30 minutes or until pulse returns.
4. Complete your patient care record as accurately and completely as possible, especially information related to initial cardiac arrest rhythm, patient height and weight, race, whether arrest was witnessed or bystander CPR was performed.
5. Grab a new clear study package containing a facemask and syringe and place it in the purple study bag labeled "S-CPR".
6. Paramedics: Call the Research Hotline after EVERY cardiac arrest (run where the patient had an absence of pulse for any period of time). This includes cardiac arrests where resuscitation was not initiated (e.g. DOAs) and arrested patients not entered into the study (e.g. peds or traumatic arrests).

Call the Research Hotline at any time (24/7) with study questions!

ResQ Trial Resource Guide

Performing Proper ACD-CPR + ITD

Devices for this week of the study (facemask, syringe, ResQPOD [ITD] & ResQPump) are supplied in **YELLOW** colored study bags labeled "ACD-CPR + ITD".

	Unsecured Airway (Facemask Ventilation)	Secured Airway (ET tube, Combitube or LMA)
Ventilations	**30:2** compression to ventilation ratio; ventilate (over 1 second each) until chest rises. (No ITD lights)	Turn on ITD timing assist lights and ventilate with lights (10/min) over 1 second until chest rises.
Compression Pauses	PAUSE for 2 ventilations.	DO NOT PAUSE for ventilations.
Compression Depth	Compress 1.5 – 2" (≈65 – 90 lbs for most adults) Use force gauge as a reference.	
Compression Rate	80/min (use ResQPump metronome)	
Decompression	Attempt to pull up to -20 lbs lift (or until just before suction releases).	
Rotate Duties	Rotate duties every 2 – 3 minutes to prevent fatigue.	

Important Reminders

1. Upon arrival, perform 2 minutes of CPR with the devices before analyzing ECG rhythm.
   Exception: EMS-witnessed arrest: analyze and shock immediately if indicated.
2. Assure tight facemask seal throughout chest compressions (2-handed technique is preferred).
3. Attempt resuscitation for 30 minutes or until pulse returns.
4. Always remove ResQPOD if pulses return; immediately replace the ResQPOD if patient rearrests.
   If CPR is indicated: use ResQPump & ResQPOD.
   If CPR is not indicated (pulse present): do not use either device.
5. Remove the ResQPOD if it fills with fluid 2 times.
6. Place $ETCO_2$ device/sensor between ResQPOD and ventilation bag (NOT between ResQPOD & ET tube).
7. Continue to use the ResQPump even if you have suction difficulties as it may still be providing some decompression benefit; discontinue using if the suction difficulties become distracting.
8. Discontinue use of device(s) if they do not appear to function as intended.
9. Never leave devices with ER personnel.
10. Give the ResQPOD sticker (with serial number) to the paramedic for placement on the top page of the run report form.
11. Record the ResQPump serial number on your run report form.
12. Complete your patient care record as accurately and completely as possible, especially information related to initial cardiac arrest rhythm, patient height and weight, race, whether arrest was witnessed or bystander CPR was performed.
13. Discard the ResQPOD (leave lights on to drain battery) like other airway equipment unless there were problems with it; in which case you should retain the device in a bag and notify investigators.
14. Clean the ResQPump, check the gauge and suction cup, and return it to the yellow zippered case.
15. Grab a new clear study package containing a facemask, syringe and ResQPOD and place it in the yellow study bag labeled "ACD-CPR+ITD" with the ResQPump (in square yellow zippered bag).
16. Paramedics: Call the Research Hotline after EVERY cardiac arrest (run where the patient had an absence of pulse for any period of time). This includes cardiac arrests where resuscitation was not initiated (e.g. DOAs) and arrested patients not entered into the study (e.g. peds or traumatic arrests).

Call the Research Hotline at any time (24/7) with study questions!

LARYNGEAL MASK AIRWAY (LMA) **7.b**

INDICATIONS:

1) Unconscious **PEDIATRIC** patient with NO gag reflex
2) Need to secure airway
3) Need to ventilate patient
4) Situations involving a difficult mask (BVM) fit.

CONTRAINDICATIONS (Not all contraindications are absolute):

1) Airway obstruction below pharynx
2) Inability to open mouth
3) Massive thoracic injury
4) Massive maxillo-facial trauma
5) Patients at risk of aspiration (full stomach)

PROCEDURE:

Prepare for LMA insertion:

Select proper size LMA, examine the LMA, deflate and inflate the cuff, lubricate the LMA properly position the airway

Recommended Size guidelines:

–Size 2:	10 to 20 kg
–Size 2.5:	20 to 30 kg
–Size 3:	30 kg to small adult

During inflation the maximum air in cuff should not exceed:

–Size 2:	10 ml
–Size 2.5:	14 ml
–Size 3:	20 ml

PROCEDURE (LMA)

1. Grasp the LMA by the tube, holding it like a pen as near as possible to the mask end.
2. Place the tip of the LMA against the inner surface of the patient's upper teeth.
3. Press the mask tip upwards against the hard palate to flatten it out.
4. Using the index finger, keep pressing upwards as you advance the mask into the pharynx to ensure the tip remains flattened and avoids the tongue.
5. Keep the neck flexed and head extended.
6. Press the mask into the posterior pharyngeal wall using the index finger.
7. Grasp the tube firmly with the other hand then withdraw your index finger from the pharynx.
8. Press gently downward with your other hand to ensure the mask is fully inserted.
9. Inflate the mask with the recommended volume of air.
10. Connect the LMA to a Bag-Valve Mask device or low pressure ventilator.
11. Ventilate the patient while confirming equal breath sounds over both lungs in all fields and the absence of ventilatory sounds over the epigastrium.
12. Insert a tube holder.**PEDIATRIC CONSIDERATIONS:**
    - Not used for patients less than 10kg
    - Use BVM ONLY (NOT Demand Valve)
    - Make sure that the proper size LMA is inserted and inflated properly

BAG-VALVE MASK 7.c

Bag-Valve-Mask (BVM)-consists of a self-inflating bag, one-way valve, face mask, and oxygen reservoir. It should always be connected to 15 liters of oxygen, allowing for the oxygen reservoir to fill first and then when squeezed capable of delivering 100% oxygen. The most difficult part of delivering BVM ventilation's is obtaining an adequate face mask seal. Therefore it is strongly recommended that BVM artificial ventilation be performed by two rescuers.

1. **Two-person BVM ventilation-NO Trauma Suspected:**
    a. Open the patient's airway using the HEAD-TILT, CHIN-LIFT TECHNIQUE. Suction and insert an airway adjunct (oral or nasal), as necessary.
    b. Select the correct bag size (adult/child-1000cc, infant-400cc), located in the blue and red pouches inside the airway bag.
    c. Kneel at the patient's head. Position thumbs over the top half of the mask, index and middle fingers over the bottom half.
    d. Place the apex or top of the triangular mask over the bridge of the patient's nose, then lower the mask over the mouth and upper chin. If the mask has a large, round cuff surrounding a ventilation port, center the port over the patient's mouth.
    e. Use ring and little fingers to bring the patient's jaw up to the mask and maintain the head-tilt, chin-lift.
    f. The second rescuer should connect bag to mask, if not already done. Ventilate adult patients NO MORE than 12 breaths minute (1 breath every 5 seconds), 20 breaths a minute for infant/children ages 1 month-8 years old (1 breath every 3 seconds) or until you see the chest rise and 40-60 breaths a minute for newborns ages 0-30 days (1 breath every 1-11/2 seconds) or until you see the chest rise.
    g. The second rescuer should release pressure on the bag and let the patient exhale passively. While this occurs the bag is refilling from the oxygen source.

2. **Two-person BVM ventilation: Trauma Suspected:**
    a. Open the patient's airway USING THE JAW-THRUST TECHNIQUE. Suction and insert an oral airway (unless facial trauma is present).
    1.c Select the correct BVM size.
    c. Kneel at the patient's head. Place thumbs over the nose portion of the mask and place your index and middle fingers over the portion of the mask that covers the mouth.
    d. Use your ring and little fingers to bring the jaw upward, toward the mask, WITHOUT TILTING THE HEAD OR NECK.
    e. The second rescuer should squeeze the bag to ventilate the patient as described above for the non-trauma patient.

3. **One-person BVM ventilation**:
    1. Position yourself at the patient's head and establish an open airway. Suction and insert an airway adjunct as necessary.
    2. Select the correct BVM size. Position the mask on the face as described above.
    3. Form a "C" around the ventilation port with thumb and index fingers. Use the middle, ring and little fingers under the patient's jaw to hold the jaw to the mask.
    4. Ventilate adult patients NO MORE than 12 breaths minute (1 breath every 5 seconds), 20 breaths a minute for infant/children ages 1 month-8 years old (1 breath every 3 seconds) or until you see the chest rise and 40-60 breaths a minute for newborns ages 0-30 days (1 breath every 1-11/2 seconds) or until you see the chest rise.
    5. Release pressure on the bag and let the patient exhale passively. While this occurs the bag is refilling from the oxygen source.

4. **If the chest does not rise and fall during BVM ventilation**:
    1. Reposition the head.
    2. Check for escape of air around the mask and reposition fingers and mask.
    3. Check for airway obstruction or obstruction in the BVM system. Re-suction the patient if necessary. Consider insertion of an airway adjunct if not already done.
    4. If none of the above methods work, use a pocket mask with a one-way valve.
    5. When ventilating an infant or child, you may need to occlude the pop-off valve, then slowly and gently squeeze the bag until you get chest rise. Overriding the valve can allow you to generate A LOT more pressure and volume, so be very careful!

5. **Artificial Ventilation of a Stoma Breather*:***
    1. Clear any mucous plugs or secretions from the stoma.
    2. Leave the head and neck in a neutral position, as it is unnecessary to position the airway prior to ventilation's in a stoma breather.
    3. Use a pediatric size mask to establish a seal around the stoma.
    4. Ventilate at the appropriate rate for the patient's age.
    5. If unable to artificially ventilate through the stoma, consider sealing the stoma and attempting artificial ventilation through the mouth and nose.

After each patient use throw away the entire BVM system and replenish your stock by exchanging the used BVM system for a new one with the responding ALS ambulance.

POSITIVE PRESSURE VENTILATION (PPV) 7.d

The Minneapolis Fire Department provides the firefighter EMT with a "Shaw" flow restricted, oxygen-powered ventilation device. This positive pressure resuscitator can be found attached to a "D" oxygen cylinder inside the airway bag located on every piece of response apparatus.

INDICATIONS:

1. Adult patient's who are breathing inadequately (less than 8 times per minute or greater than 24 times per minute). The preferred method of ventilation of the Adult patient utilizes an oral or nasal airway in conjunction with the 1000cc BVM and 15 liters per minute oxygen. When PPV is used it should be connected to 15 liters per minute oxygen. It should NEVER be used on the pediatric patient.
2. Patient's with a stroke or severe head injury (unconscious, pupils unequal or dilated, posturing, and/or seizures) should be ventilated once every 4 seconds.
3. Asthmatic patient's who have suffered a respiratory arrest should be ventilated using a slower rate of ventilation (8 times a minute) to allow for passive exhalation.

PROCEDURE:

1. **Use when NO head, neck or spinal injury is suspected**
   a. After opening airway, insert correct size oral or nasal airway and attach adult mask.
   b. Position thumbs over top half of mask, index and middle fingers over bottom half.
   c. Place apex of mask over bridge of nose, then lower mask over mouth and upper chin.
   d. Use ring and little fingers to bring jaw up to mask.
   e. Connect flow restricted, oxygen-powered ventilation device to mask if not already done.
   f. Trigger the flow restricted, oxygen-powered ventilation device until chest rises.
   g. Repeat once every 5 seconds
   h. If chest does not rise, re-evaluate.
      (1) If abdomen rises, reposition head.
      (2) If air is escaping from under the mask, reposition fingers and mask.
      (3) Check for obstruction.
      (4) If chest still does not rise, use alternative method of artificial ventilation, (e.g., pocket mask).

2. **Use when there is suspected head, neck or spinal injury** (unconscious, pupils unequal or dilated, posturing, and/or seizures).
   a. After opening the airway (Jaw Thrust Technique), attach a mask.
   b. Immobilize head and neck, have second firefighter hold head manually or use your knees to prevent movement.
   c. Position thumbs over top half of mask, index and middle fingers over the bottom half.
   d. Place apex of mask over bridge of nose, then lower mask over mouth and upper chin.
   e. Use ring and little fingers to bring jaw up to mask without tilting head or neck.
   f. Connect flow restricted, oxygen-powered ventilation device to mask, if not already done.
   g. Trigger the flow restricted, oxygen-powered ventilation device until the chest rises.
   h. Repeat once every 4 seconds
   i. If chest does not rise, re-evaluate.

PPV (Continued)

(1) If abdomen rises, reposition head.
(2) If air is escaping from under the mask, reposition fingers and mask.
(3) Check for obstruction.
(4) If chest still does not rise, use alternative method of artificial ventilation, (e.g., pocket mask).

PEDIATRIC CONSIDERATIONS:

1. NEVER use oxygen powered ventilation device on children. A bag-valve-mask connected to 15 liters per minute oxygen should be used instead. Ventilatory effectiveness can be evaluated based on seeing the chest rise and the child's skin color return to pink.

SPECIAL NOTE:

Flow restricted, oxygen-powered ventilation devices should provide:

1. A peak flow rate of 100% oxygen at up to 40 liters per minute.
2. An inspiratory pressure relief valve that opens at approximately 60 centimeters water and vents any remaining volume to the atmosphere or ceases gas flow.
3. An audible alarm that sounds whenever the relief valve pressure is exceeded.
4. Satisfactory operation under ordinary environmental conditions and extremes of temperature.
5. A trigger positioned so that both hands of the EMT can remain on the mask to hold it in position.

PULSE OXIMETRY 7.e

The use of pulse oximetry aids in the assessment of respiratory function in the field. Currently the Minneapolis Fire Department only has one device located at Fire Station #12. ALS EMS routinely utilizes a pulse oximeter. This device allows for monitoring of oxygen saturation (the percent of hemoglobin saturated with oxygen; referred to as SaO2 or O2 sat. A normal SaO2 for healthy individuals is 95-100%. A low or falling saO2 indicates that the airway or ventilatory status may be compromised.

Pulse Oximetry Readings

>95%	**Normal**
90-95%	**Evaluate Patient: Begin Oxygen**
85-90%	**Evaluate Patient: Begin 100% Oxygen & Treat Aggressively**
<85%	**Major Crisis: Evaluate, Begin 100% Oxygen & Treat Aggressively**

INDICATIONS:

1. Respiratory distress/complaints
2. Cardiac problems
3. Multiple system trauma
4. Poor color
5. Patients requiring use of airway adjuncts and/or assisted ventilation's
6. Suspected shock
7. Altered level of consciousness

PRECAUTIONS:

1. Patients with hemoglobin disorders such as CO poisoning, anemia, and methemoglobinemia may give artificially high saO2 readings. Readings in such patients should be interpreted with extreme caution
2. Pulse oximetry readings may be difficult to obtain in states of low perfusion

PROCEDURE FOR PATIENTS WITH SaO2 <90% OR FALLING SaO2:

1. Check airway and manage as indicated
2. Increase oxygen delivery (increase liter flow) and/or assist ventilation
3. Check pulse oximetry device placement. Possible causes of inaccurate readings include:
   - Excessive movement, ambient light or temperature
   - Moisture in the sensor or sensor not at heart level.
   - Cold, blue fingertips (do NOT use thumbs)
   - Sensor placed on same arm blood pressure is being obtained on
   - Improperly attached sensor (look for consistent flashing green light)
   - Incorrect sensor for patient (do NOT use on neonates or infants)
   - Poor patient perfusion (light should blink green and heart rate digital reading should be the same as the patients radial pulse when taken)
   - Anemia, low or misleading hemoglobin concentrations (CO poisoning, ingested fingernail polish)

OXIMETRY (Continued)

PEDIATRIC CONSIDERATIONS:

1. Special probes may be required to obtain readings in pediatric patients

SPECIAL NOTES:

1. Best probe site in adults is usually the middle fingertip with nail polish removed
2. Attempt to obtain and document pulse oximetry readings before and during oxygen therapy
3. The use of pulse oximetry as a vital sign is encouraged, as the oximeter may be helpful in detecting hypoxia not evidenced by signs or symptoms
4. Sensor sites (fingertips) must be checked periodically to determine sensor positioning, skin sensitivity and circulation (pink, warm, warm, capillary refill less than 2 seconds).
5. Clean Oximeter with Cavicide Disinfectant

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) 7.f

ALS EMS is capable of delivering Continuous Positive Airway Pressure (CPAP) to patients who suffer from shortness of breath from asthma, COPD, pulmonary edema, CHF, and pneumonia. CPAP has shown to rapidly improve vital signs, gas exchange, the work of breathing, decrease the sense of difficulty, and decrease the need for endotracheal intubation. On occasion MFD personnel will be asked to assist the medics in placing a patient on CPAP as outlined below.

INDICATIONS:

1. Any patient who is complaining of shortness of breath for reasons other than pneumothorax or asthma and:
   A. Is awake and oriented
   B. Is over 12 years old and is able to fit the CPAP mask
   C. Has the ability to maintain an open airway.
   D. A respiratory rate greater than 25 breaths per minute
   E. Has a systolic blood pressure above 90mmHg
   F. Uses accessory muscles during respiration's
   G. Sign and Symptoms consistent with asthma, COPD, pulmonary edema, CHF, or pneumonia

CONTRAINDICATIONS:

1. Patient is in respiratory or cardiac arrest.
2. Asthma patients or patients suspected of having a pneumothorax (unequal breath sounds)
3. Patients at risk for vomiting.
4. Patients with severe facial trauma.

PRECAUTIONS:

1. Use care if patient:
   A. Has impaired mental status and is not able to cooperate with the procedure
   B. Has active upper GI bleeding or history of recent gastric surgery
   C. Complains of nausea or vomiting
   D. Has inadequate respiratory effort
   E. Has excessive secretions
   F. Has a facial deformity that prevents the use of CPAP
2. CPAP should not be used with portable O2 because of the large amount of oxygen it takes to operate the device. Use ambulance's on-board oxygen.

PROCEDURE:

1. Make sure patient equal breath sounds.
2. Explain the procedure to the patient.
3. Ensure adequate oxygen supply to ventilation device (100%)
4. Place the patient on continuous pulse oximetry.
5. Place the delivery device over the mouth and nose
6. Secure the mask with provided straps or other provided devices
7. Use 10 cmH2O of PEEP
8. Check for air leaks
9. Monitor and document the patient's respiratory response to treatment
10. Continue to coach patient to keep mask in place and readjust as needed.

SEMI-AUTOMATIC EXTERNAL (AED) DEFIBRILLATOR 7.g

The Minneapolis Fire Department uses the Cardiac Science (G3) AED, which is a self-testing battery-operated automatic external defibrillator. After applying the G3 AED electrodes to the patient's chest, the device automatically analyzes the patient's heart rhythm and if the Ventricular Tachycardia or Ventricular Fibrillation (both chaotic heart rhythms incompatible with life) are present, it will advise the user to push the button to deliver a shock. This device uses one button and guides you through the rescue using a combination of voice prompts, audible alerts and visible indicators. This device is capable of continuous cardiac monitor during CPR, noise or artifact detection during analysis, non-committed shock (it will dump the charge if a normal rhythm is detected) and pediatric defibrillation.

INDICATIONS (MUST meet ALL):

1. NO Pulse
2. NOT Breathing
3. Unconscious
4. Over 1 year old
   - Use Pediatric Electrodes on Children Ages 1 - 8 years old or Persons <55 lbs.
   - Use Adult Electrodes on Persons >8 years old or >55 lbs.

CONTRAINDICATIONS:

1. Do NOT use in children less than 1 year of age.

PROCEDURE:

1. Open & Maintain Airway (place oral airway)
2. Begin ventilations using a BVM (Use of the ResQPOD is dependent on CPR study randomization.).
3. Start CPR (30:2 Adult or 30:2 Child). Use of the ResQPUMP is dependent on CPR study randomization.
4. Perform 2 minutes of CPR before applying AED.
5. After 2 minutes of CPR (or) if you witness patient arrest, attach AED and open lid.
6. Follow the voice prompt and place the pre-attached adult electrodes. For pediatric patients, disconnect the adult electrodes and attach the pediatric electrodes found inside the soft-case outside pouch. Use an Anterior-Lateral placement on both adults and pediatric patients.
7. Stand clear as the device analyzes the patient's heart rhythm.
8. Push flashing button if shock is advised or if shock is not indicated, resume CPR.
9. If no obvious sign of movement or spontaneous breathing, resume CPR.
10. If prompted, "Do not touch patient analyzing rhythm", always clear the patient and follow direction.
11. At any time if pulse returns, continue to monitor the patient and manage the airway.
12. Once the rescue is done, re-attach a new set of adult electrodes, remove the expiration label and place it over the old one found on the outside lid cover.
13. Complete the Cardiac Arrest Screen in NFIRS and download the AED (see “AED Download”)
14. Contact the MCV Driver to pick up the used device and transport it to the Training Tower for download only if you are unable to download the device in the station. MCV will replace used electrodes should you run out in the station EMS locker.

AED (Continued)

PEDIATRIC CONSIDERATIONS:

1. Pediatric electrodes used in children between the ages of 1 - 8 years old or under 55lbs.
2. Pediatric electrodes can be found in the soft-case lid and in the soft-case left side pouch.

SPECIAL NOTES:

1. AED should be stored inside the fire apparatus cab.
2. AED will be checked daily (located inside the soft-case clear lid pouch).
3. If the device is rescue ready, the light in the handle will be green.
4. If the light in the handle is red or the device is chirping follow the troubleshooting guide (located inside the soft-case clear lid pouch). If you are unable to resolve troubleshooting problems, contact the BC or MCV driver to transport the entire device to the Training Tower for repair. The BC or MCV driver will leave you a clean and rescue-ready device.
5. The batteries are lithium non-rechargable (throw away) capable of 300 shocks. When the battery is low you will hear a voice prompt that says, "Low Battery". At this point the battery is still capable of 9 shocks. When the battery is dead, you will hear no voice and see no lights on the indicator panel. A spare battery is stored in the soft-case outside front pouch.

HELPFUL CPR STUDY HINTS

Standard CPR (also referred to as the 5 finger fulcrum technique)

- Perform 30:2 CPR using 5 finger fulcrum technique
- After intubation perform continuous compressions
- Ventilate every 5 seconds

Standard CPR w/ResQPOD and ResQPUMP

- Perform 30:2 CPR using ResQPUMP
- Use ResQPOD as soon as possible
- After intubation perform continuous compressions
- Turn on timing light on the ResQPOD, ventilate every 6 seconds
- Remove ResQPOD if PULSE RETURNS, if patient re-arrests replace ResQPOD.

AED DOWNLOAD INSTRUCTIONS

1. Attach cable from computer to AED. Make sure plug is secure in AED.
2. Click on RescueLink software icon on computer desktop to open program.
3. From the Communications tab in upper left corner select "Get Rescue Data."
4. Make sure the Internal Memory circle is selected and click "OK."
5. In the "Select A Rescue" window, select the time of the rescue you are downloading and click "OK."
6. The new screen should show AED Data and Personal Information tabs. At the bottom are grid boxes with EKG data. In the Incident ID box type in the run number from the event over the date entered there by default. Use the YY-XXXXXX format. For example, 06-32990. Enter your employee number in the Responder ID box.
7. Go to File tab and click on "Export RescueLink (.svl) file." From the pop-up window find the AED Downloads folder on the 'M' Drive under Fire. When you are at the right folder you should have AED Downloads in the "Save in:" box and the run number in the File name box. Click "Save."
8. Go to the 'M' Drive, Fire Folder then AED Downloads folder. Look in folder and make sure run number you just exported is there with the RescueLink icon next to it.
9. Clear data from internal memory of AED. Select Clear AED Data from Communications tab. In new window make sure Internal Memory is selected and click "OK." When asked if you are sure, click "Yes."
10. Close RescueLink program and return AED to service. Replace any supplies used during the rescue.

Other Information

1. Make sure all questions are answered in the Cardiac Arrest screen of Firehouse. This information will replace having to fill out a separate pink sheet for each AED use so please make sure to get that information.
2. Additional AED supplies, i.e., batteries, AED pads, razors, etc. are available from Stores or from MCV.
3. During the winter months/cold weather, please remember to keep AED's stored inside the rig at all times and not in the outside compartments. When exposed to cold temperatures even for a short duration the machine can malfunction and will need to be reset before being able to use again.
4. If you are having problems/getting error messages from your AED contact Merry Thurn at the Training Tower.
5. MCV will have one extra AED to swap out.

PNEUMATIC COMPRESSION TROUSERS (PCT) 7.h

INDICATIONS:
1. Known or suspected severe blood loss resulting from blunt trauma, stabilize "unstable" pelvic fractures, certain medical or obstetrical causes WHEN systolic BP is <= 50 mmHg.
2. Placed at the direction of ALS EMS on the scene.

CONTRAINDICTIONS:
1. Hypotension associated with heart attack (cardiogenic shock)
2. Pulmonary edema
3. Penetrating trauma anywhere on the body, regardless of other injuries
4. Inflation of the abdominal compartment in pregnancy is a relative contraindication.

PRECAUTIONS:
1. Do not deflate PCT without ALS EMS or physician order.
2. Physicians or ALS may choose not to use PCT suit, as it is controversial in its effectiveness.
3. Respiration's may need to be assisted after inflation of abdominal section.

INFLATION PROCEDURE:
1. Check vital signs and lung sounds. Expose and perform exam of areas that will be covered by PCT
2. Remove articles such as belts with large buckles, keys, etc. from pockets
3. Position patient on the PCT. The top of the garment should be placed just below the lowest rib
4. Wrap garment snugly and secure Velcro. Avoid wrinkles in garment to ensure proper inflation
5. Attach air tubing. Open valves to legs and close valve to abdominal section
6. Inflate both legs until Velcro crackles. Close leg valves
7. Recheck vital signs and lung sounds. If systolic pressure remains low, the physician may order inflation of the abdominal section
8. Inflate abdominal section by opening valve to the abdominal section while leg valves remain closed. Inflate abdominal section until Velcro crackles. Close valve
9. Recheck vital signs and lung sounds after application.
10. Continue to monitor vital signs every 3 to 5 minutes before or during transport.

DEFLATION PROCEDURE:
1. Deflate only under controlled circumstances at the direction of ALS EMS or the physician.
2. Never deflate entire PCT at once. Deflate abdominal section first, then each leg separately
3. Deflate slowly – 15 to 20 minutes for each section. Detach tubing at abdominal valve, place thumb over connector and open valve. Release air slowly by thumb control.
4. Continue to monitor BP every 2 – 3 minutes throughout deflation procedure.
5. If BP drops by 5 mmHg, stop deflation until BP is stabilized by further volume replacement

PCT (Continued)

PEDIATRIC CONSIDERATIONS:

1. Inflation in pediatric patients is per ALS EMS or physician order only

SPECIAL NOTES:

1. Head injury is not a contraindication
2. The PCT should not be used for lower extremity long bone splinting. These injuries should be splinted using standard splinting devices or traction splints, when appropriate
3. The PCT should not be used as an air splint for an unstable pelvis, unless the patient's blood pressure is <=50 mmHg systolic. A long spine board and padding should be used instead

PATIENT RESTRAINT 7.i

INTRODUCTION:
Patients have the right to refuse treatment and/or transport if they are of legal age and are competent. Competence is defined as the capacity or ability to understand the nature and effects of one's acts or decisions. A person is considered to be competent until proven otherwise. There are situations, however, in which the interests of the general public outweigh an individual's right to liberty:

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

Certain medical, traumatic and psychological conditions can cause incompetence and behavior that interferes with the ability of EMS personnel to care for the patient, or that threatens the physical well being and safety of the patient or others. These conditions include, but are not limited to: drug abuse, metabolic disturbances such as diabetes, central nervous system injury or insult, infections, high or low blood pressure, hypothermia, hyperthermia, hypoxia (low oxygen states), psychological disorders, poisons and toxins.

Minnesota law (609.06) authorizes: The use of "reasonable force upon or toward the person of another without the other's consent when the following circumstances exist or the actor reasonably believes them to exist; when used to restrain a mentally ill or mentally defective person from self injury or injury to another or when used by one with authority to do so to compel compliance with reasonable requirements for the person's control, conduct or treatment."

If an EMS provider feels uncomfortable with any patient, even when they have not been actively combative, the provider has the right and duty to provide the patient and others with the security of patient restraint. Verbal threats are a legitimate reason for restraint. The following is a guideline for the use of restraints in the prehospital care setting. It is not intended to dictate police action that may be necessary to subdue someone.

INDICATIONS:
1. Behavior or threats that create or imply a danger to a patient or others
2. Safe and controlled access for medical procedures
3. Change in behavior that results from improvement or deterioration of patient condition (i.e. hypoglycemia, overdose, assisting medics with intubation).
4. Involuntary evaluation or treatment of incompetent combative patients

PATIENT RESTRAINT (Continued)

PROCEDURES:

1. Make every attempt not to aggravate or worsen pre-existing injuries or medical conditions
2. Attempt first to control the patient with verbal counseling.
3. The least restrictive means of control should be employed under the direction of ALS EMS.
4. Only "reasonable force" may be used when applying physical control. This is generally defined as the use of force equal to, or minimally greater than, the amount of force being exerted by the resisting patient
5. Restraints should not interfere with the assessment or treatment of the patient's ABCs
6. The decision to restrain a patient should usually be made prior to transport by ALS EMS, Police or Fire Captain if he/she feel the patient is a threat to themselves, others, or rescue personnel.

SPECIAL NOTES:

1. Be aware of items at the scene or medical equipment that may become a weapon
2. Assure that the scene is safe before approaching the patient
3. Patients that are actively seizing should never be restrained
4. The patient should be restrained in the prone position only as a last resort and only with continuous monitoring. This position may interfere with the patient's ability to breathe
5. Restraining a patient's hands and feet together behind the patient is not allowed. The only exception is a prisoner or suspect in the custody of law enforcement or prison authorities.

BLOOD PRESSURE MONITOR 7.j

The Minneapolis Fire Department provides the use of an automatic blood pressure monitor called the CAS OscilloMate 9000. This device will measure the blood pressure of an adult or pediatric patient. This monitor is meant to be used as an optional adjunct to a manual blood pressure and not in replacement of the manual blood pressure.

This device will automatically inflate an occluding arm cuff using the oscillometric measurement technique to determine a patient's heart rate, systolic and diastolic blood pressure. The device is powered by a rechargable battery and stored inside each fire station's coup connected to an AC line.

INDICATIONS:

1. Used ONLY as an adjunct to a manual blood pressure.

CONTRAINDICATIONS:

1. Do NOT use on patients found in water.
2. Do NOT use on patient that is experiencing a seizure or is in a combative state.
3. Do NOT use if there is greater than a 5mmHg difference between a manual and automatic blood pressure reading.
4. Do NOT use on a patient with arm/thigh trauma, on a limb used for IV, pulse oximetry or the same-side arm of a woman with a history of mastectomy (surgical breast removal).

PROCEDURE:

1. Select the appropriate size cuff. Use the widest cuff that can be placed around the patient's upper arm or thigh.
2. Connect the tubing to the cuff.
3. Press the Power button to activate the monitor.
4. Press the Start button. (Cancel to stop the device)

PEDIATRIC CONSIDERATIONS:

1. Do NOT use on a child less than 4 years of age.

SPECIAL NOTES:

1. A green light on the front panel indicates the battery is being charged.
2. The batteries are rechargeable. Anytime the monitor is not in use plug in the AC adapter. It takes 12 hours to fully charge the battery.
3. Clean the device using a soft cloth dampened with Cavicide. Do NOT use isopropyl alochol.
4. Should you notice a consistent difference (>5mmHg) between manual and automatic blood pressure readings, notify Stores or the EMS Chief.
5. Stores will calibrate the devices annually.

Minneapolis Fire Department

EMS FORMS

SECTION 8 EMS FORMS

EMS FMO "Patient Information Pad" 8.a

Utilize form 33Z08/03 to document patient information. This information is collected by the FMO and one copy of the form is given to the Captain and one copy is given to the Paramedics on the scene.

MFD Incident #_____

Location of Call:_____

Patient Name (MUST): _____

Age: ____**Sex**: ___ **Medical Complaint**: _____

B/P	Pulse	Respiration's
/		
/		

Medications: _____
_____

Allergies: _____
History:
_____

Assessment (check all that apply)	**Treatment (**check all that apply)
❑ Awake & Alert	❑ Vital Signs
❑ Responsive Verbal Stimuli	❑ Oxygen Administration
❑ Responsive to Pain	❑ Control Bleeding
❑ Unresponsive	❑ Deliver Baby
Breathing ❑ UnLabored ❑ Labored ❑ Absent	Airway Management ❑ Oral/Nasal Airway ❑ EOA ❑ Suction
Cap Refill ❑ Less 2 Seconds ❑ Greater 2 Seconds	Ventilation ❑ BVM ❑ PPV
Skin Color ❑ Pink ❑ Pale ❑ Blue ❑ Yellow	Immobilization ❑ Splinting/Dressings ❑ Cervical Collar ❑ Backboard ❑ Extrication
Pupils ❑ Equal & Reactive ❑ Unequal or Fixed	Full Arrest ❑ CPR ❑ AED
❑	❑ Assist w/Meds:
❑	❑ Assist Medics (IV/ET/Hospital)

Vehicle License # _____

Make/Model _____

Pt.'s Location in Vehicle_____

Owner or Driver's Name _____

Auto Insurance Carrier_____

MFD Form 33Z Revised 08/03 White Copy – Paramedic; Yellow Copy – Company Officer

Minneapolis Fire Department

PARAMEDIC FEEDBACK FORM **8.c**

Please use this form to write positive comments about paramedics. Send this form by email or interdepartmental mail or email it to the EMS Chief. A letter will be given to the paramedics and a copy will be submitted to his/her supervisor.

Date of the incident:

Submitted by:

Company:

Time of Incident:

Paramedic's Names:

Agency: Agency's Truck Number:

MFD Incident Number:

Address of the scene:

Patients Primary Problem:

Comments (what was done that was helpful/positive):

Minnesota Medical Association (MMA) DNR Form: **8.d**

This form MUST accompany all home DNR patients and signed by patient or their guardian, a witness and the patient's physician to be considered valid.

EMERGENCY RESUSCITATION GUIDELINES

CHECK ONE BOX	RECOMMENDED MEDICAL RESPONSE	MEDICAL RESPONSE	MEDICAL RESPONSE
CATEGORY	ACTION	WILL PROVIDE	NOT PROVIDED
☐ CPR*	Call 911	Full Treatment As Appropriate	
☐ DNR (No CPR*)	No 911 for Cardio-pulmonary Arrest May Call 911 for Urgent Needs May Call Ambulance For Routine Transport Call M.D. or R.N.	Active Treatment up to the Point of Cardiopulmonary Arrest (NO CPR)	**If Cardiopulmonary Arrest**: No Intubation No Ventilatory Assistance No Chest Compression No Defibrillation
☐ Hospice or Comfort Care Including DNR*	No 911 for Cardio-pulmonary Arrest Call M.D. or R.N. May Call Ambulance For Routine Transport May Call 911 for Urgent Needs	Comfort Care and Hygiene Care	**If in Cardiopulmonary Arrest**: No Intubation No Ventilatory Assistance No Chest Compression No Defibrillation

Patient/Client Name (Please Print)
Optional Identifying Information: DOB Sex Race Eye Color Hair Color Height Weight

I understand this document identifies the level of care to be rendered in situations where death may be imminent. I make this request knowingly and I am aware of the alternatives. I expressly release, on behalf of myself and my family, all persons who shall in the future attend to my medical care of any and all liability whatsoever for acting in accordance with this request of mine. Furthermore, I direct these guidelines be enforced even though I may develop a diminished mental capacity at some future time. I am aware that I can revoke these guidelines at any time by simply expressing my request verbally or in writing to my caretaking family, physician, or designated health care provider, or by destroying this form with the intent to revoke it.

Patient/Client/Proxy/Agent or Other Authorized Signature Printed Name "Relationship" Date

I have witnessed the above signature:

Witness Signature Printed Name Address Phone Number Date

Physician's Signature Printed Name Address Phone Number Date

THE ABOVE 3 SIGNATURES AND 3 DATES ARE REQUIRED FOR THIS FORM TO BE VALID AND ITS INTENT CARRIED OUT