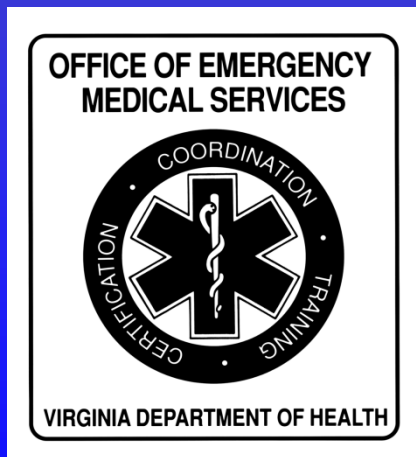


# Virginia Mass Casualty Incident Management

## Module I

### Responder Level



Developed by the  
Virginia State EMS Advisory Board  
EMS Emergency Management Committee

Version: 5/16/01



# Course Objectives

- Define Mass Casualty Incident
- List the three Goals of mass casualty incident management
- Describe initial response actions to mass casualty incidents
- Triage simulated patients correctly using START algorithm
- Tape simulated patients using triage ribbons
- Establish accurate count of casualties
- Complete Virginia Triage Tags



# MASS CASUALTY INCIDENTS

- Given Virginia's geographic location, population centers, major transportation routes, and unique hazards, there is an enormous potential for incidents to occur which injure people in numbers that could overwhelm any EMS system.

# Disasters

- Some people call these types of incidents disasters
- Disaster has specific legal meaning



- States & localities declare “state of emergency”
- The President declares “major disaster”

# Types of Disasters

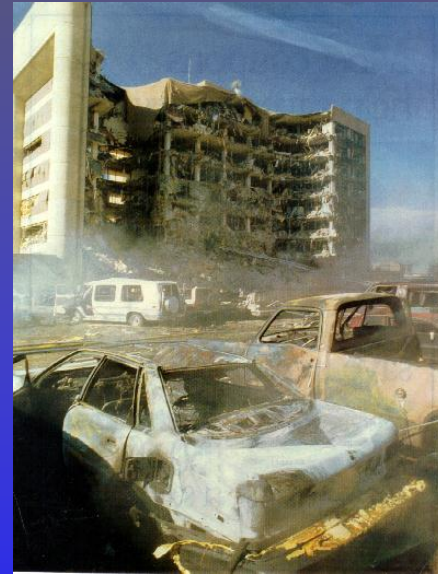
## Natural Disasters



## Civil Disobedience



## Technical Hazards



## Criminal or Terrorist Incidents

## Transportation Crashes



# MCI - Mass Casualty Incident

- Any incident that injures enough people to overwhelm resources usually available in particular system or area





# GOALS OF MCIM

- Do the Greatest Good for the Greatest Number
- Manage scarce resources
- Do not relocate the disaster



# Greatest Good

- Heroic resuscitative efforts **NOT** appropriate
  - Too much time
  - Requires equipment used for salvageable patients
  - Staffing intensive
- Concentrate on salvageable patients

**Do the Greatest Good  
for the Greatest Number**



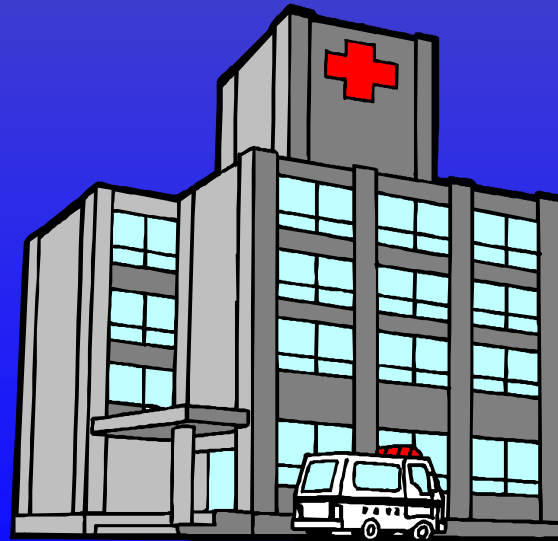
# Resource Demands

- Equipment
- Responding Personnel
- Facilities



# Don't relocate the disaster!

- Patient prioritization at the scene important for casualty distribution
  - Don't send all the patients to one hospital!



# EMS INITIAL RESPONSE ROLES AND RESPONSIBILITIES

- EMS - specific component of overall incident management system





# First Arriving Unit

- Begin the following actions:

5 S's

# Safety Assessment S - 1

- Assess scene for safety





# Scene Size-Up

S - 2

- How big is incident and how bad is it?
  - Type of incident
  - Approximate # of patients
  - Severity of injuries
  - Area involved, including access

# Send Information

S - 3

- Report Situation
- Request Assistance

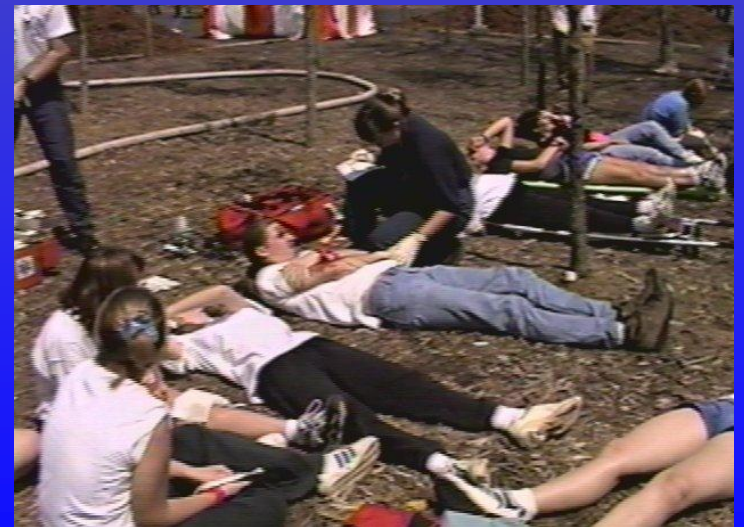


- Rapid Hospital Notification

# Set Up

S - 4

- Staging
- Secure Access/Egress
- Secure Adequate Space
  - Triage, Treatment  
Transportation







# START

S - 5

- Assures rapid initial assessment of all patients as basis for assignment to treatment
- Triage - French for “to sort”

# Purpose of triage

- Assigns treatment priorities
- Separates victims into easily identifiable groups





# Purpose of triage

- Determines required resources
  - treatment
  - transportation
  - definitive care
- Prioritization of patient distribution and transportation

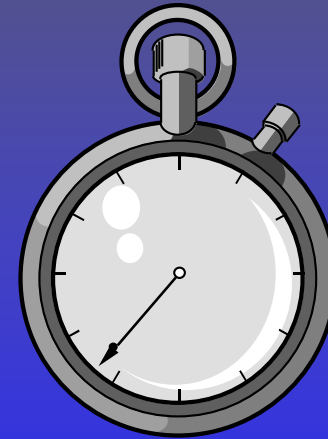


# Benefits of Triage

- Identifies patients who need rapid medical care to save life and limb
- Provides rational distribution of casualties
  - Reduces burden on each hospital
    - average 10-15% of MCI patients require extended hospitalization

# Problems with triage systems

- Some rely on specific injuries and physical findings to categorize and prioritize patients



- In-depth assessment requires too much time



# Ideal Triage System

- Simple
- No advanced assessment skills
- No specific diagnosis



# Ideal Triage System

- Easy to perform
- Provides rapid and simple life-saving interventions
- Easy to teach and learn

# Simple Triage and Rapid Treatment (START) System

- Triage ribbons
  - Surveyors tape used to make ribbons



- Universal colors are used





# RED

- Immediate (highest priority).
- Problems with:
  - R – Respirations/airway
  - P – Perfusion/pulse
  - M – Mental Status
  - Severe burns which compromise airway



# YELLOW

- Delayed (second priority)
  - Burn patients without airway problems
  - Major or multiple bone or joint injuries
  - Back and spine injuries



# GREEN

- Minor (third priority)
  - “Walking wounded”
  - Minor painful swollen deformities
  - Minor soft tissue injuries

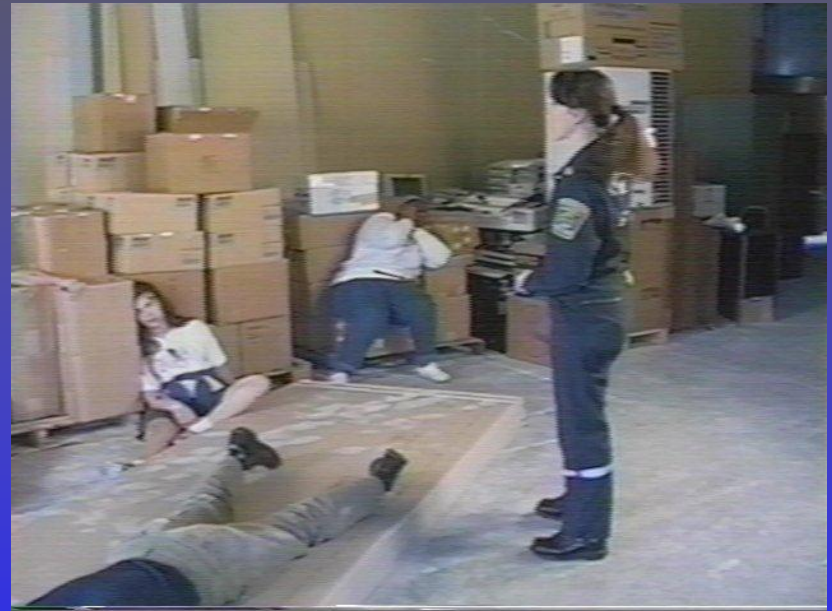


# BLACK

- Dead/non-salvageable (lowest priority)
  - Non-breathing patients
    - resuscitation would normally be attempted
    - but are not salvageable given resources available early in MCI response

# Introduction to S.T.A.R.T. process

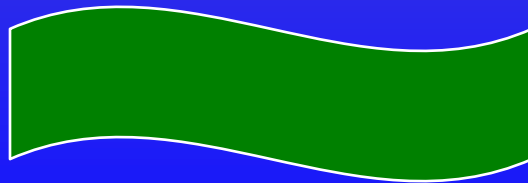
- Begin where you stand
- Identify those injured who can walk



- Those who can walk should go to easily recognized place

# Relocate Green

- To a designated area
  - away from immediate danger
  - outside initial triage area
- In Virginia - tape each as GREEN patient



# Move in orderly pattern

- Assess each casualty you come to



- Mark category using triage ribbons

# Maintain count

- Mark on 2-3 inch tape on thigh



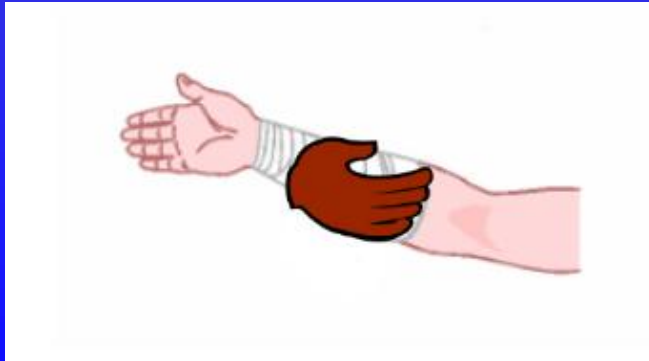
- Or save a small piece of triage ribbon



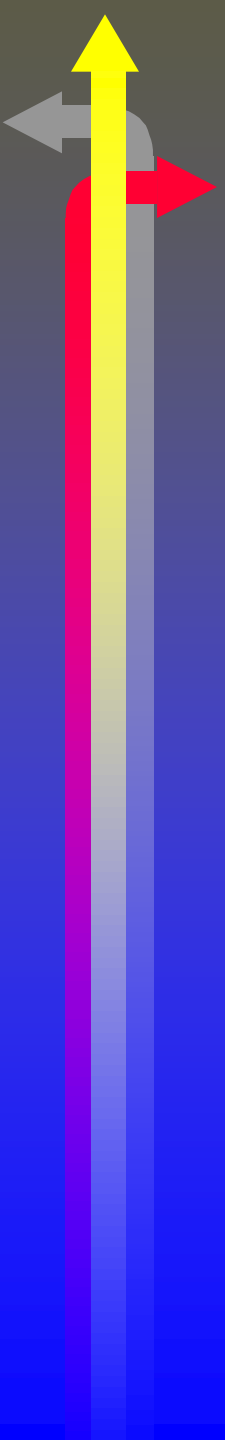
# Minimal Treatment

- Only two patient interventions are:

- Open the airway



- Stop gross bleeding



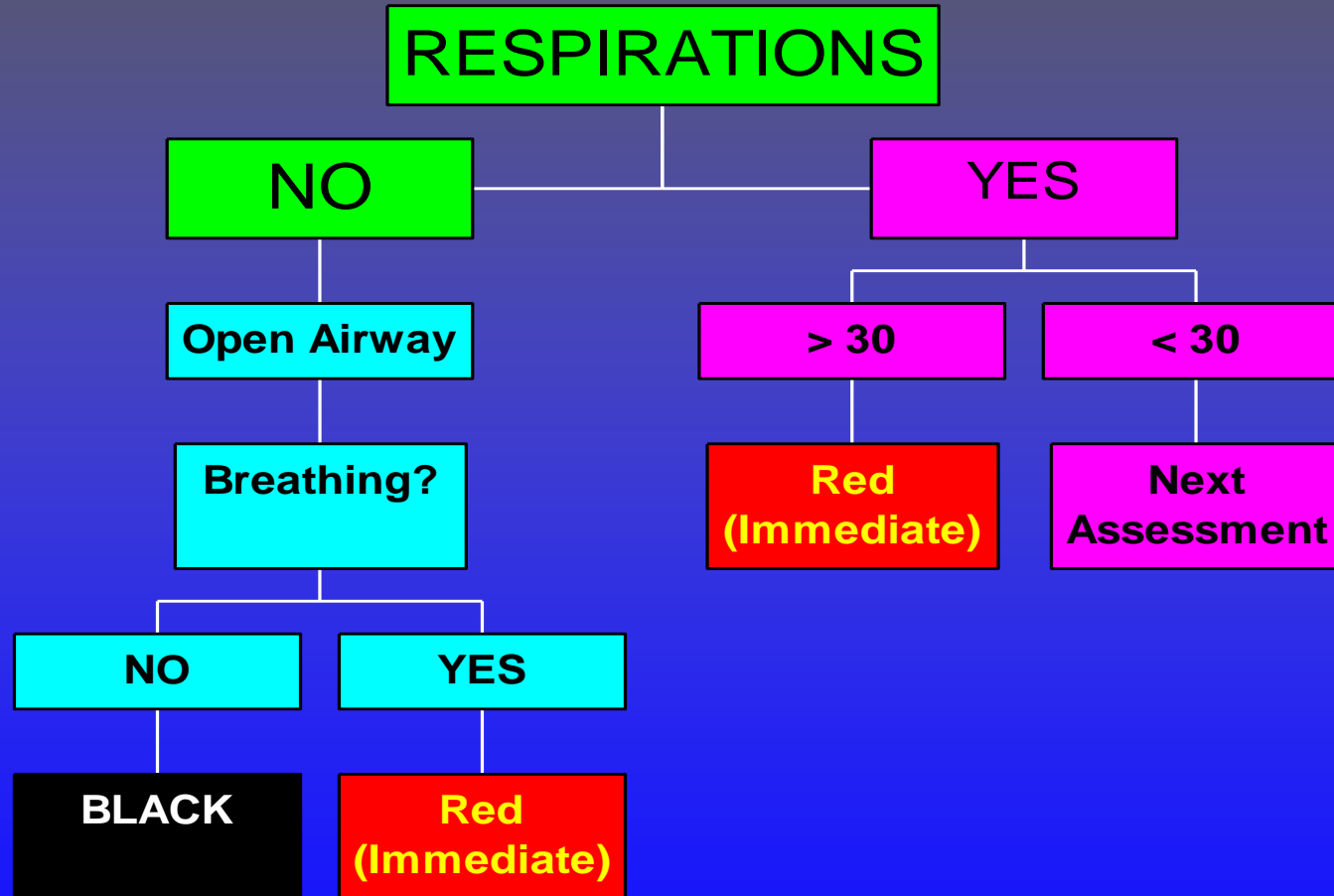
***KEEP MOVING***

# Steps in START/JumpSTART Assessment

- Step 1- Moving Green patients to supervised area
  - *Already done*

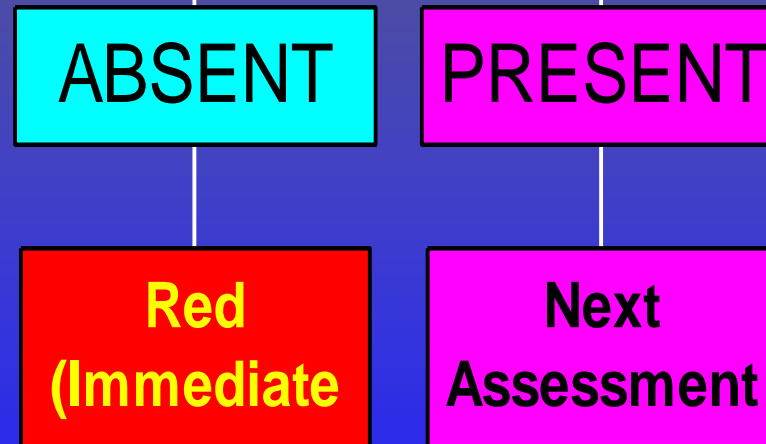


# Step 2 - RESPIRATION



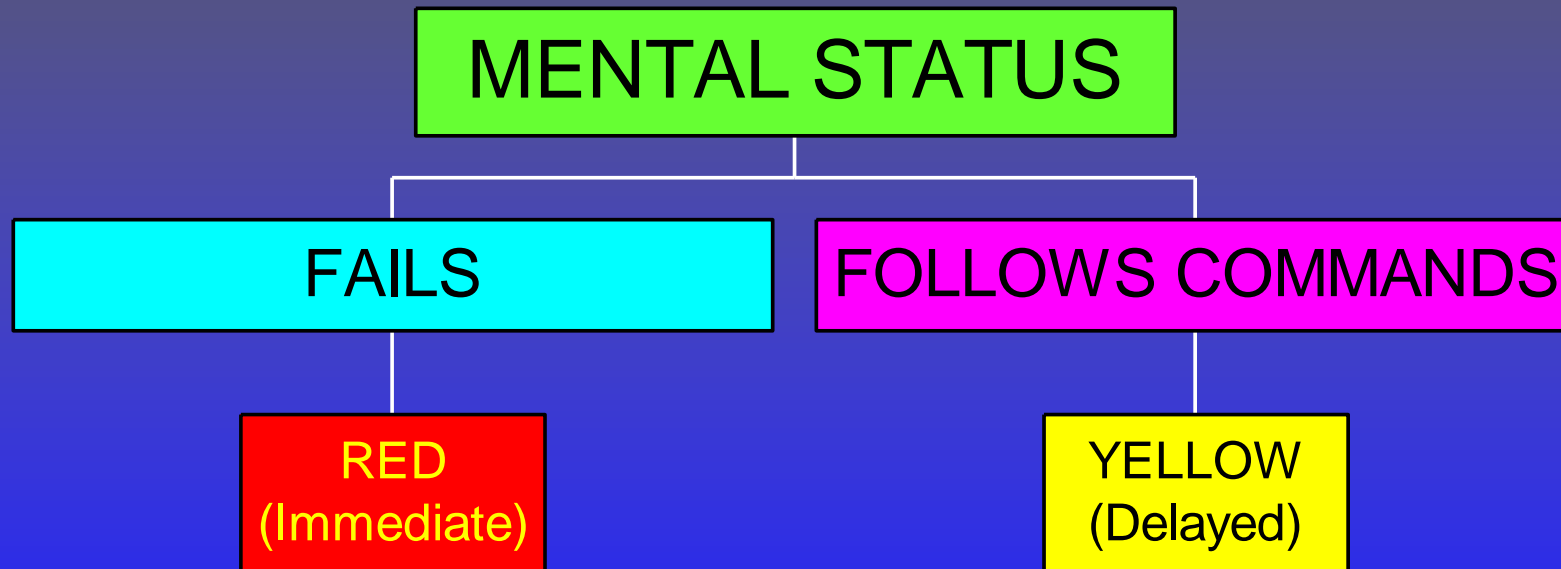
# Step 3 - PERFUSION

## RADIAL PULSE CHECK

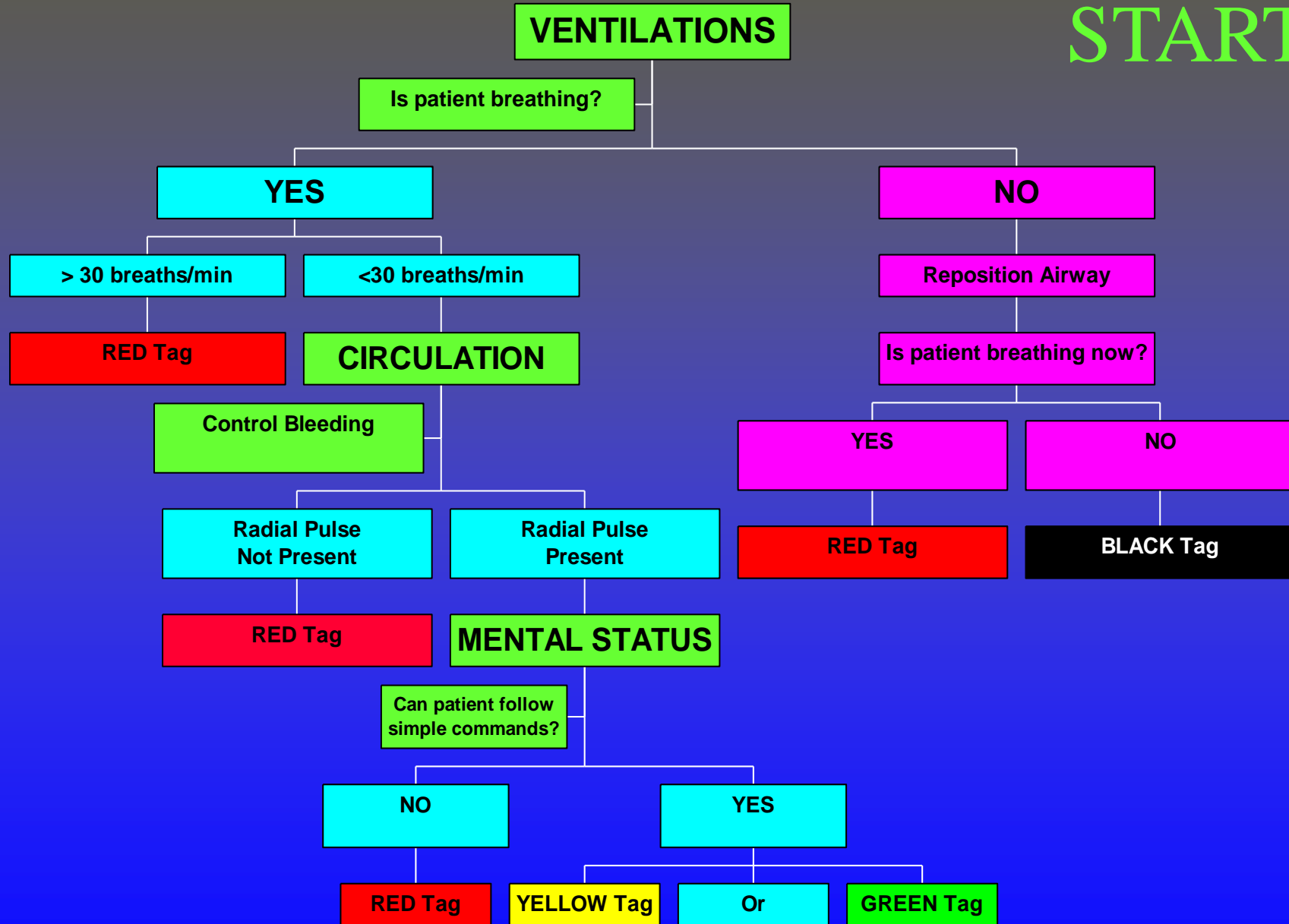


- Stop major bleeding
- Raise legs of shocky patients

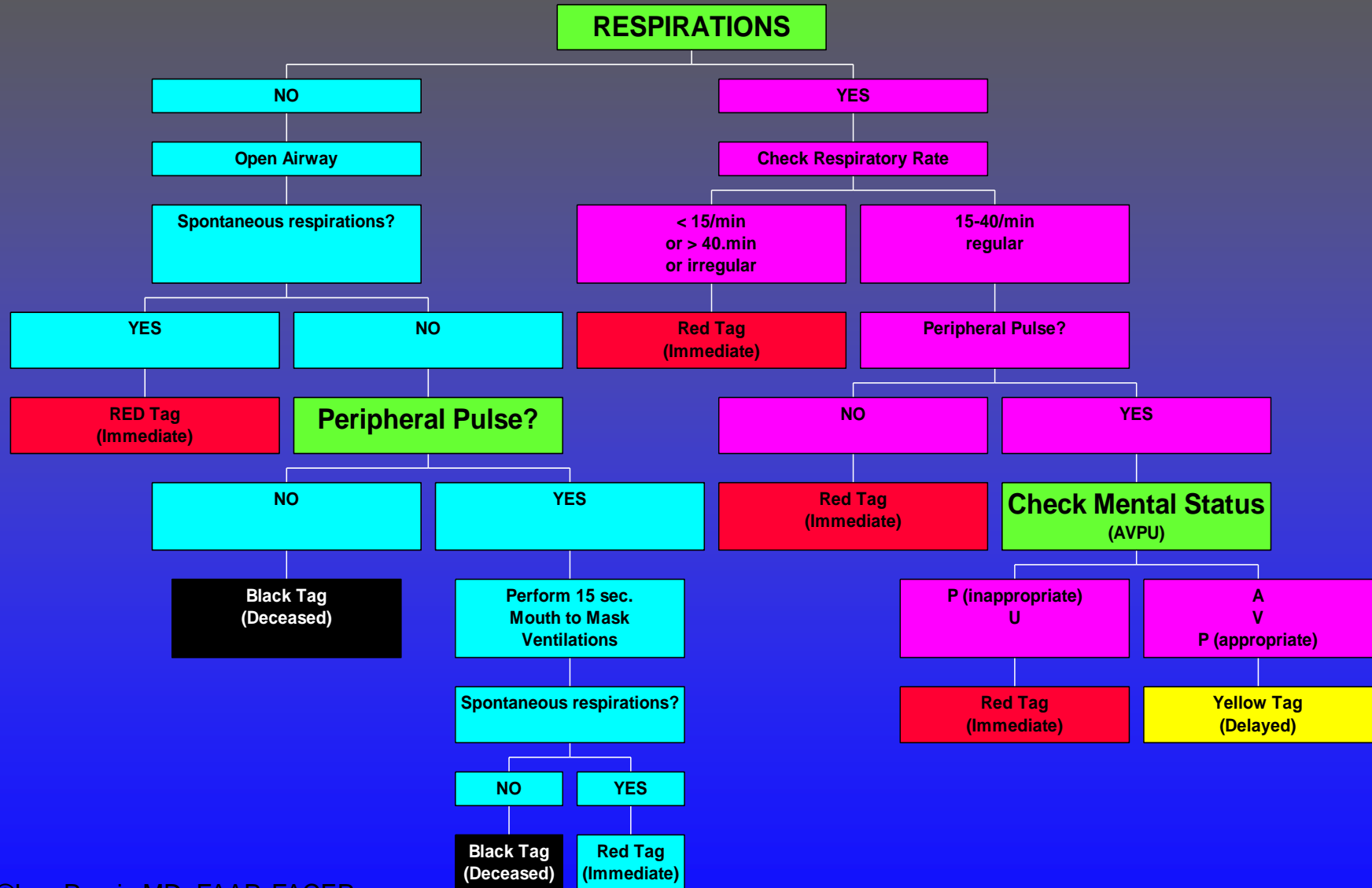
# Step 4 - MENTAL STATUS



START



# JUMPSTART







# Secondary Triage

- Done on stretcher on way to treatment area
- In treatment area
- Or in ambulance on way to hospital
  - In depth reassessment based on clinical experience and judgement

# TRIAGE

- START
  - SECONDARY
    - ON-GOING
      - Should be done continuously

# VIRGINIA TRIAGE TAG

- White weather resistant material
- designed for use with ball point pen

Commonwealth of Virginia TRIAGE TAG DO NOT REMOVE

PATIENT INFORMATION

AGE WEIGHT

MALE  FEMALE

NAME

PATIENT NUMBER \* 0 2 0 4 8 8 \*

ADDRESS

CITY ST PHONE

TRIAL STATUS

EVALUATION	TIME	RED	YELLOW	GREEN	BLACK
INITIAL		IMMEDIATE	DELAYED	MINOR	DECEASED
SECONDARY		IMMEDIATE	DELAYED	MINOR	DECEASED
HOSPITAL		IMMEDIATE	DELAYED	MINOR	DECEASED

CHIEF COMPLAINT

Head Injury C-Spine  
Blunt Trauma  
Penetrating Injury  
Burn Fracture  
Laceration Amputation

Medical  
Cardiac Respiratory  
Diabetic OB/GYN  
Haz-Mat Exposure

COMMENTS

TRANSPORTATION AGENCY/UNIT DESTINATION TIME ARRIVED

TREATMENT \* 0 2 0 4 8 8 \*  
OTHER \* 0 2 0 4 8 8 \*  
OTHER \* 0 2 0 4 8 8 \*

HOSPITAL \* 0 2 0 4 8 8 \*  
OTHER \* 0 2 0 4 8 8 \*  
OTHER \* 0 2 0 4 8 8 \*

TRANSPORT RECORD

MALE  FEMALE AGE

NAME

CHIEF COMPLAINT

DESTINATION

TRANSPORTATION AGENCY/UNIT TIME OUT

PATIENT NUMBER \* 0 2 0 4 8 8 \*

TRIAL STATUS

RED YELLOW GREEN



# Capabilities

- Multiple triage assessments of patient
- Continuous patient information recording
  - Continuous patient accountability and tracking
  - Easy interface with patient hospital records

# Format - Front

- Patient Information section
  - Information not always obtainable

Commonwealth of Virginia

**TRIAGE TAG**  
**DO NOT REMOVE**

PATIENT INFORMATION	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	AGE	WEIGHT	PATIENT NUMBER
	NAME			* 0 9 1 3 9 9 *
	ADDRESS			
	CITY	ST	PHONE	

- Can be added throughout triage, treatment, transportation, & hospital reception phases

# Triage Status section

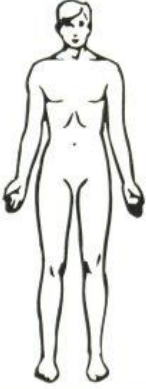
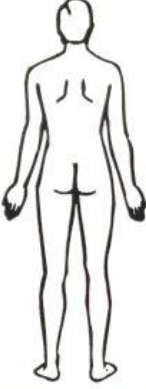
- INITIAL - START assessment
- SECONDARY - reassessment at scene or in treatment area

TRIAGE STATUS	EVALUATION	TIME	RED	YELLOW	GREEN	BLACK
	INITIAL			IMMEDIATE	DELAYED	MINOR
SECONDARY			IMMEDIATE	DELAYED	MINOR	DECEASED
			IMMEDIATE	DELAYED	MINOR	DECEASED
HOSPITAL			IMMEDIATE	DELAYED	MINOR	DECEASED

- BLANK - used in treatment area or during transportation
- HOSPITAL - initial reassessment receiving hospital

# Chief Complaint section

- Major obvious injuries or illnesses circled
- Indicate injuries on human figure

CHIEF COMPLAINT		Head Injury    C-Spine Blunt Trauma Penetrating Injury Burn    Fracture Laceration    Amputation	
	Medical _____ Cardiac    Respiratory Diabetic    OB/GYN Haz-Mat Exposure		
COMMENTS			

- Additional information added on  
Comments line

# Transportation Line

- Transporting unit notes
  - agency information
  - destination hospital
  - time patient actually arrived

TRANSPORTATION AGENCY/UNIT	DESTINATION	TIME ARRIVED



# Pull-off label section - Six



- “Treatment” - document on patient information worksheets
- “Hospital” - tie the triage tag & scene patient number to patient’s hospital records

<b>TREATMENT</b> * 0 9 1 3 9 8 *	<b>HOSPITAL</b> * 0 9 1 3 9 8 *
<b>OTHER</b> * 0 9 1 3 9 8 *	<b>OTHER</b> * 0 9 1 3 9 8 *
<b>OTHER</b> * 0 9 1 3 9 8 *	<b>OTHER</b> * 0 9 1 3 9 8 *

- “Other” labels can be used for:
  - Other tactical worksheet needs on scene
  - Marking personal effects
  - Use within hospital

# Transportation Record section

- Detachable by tear-off or as pull-off label
- Document patients transported to hospital or other facility

TRANSPORT RECORD	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	AGE	PATIENT NUMBER	
	NAME		* 0 2 0 4 8 8 *	
	CHIEF COMPLAINT		[Barcode]	
	DESTINATION		TRIAGE STATUS	
	TRANSPORTATION AGENCY/UNIT	TIME OUT	RED 	YELLOW 

- Can be fixed to transportation tactical worksheet
  - Mark hospital destination

# Back

- **Vital Signs:** three sets of vital signs
- **Medical History:** can be obtained from Medic Alert devices
- **Treatment:** additional treatments and remarks
  - time treatment actions taken & provider initials

**TRIAGE TAG** **DO NOT REMOVE**


VITAL SIGNS	TIME	PULSE	B/P	RESP	LEVEL OF CONSCIOUSNESS

**MEDICAL HISTORY**

MEDICATIONS/MEDICAL PROBLEMS

ALLERGIES

TIME	TREATMENT RECORD	INITIALS
	<input type="checkbox"/> BVM <input type="checkbox"/> ET <input type="checkbox"/> EOA <input type="checkbox"/> PTL	
	<input type="checkbox"/> Oxygen by _____ at _____ L/min	
	<input type="checkbox"/> Bleeding Control	
	<input type="checkbox"/> Spinal Immobilization	
	<input type="checkbox"/> IV Started at _____ at _____	
	<input type="checkbox"/> MAST Applied <input type="checkbox"/> Inflated	
	<input type="checkbox"/> Hazardous Materials Decontamination	

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**TRIAGE TAG**

# SUMMARY

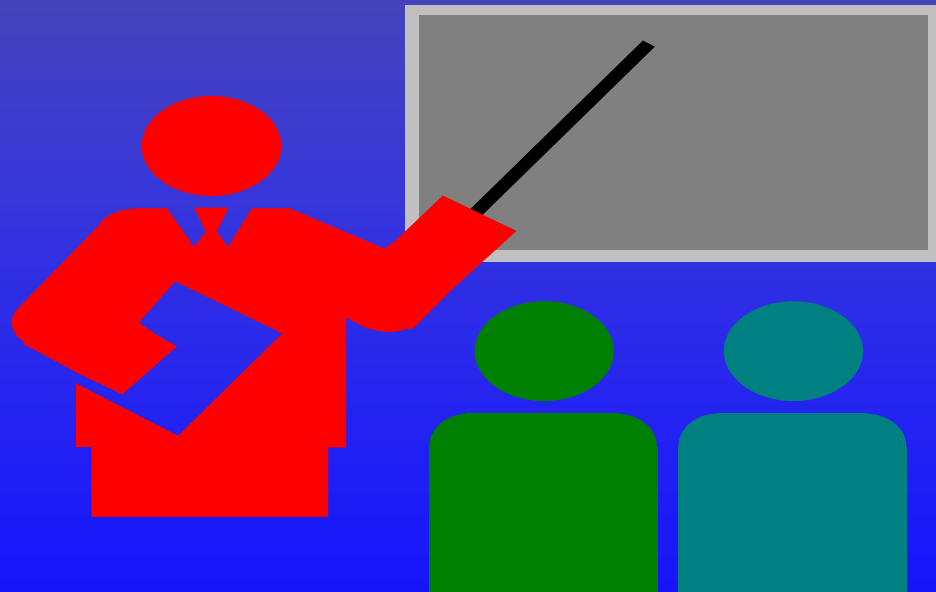
- Incidents of any kind have potential to overwhelm EMS system personnel,



equipment, resources, and medical facilities.

# Preparation and preplanning

- Help to be more efficient in all elements of mass casualty management





**Do the Greatest Good  
For the Greatest Number**

# First on Scene

- First responding emergency unit is by default **IN CHARGE** until relieved



- Must take first steps toward a successful solution to the problem



## Five S's

- **S**cene safety S-1
- **S**cene Size-Up S-2
- **S**end for help S-3
- **S**et-up S-4
- **S**TART/JumpSTART S-5





# S.T.A.R.T. Algorithm

- Simple and efficient process for initial triage
- Practiced and used in all MCI's



S.T.A.R.T.

# Treatment Phase

- Requires secondary triage



- More in-depth assessment to prioritize patients for treatment and transportation

# Virginia Triage Tag

- Designed to make patient categorization easier
- Provide a continuous documentation tool

Commonwealth of Virginia **TRIAGE TAG**  
DO NOT REMOVE

**PATIENT INFORMATION**

AGE WEIGHT  
 MALE  FEMALE  
 NAME  
 ADDRESS  
 CITY ST PHONE

**PATIENT NUMBER**  
 \* 0 2 0 4 8 8 \*

**TRIAGE STATUS**

EVALUATION	TIME	RED	YELLOW	GREEN	BLACK
INITIAL		IMMEDIATE	DELAYED	MINOR	DECEASED
SECONDARY		IMMEDIATE	DELAYED	MINOR	DECEASED
		IMMEDIATE	DELAYED	MINOR	DECEASED
HOSPITAL		IMMEDIATE	DELAYED	MINOR	DECEASED

**CHIEF COMPLAINT**

Head Injury C-Spine  
 Blunt Trauma  
 Penetrating Injury  
 Burn Fracture  
 Laceration Amputation

Medical  
 Cardiac Respiratory  
 Diabetic OB/GYN  
 Haz-Mat Exposure

COMMENTS

TRANSPORTATION AGENCY/UNIT DESTINATION TIME ARRIVED

TREATMENT \* 0 2 0 4 8 8 \*  
 OTHER \* 0 2 0 4 8 8 \*  
 OTHER \* 0 2 0 4 8 8 \*

HOSPITAL \* 0 2 0 4 8 8 \*  
 OTHER \* 0 2 0 4 8 8 \*  
 OTHER \* 0 2 0 4 8 8 \*

**TRANSPORT RECORD**

AGE PATIENT NUMBER  
 MALE  FEMALE  
 NAME  
 CHIEF COMPLAINT  
 DESTINATION  
 TRANSPORTATION AGENCY/UNIT TIME OUT

**TRIAGE STATUS**  
 RED YELLOW GREEN



# Incident Management System

- Expands to meet needs of organizations responding to MCI's
- Virginia MCI procedures and incident management systems covered in more detail in Module II of the Virginia Mass Casualty Incident Management Program



# ANY QUESTIONS?

