

Trauma Systems: Outreach & Trauma Injury Prevention



"One of our
greatest freedoms,
is how we
react
to things"



**MAY THE
FORCE
BE WITH
YOU**

Patient Journey

PATIENT JOURNEY
01



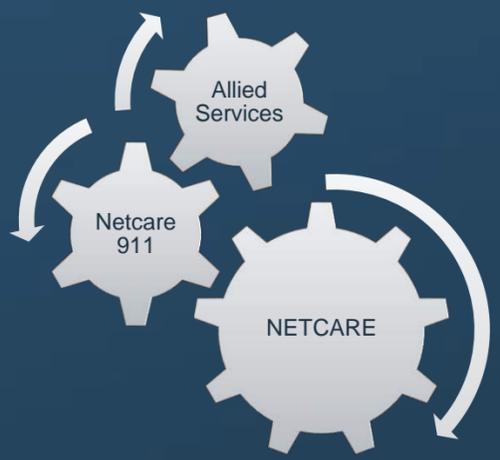
- Early Access
- Early Recognition
- Early Activation
- Think "Golden Hour"



HOSPITAL
04

- Dedicated Trauma Theatre
- Radiology *

- Trauma Surgeon - 10 minutes
- Anesthetist - 20 minutes
- Other Surgical - 60 minutes
- Emergency Department / ICU / High-Care, Ward (trauma dedicated)



- Counseling / Social Work / Psychotherapy
- Occupational Therapy
- Physiotherapy
- Speech Therapy
- Dietetics
- Laboratories
- Rehabilitation

- Correct Facility
- Correct Transport Method
- Activation of Trauma System
- Life-Line

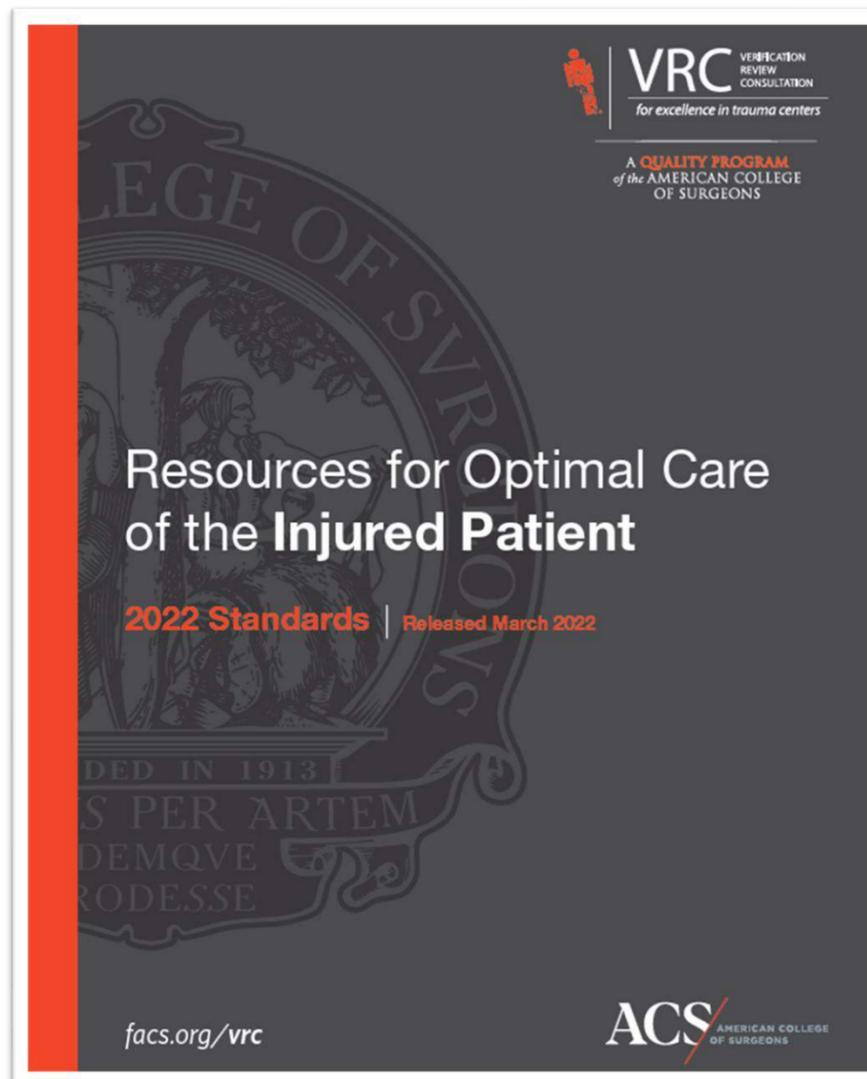


- Quality Improvement Programs
- Trauma Injury Prevention Programs
- Outreach
- Research

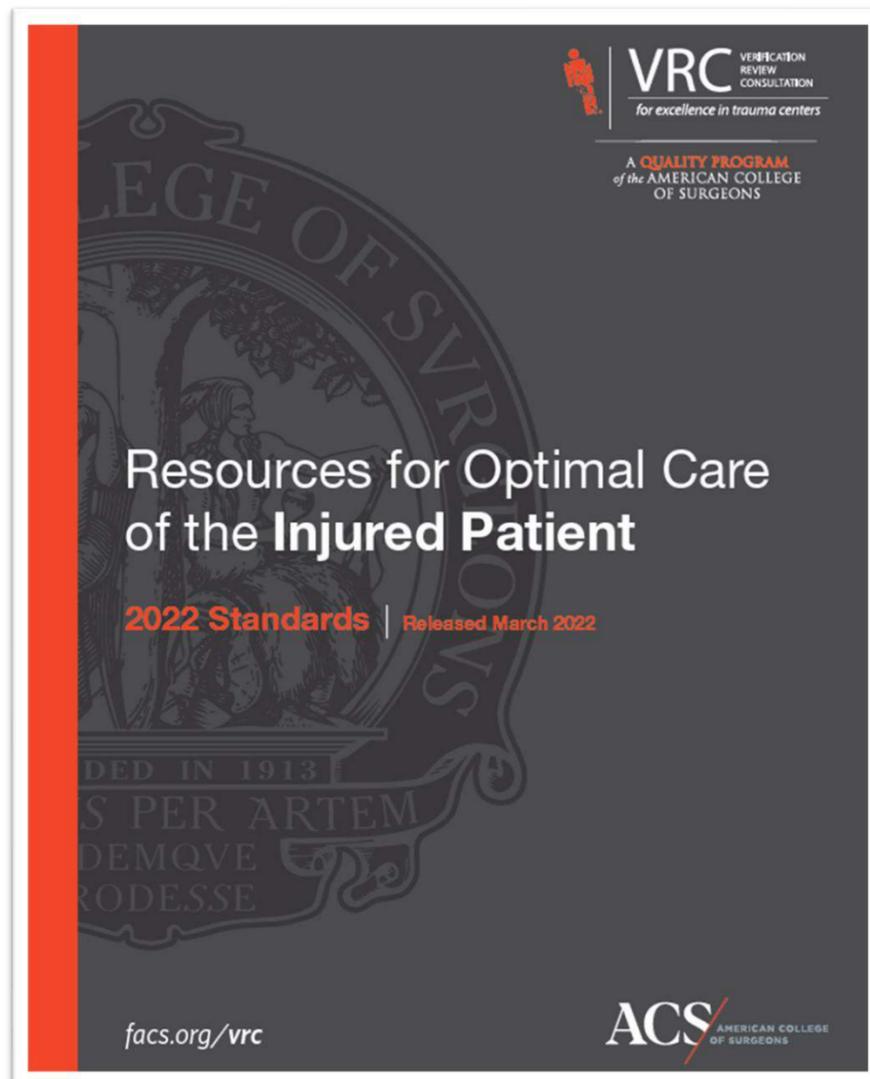


Quiz

- Major Trauma is classified as.....
- Trauma is seen as a
ACCIDENT/DISEASE/INCIDENT



Quiz



- Where does the Rehabilitation of Critical Injured patient start?
- List the components of a Trauma System

Trauma Systems

If resources for optimal care of injured patients are to be used wisely, then some concentration of resources should occur. This type of resource allocation should allow patients to *move to the highest level of care available* and, ideally, should *avoid excessive and inappropriate resource expenditure* in a time of limited medical resources. This system should support the development of trauma centers with the *right balance of resources and volume of patients*.



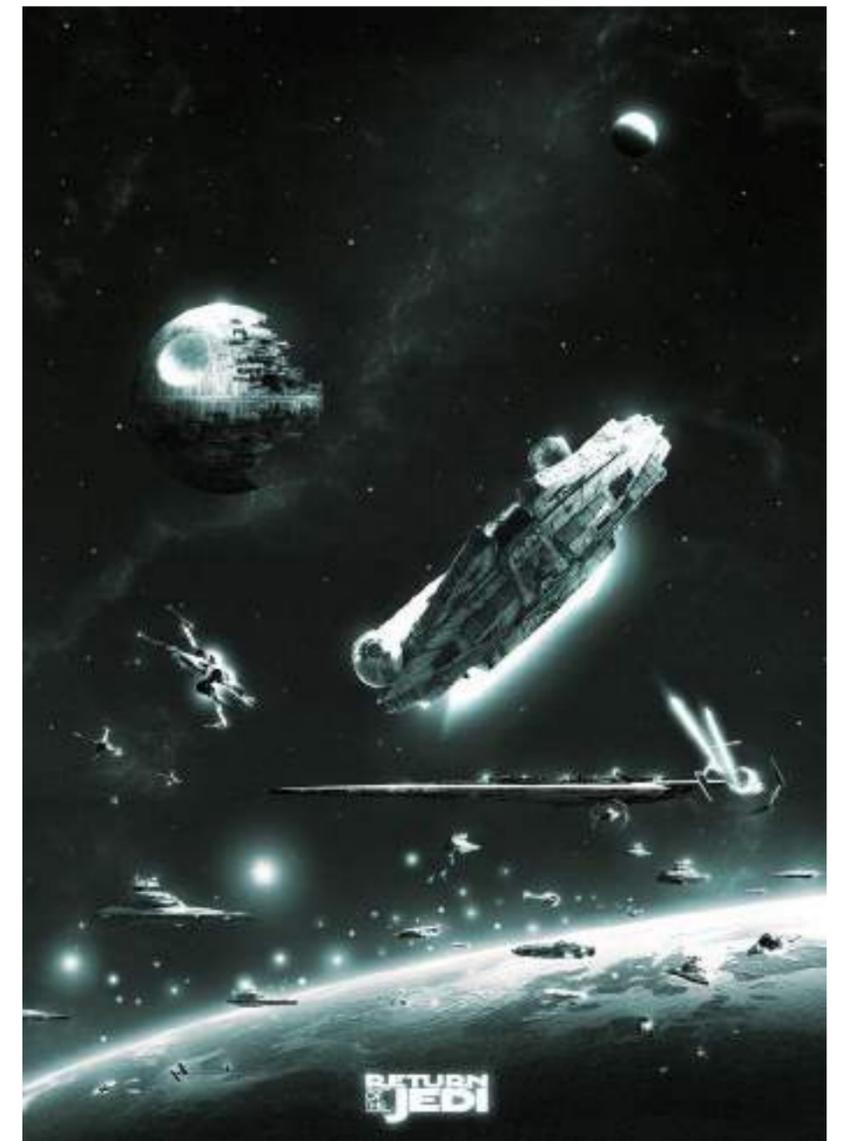
Trauma Systems and Programme

Trauma Programme

Multi-disciplinary approach to trauma care

Extends from *time of injury* to the time of *discharge* from trauma care

Occurs within a hospital and its immediate area of influence



Trauma System

Encompasses *all aspects of trauma* from *prevention strategies to post rehabilitation*

The goal of trauma systems is to *decrease the risks and burden of injury* to individuals and society

Include different facilities and services working together to provide full range of care to severely injured



Components of Trauma Program



Major Trauma

Death after injury

Admission to an ICU for more than 24 hours, requiring a period of mechanical ventilation

Serious injury to 2 or more body systems (excluding integumentary system)

Injury severity score >15

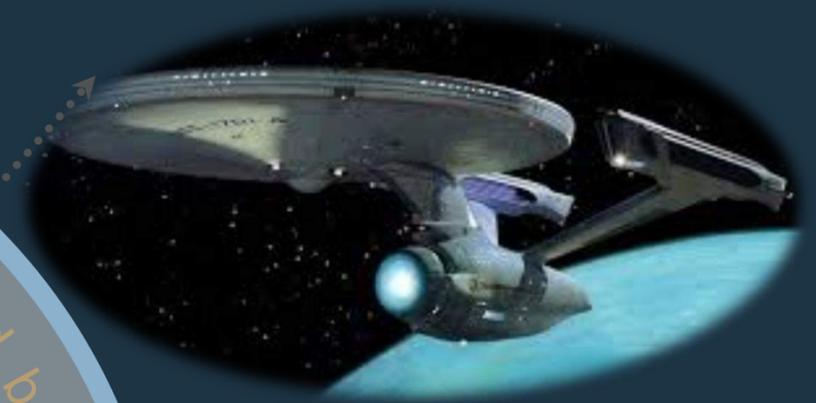
Urgent surgery for intracranial, intrathoracic / intra-abdominal injury or for fixations of pelvic and spinal fractures

Isolated Head

Isolated Pelvis



Trauma Programmes and Systems



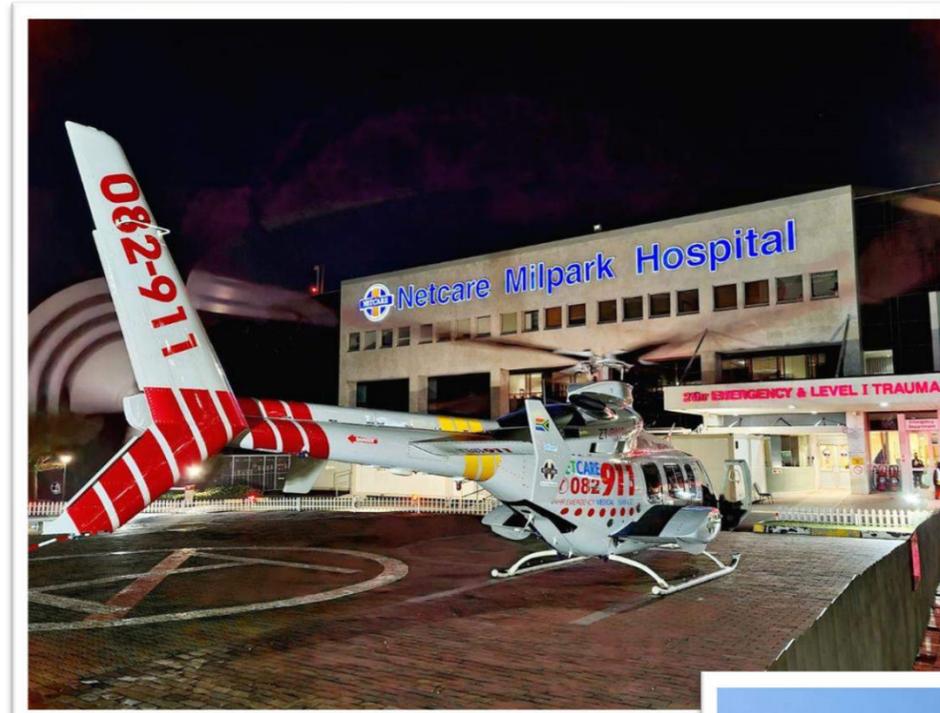
Accreditation

Trauma
Society of
South Africa



Trauma Level I Centre

- The Level I Trauma Centre is capable of providing **leadership** and **total care for every aspect of injury, from prevention to rehabilitation.**
- The Level I Trauma Centre provides targeted comprehensive care for the severely injured through **24-hour trauma care.**
- A Level I Trauma Centre provides in summary the following:
 - ✓ 24-hour availability of a Trauma Surgeon
 - ✓ Specialist trauma teams
 - ✓ 24-hour Trauma Anaesthetic Service
 - ✓ Helipad for receiving airlifted trauma patients



Trauma Level II Centre

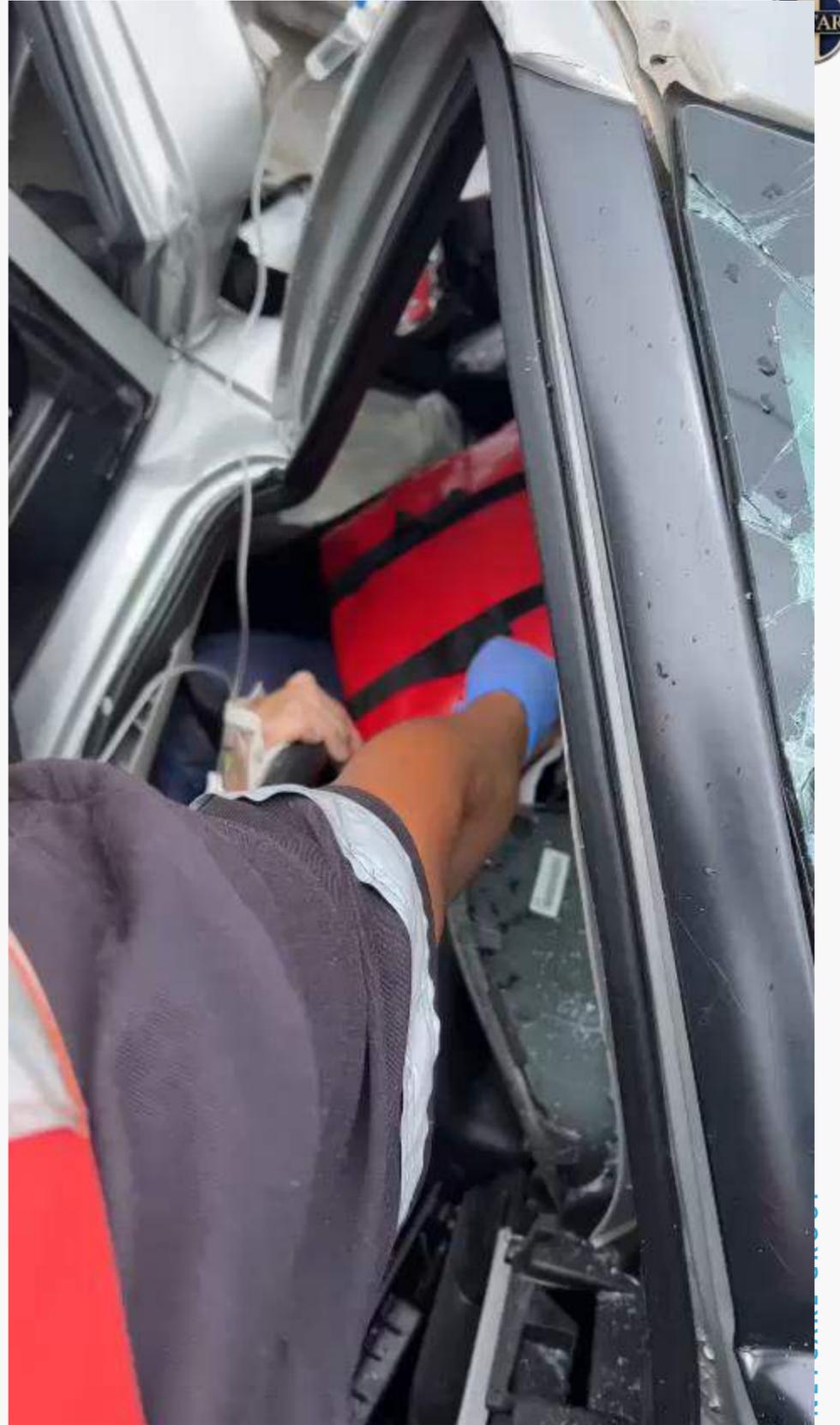
- A hospital that is expected to provide **initial definitive trauma care regardless of the severity of injury.**
- However, due to the nature of their resources the Level II Trauma Centre may not be able to provide the same comprehensive care compared to a Level I Trauma Centre
- Severely injured patients, with complex injuries, may have to be transferred to a Level I Trauma Centre

Trauma Level III Centre

- Serves communities who do not have access to a Level I or Level II Trauma Centre
- Provides prompt assessment, resuscitation, basic emergency operations and stabilisation and arrange for transfer (if required) to a Level I or Level II Trauma Centre that can provide higher level of care to a trauma patient



Pre-Hospital



TRAUMA SYSTEMS

National Guidelines for the Field Triage of Injured Patients

National Guideline for the Field Triage of Injured Patients

RED CRITERIA
High Risk for Serious Injury

Injury Patterns	Mental Status & Vital Signs
<ul style="list-style-type: none"> Penetrating injuries to head, neck, torso, and proximal extremities Stab wounds, suspected skull fracture Suspected spinal injury with neck, chest or pelvic pain Chest wall tenderness, deformity, or suspected flail chest Suspected pelvic fracture Suspected fracture of two or more proximal long bones Crouched, disoriented, mangled, or pulseless extremity Amputation proximal to wrist or ankle Active bleeding requiring a treatment or intervention with continuous pressure 	<p>All Patients</p> <ul style="list-style-type: none"> Unable to follow commands (GCS = 8) SBP < 90 or > 20 base deficit Respiratory distress or need for respiratory support Return of pulselessness < 90% <p>Age 0-9 years</p> <ul style="list-style-type: none"> SBP < 70mm Hg + (2 x age year) <p>Age 10-14 years</p> <ul style="list-style-type: none"> SBP < 90 mmHg HR > 140 <p>Age > 15 years</p> <ul style="list-style-type: none"> SBP < 90 mmHg or HR > 140

Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic command's or the regional trauma system.

YELLOW CRITERIA
Moderate Risk for Serious Injury

Mechanism of Injury	EMS Judgment
<ul style="list-style-type: none"> High-Risk Motor Vehicle <ul style="list-style-type: none"> Front or complete ejection Significant rollover (including roof) <ul style="list-style-type: none"> > 12 inches occupant side OR > 18 inches any side OR Stood for extraction for extricate patient Death or passenger compartment Child (Age 0-15) unrestrained or in unrestrained child safety seat Vehicle telemetry data consistent with serious injury Roller transported from transport vehicle with significant impact (eg, motorcycle, ATV, tractor, etc.) Motorcyclist/tractor rider thrown into air or with significant impact Fall from height > 12 feet (40 feet) 	<p>Consider risk factors, including:</p> <ul style="list-style-type: none"> Low-level falls in young children (age < 5 years) or older adults (age > 65 years) with significant head impact Auto-egress use Suppression of vital signs Special high-acuity healthcare needs Pregnancy > 30 weeks Barotrauma consistent with decompression Children should be triaged preferentially to pediatric specialty centers <p>Unrestrained, take to a trauma center</p>

<https://url.za.m.mimecastprotect.com/s/aqMyCMjBgQtqjn0EqSwf7F8TegP?domain=facs.org/>

National Guideline for the Field Triage of Injured Patients

RED CRITERIA

High Risk for Serious Injury

Injury Patterns

- Penetrating injuries to head, neck, torso, and proximal extremities
- Skull deformity, suspected skull fracture
- Suspected spinal injury with new motor or sensory loss
- Chest wall instability, deformity, or suspected flail chest
- Suspected pelvic fracture
- Suspected fracture of two or more proximal long bones
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Active bleeding requiring a tourniquet or wound packing with continuous pressure

Mental Status & Vital Signs

All Patients

- Unable to follow commands (motor GCS < 6)
- RR < 10 or > 29 breaths/min
- Respiratory distress or need for respiratory support
- Room-air pulse oximetry < 90%

Age 0-9 years

- SBP < 70mm Hg + (2 x age in years)

Age 10-64 years

- SBP < 90 mmHg or
- HR > SBP

Age ≥ 65 years

- SBP < 110 mmHg or
- HR > SBP

Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system

YELLOW CRITERIA

Moderate Risk for Serious Injury

Mechanism of Injury

- High-Risk Auto Crash
 - Partial or complete ejection
 - Significant intrusion (including roof)
 - >12 inches occupant site OR
 - >18 inches any site OR
 - Need for extrication for entrapped patient
 - Death in passenger compartment
 - Child (age 0-9 years) unrestrained or in unsecured child safety seat
 - Vehicle telemetry data consistent with severe injury
- Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.)
- Pedestrian/bicycle rider thrown, run over, or with significant impact
- Fall from height > 10 feet (all ages)

EMS Judgment

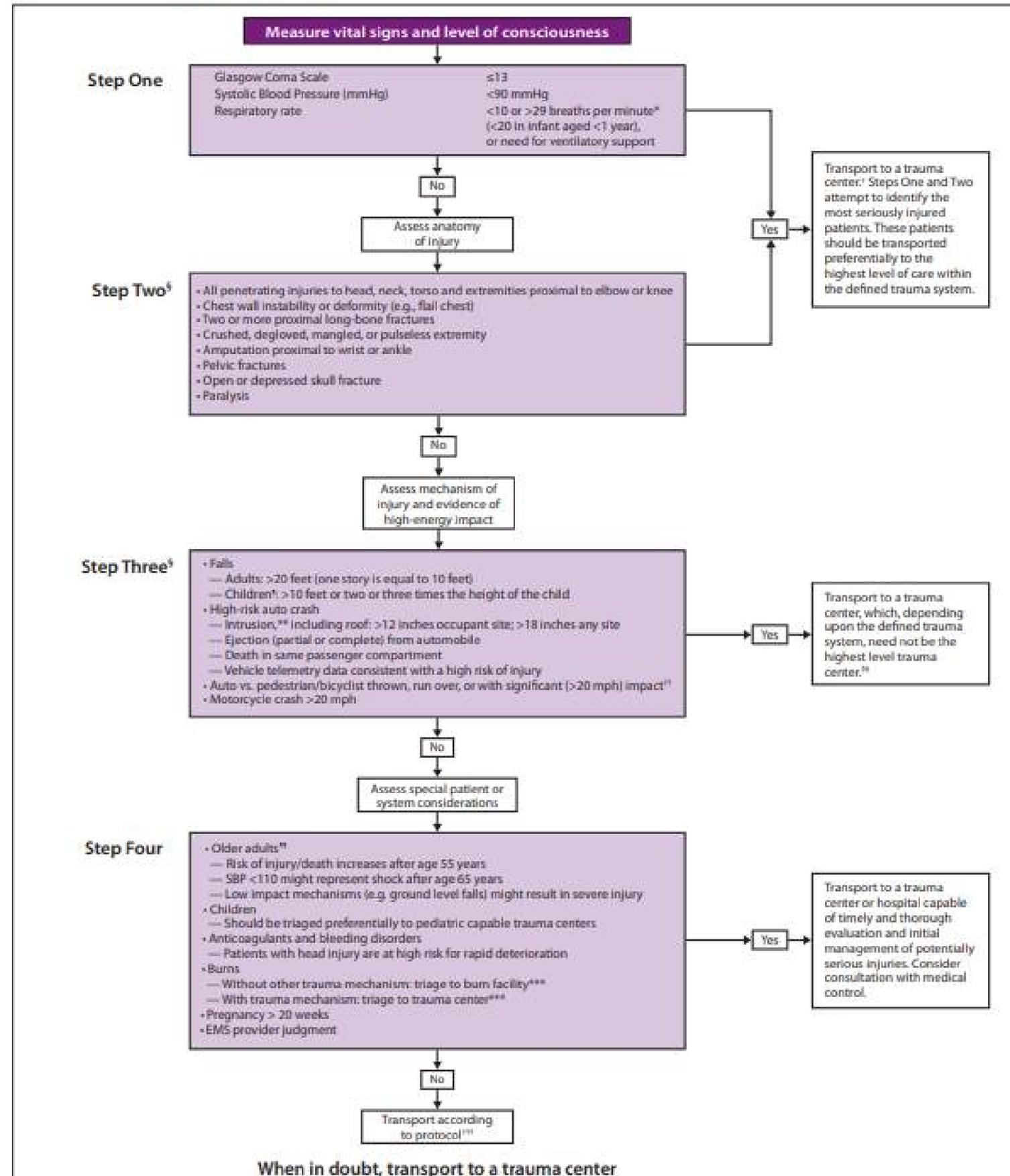
Consider risk factors, including:

- Low-level falls in young children (age \leq 5 years) or older adults (age \geq 65 years) with significant head impact
- Anticoagulant use
- Suspicion of child abuse
- Special, high-resource healthcare needs
- Pregnancy > 20 weeks
- Burns in conjunction with trauma
- Children should be triaged preferentially to pediatric capable centers

If concerned, take to a trauma center

Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highest-level trauma center)

FIGURE 2. Guidelines for field triage of injured patients — United States, 2011



Measure vital signs and level of consciousness

Step One

Glasgow Coma Scale	≤13
Systolic Blood Pressure (mmHg)	<90 mmHg
Respiratory rate	<10 or >29 breaths per minute* (<20 in infant aged <1 year), or need for ventilatory support

No

Assess anatomy of injury

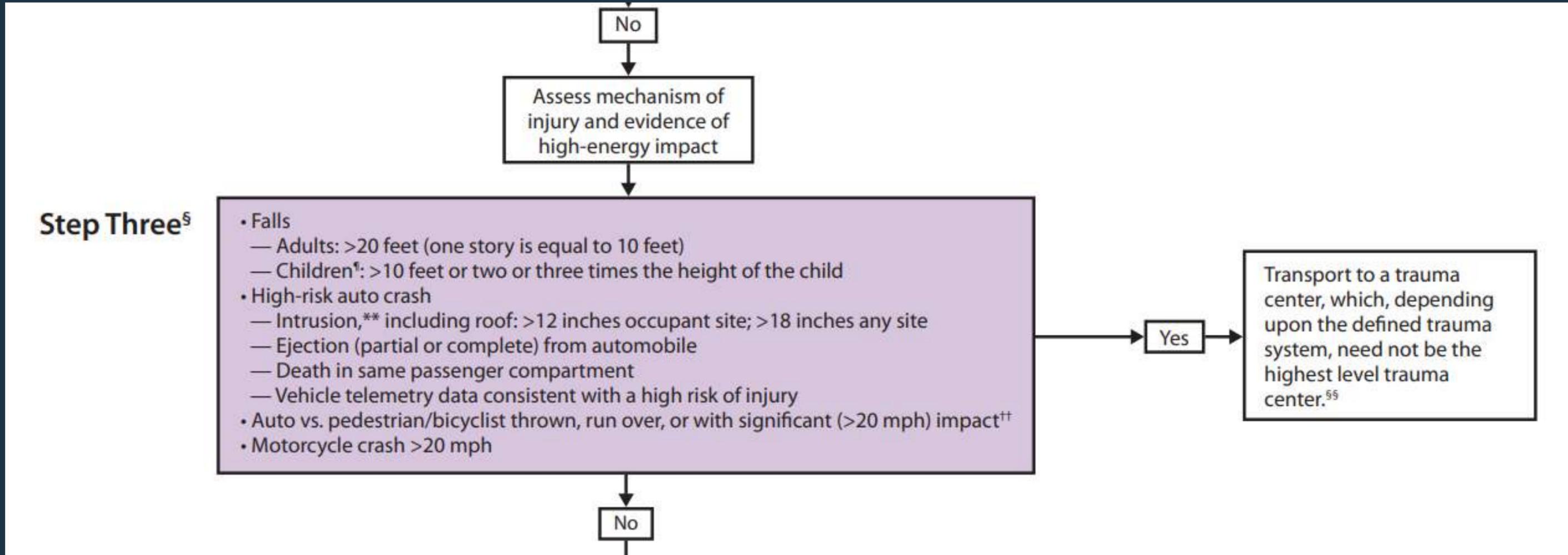
Step Two^s

- All penetrating injuries to head, neck, torso and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g., flail chest)
- Two or more proximal long-bone fractures
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

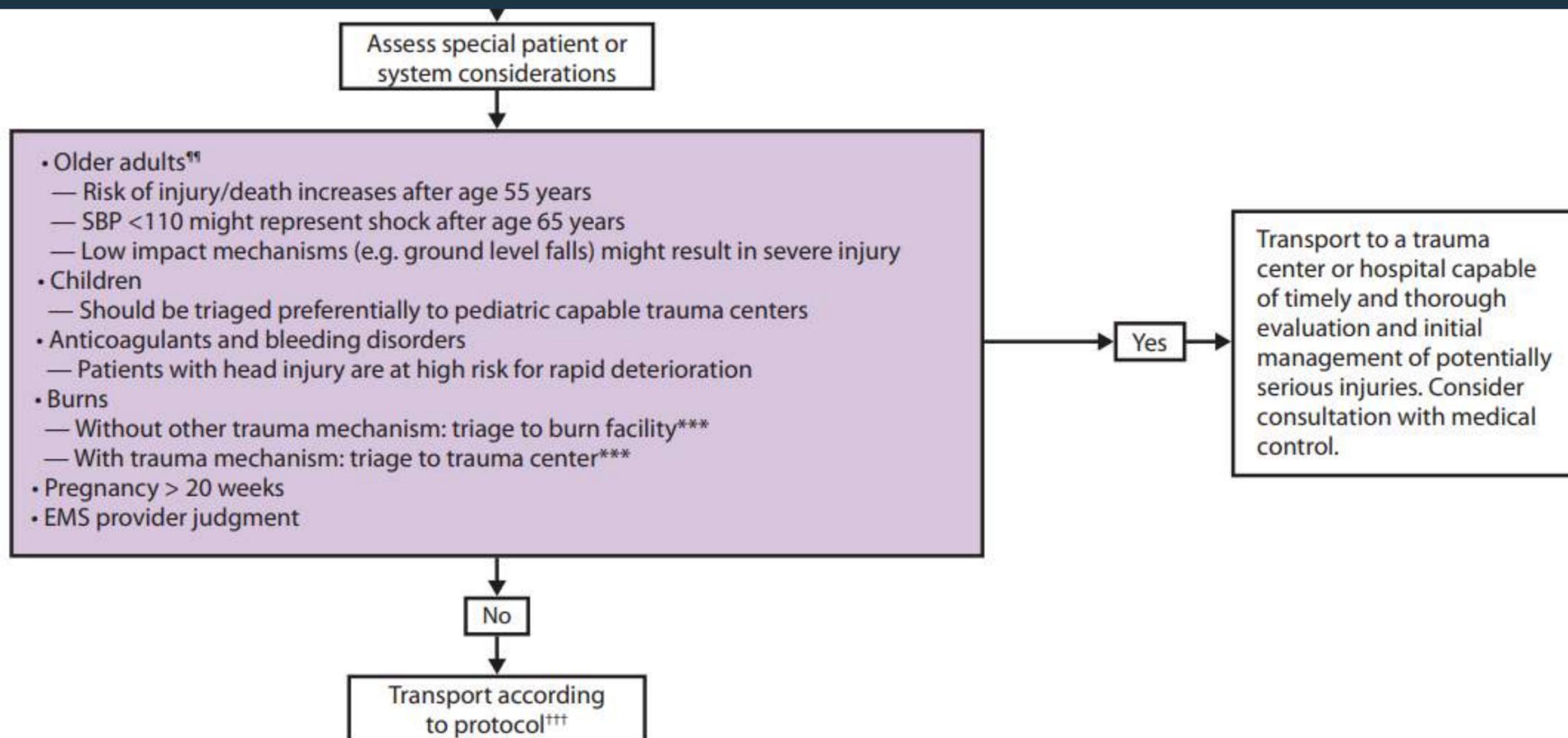
No

Yes

Transport to a trauma center.[†] Steps One and Two attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.



Step Four



When in doubt, transport to a trauma center



Immediate 24 Hour:

- Resus
- Theatre
- ICU
- Ward



Rehabilitation

Definition and Requirements

All trauma centers must have a process to determine the level of care patients require after trauma center discharge, as well as the specific rehabilitation care services required at the next level of care. The level of care and services required must be documented in the medical record.

Additional Information

The level of care identifies the optimal disposition of the patient taking into account their needs; options include home with services, outpatient rehabilitation, an inpatient rehabilitation hospital, a skilled nursing facility, or a long-term acute care hospital. The specific services required might include rehabilitation expertise that focuses on spinal cord injury, TBI, musculoskeletal rehabilitation, or others relevant to the needs of the patient.

Rehabilitation must focus on assisting patients in achieving the **greatest independence possible**, the highest degree of functionality possible and the fastest return to productivity possible.



Trauma Injury Prevention

Definition and Requirements

All trauma centers must have an injury prevention program that:

- Has a designated injury prevention professional
- Prioritizes injury prevention work based on trends identified in the trauma registry and local epidemiological data
- Implements at least two activities over the course of the verification cycle with specific objectives and deliverables that address separate major causes of injury in the community
- Demonstrates evidence of partnerships with community organizations to support their injury prevention efforts

In Level I trauma centers, the injury prevention professional must be someone other than the TPM or PI personnel.

Additional Information

While there are no specific certification requirements for an injury prevention professional, this individual would have the skills to lead trauma center efforts to develop and maintain an organized, interdisciplinary, public health approach to injury prevention. Examples of injury prevention areas of focus include:

- Motor vehicle occupant safety
 - Child passenger safety seat education
 - Distracted driving
- Motorcycle and bicycle safety/helmet initiatives
- Pedestrian safety
- Fall prevention
- Firearm injury prevention programs
- Violence intervention and screening programs
- STOP THE BLEED® program as a community engagement strategy

Specific objectives and deliverables for each of the prevention initiatives should be documented in advance of implementation so that centers can describe their successes relative to their stated goals.

Measures of Compliance

- Job description for relevant staff
- Graphs/tables highlighting recent injury mechanism trends from registry
- Report of injury prevention activities including the following:
 - Activity name
 - Activity date
 - Participation data
 - Evaluation of outcomes (where feasible)
- Program objectives and deliverables for each injury prevention activity
- Any materials (including posters, flyers, press releases, etc.) relevant to the injury prevention initiatives

Resources

Below are suggestions for planning optimal injury prevention and violence intervention strategies with the greatest impact.

- **Utilize available data:** Identify high rates of injury and the populations in which these injuries occur. Analyze data to determine the mechanisms of injury, injury severity, and contributing factors. Utilize multiple injury and death data sources to reflect the true burden of injury.
- **Target at-risk populations:** Identify, understand, and target efforts toward at-risk populations while being sensitive to generational differences, as well as cultural, religious, and other established customs. Engage target population as a key stakeholder in development, implementation, and evaluation of the intervention.¹
- **Leverage partnerships:** Make use of other trauma centers, prehospital organizations, public health and violence prevention organizations, law enforcement agencies, schools, churches, and others interested and involved in community injury prevention efforts.
- **Choose effective or well-informed intervention strategies:** New intervention program development, assessment, and implementation are complex and time-consuming. Not all proven interventions work in every population. Evidence-informed interventions may still require adaptation for demographic and risk factor differences.²⁻⁶
- **Develop a plan:** Logic models are a best-practice method to plan intervention strategies and should be utilized to outline the intervention effort, including delineating risk and protective factors.⁷

- **Evaluate:** Develop surveillance and monitoring tools to assess not only the available performance indicators of the trauma center's prevention efforts but also the prevention effectiveness. Evaluation efforts should start at program inception with a feasibility assessment and include intermediate and long-term outcomes.
- **Communicate:** Partner with local print and broadcast media, and be prepared for many opportunities for trauma center leaders to serve as a reliable source of injury prevention information. Understand your stakeholders and the at-risk populations, and articulate your prevention message based upon their vantage point.⁷
- **Advocate:** Elected and appointed leaders can help implement prevention efforts if the trauma center understands their goals and ways to work with them to create effective laws promoting prevention.

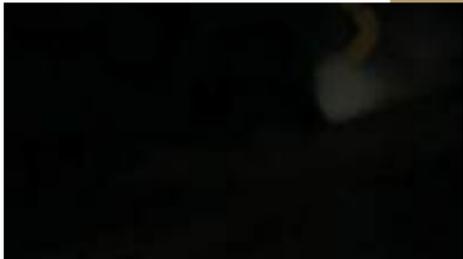
P.D.S.A (Quality Improvement)

Unrestrained Driving

Something as simple as a child car seat can prevent injuries and save lives:



TYPE OF RESTRAINT	REDUCTION: ALL INJURIES (%)	REDUCTION: SEVERE INJURIES (%)
REAR FACING	76	92
FORWARD FACING	34	60

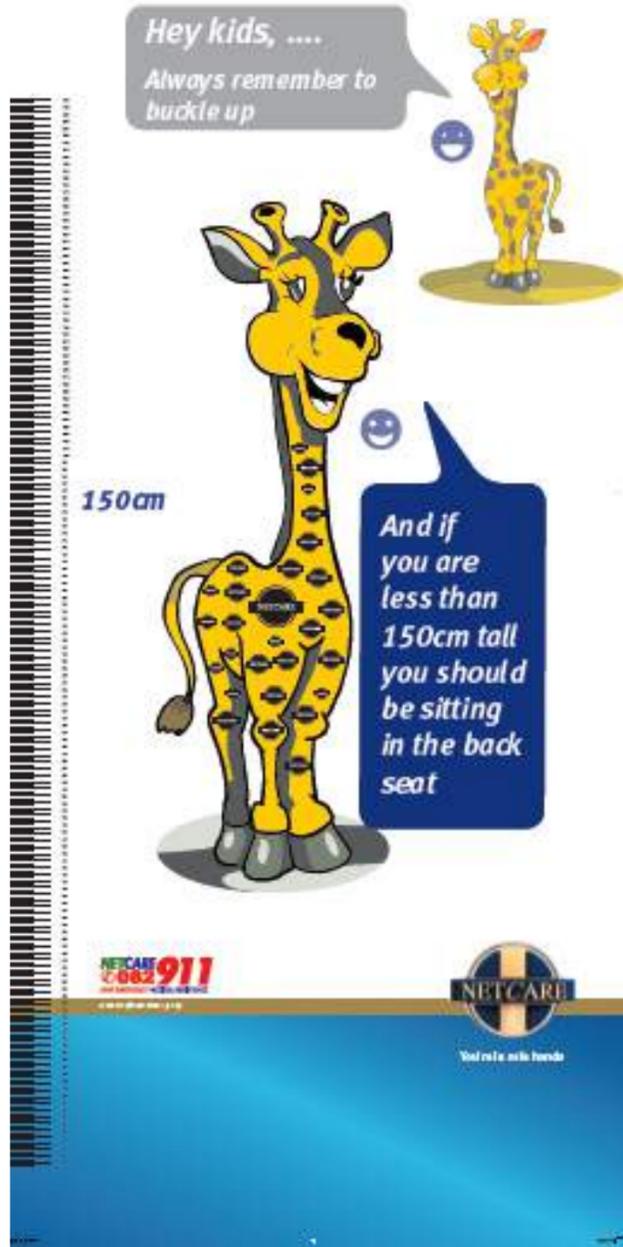


Unbuckled in the back seat?
**You'll become a
human missile in a crash!!!**

56 km/h
Body weight x3



Are You Tall Enough?



150

The Distracted Driver



Text and driving



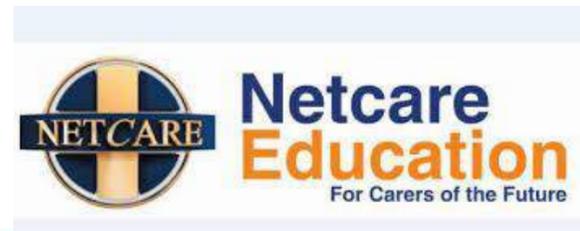
Distracted Parenting



NTIP Collaborations....



You're in safe hands

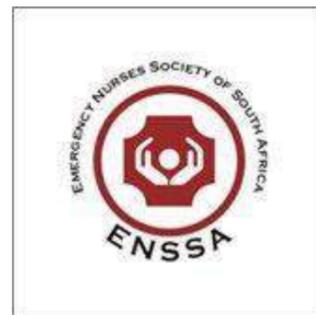


UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



World Health Organization

World Vision



ARRIVE ALIVE WITH
MASTERDRIVE



GLOBAL ALLIANCE
FOR
RABIES CONTROL





TRAUMA INJURY PREVENTION PROGRAMME ROAD SAFETY

"Touching lives every step of the way"

Developed by:
Netcare Otago and Netcare Marlborough Hospitals
Trauma Injury Prevention Teams

TRAUMA INJURY PREVENTION PROGRAM UNRESTRAINED DRIVING

VOLUME 2

Developed by:
Netcare Otago and Netcare Marlborough Hospitals
Trauma Injury Prevention Teams



VOLUME 3

TRAUMA INJURY PREVENTION PROGRAM

HELMET SAFETY

"Touching lives every step of the way"

Developed by:
Netcare Union and Netcare Midpark
Trauma Injury Prevention Teams

THE GLEN SHOPPING CENTRE

NETCARE You're in safe hands

NETCARE 082911 24HR EMERGENCY MEDICAL ASSISTANCE

VOLUME 4

TRAUMA INJURY PREVENTION PROGRAM

PREVENTION OF BURNS

"Touching lives every step of the way"

Developed by:
RC Grobler & A Motta on behalf of
Netcare Midpark and Netcare Union Hospital
Level I Trauma Centres

THE GLEN SHOPPING CENTRE

NETCARE You're in safe hands

NETCARE 082911 24HR EMERGENCY MEDICAL ASSISTANCE



VOLUME 5

TRAUMA INJURY PREVENTION PROGRAMME

PREVENTION OF DROWNING

"Touching lives every step of the way"

Developed by:
RC Grobler & A Klette on behalf of
Netcare Midpark and Netcare Union Hospital
Level 1 Trauma Centres

IT WILL NEVER HAPPEN TO ME...

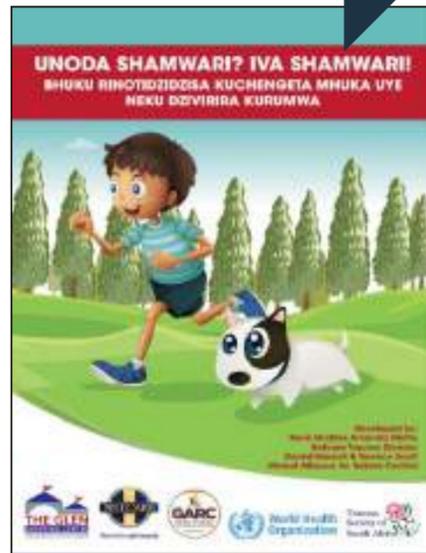
SAFETY TIPS FOR ADULTS

A PROGRAMME DEVELOPED BY:
NETCARE TRAUMA INJURY PREVENTION PROGRAMME
IN CONJUNCTION WITH THE GLEN SHOPPING CENTRE

A KLETTE
RC GROBLER

My Friend and I

Shona



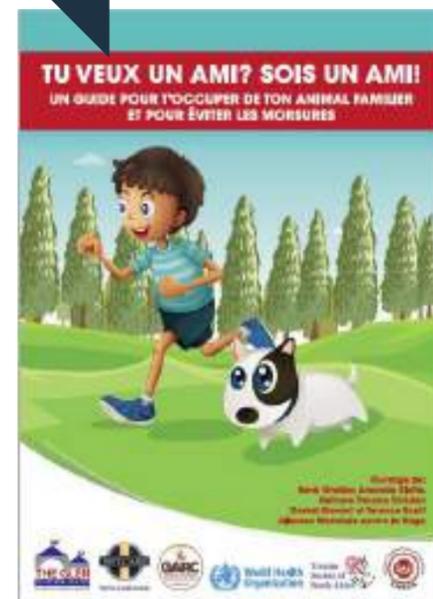
Zulu



Portuguese

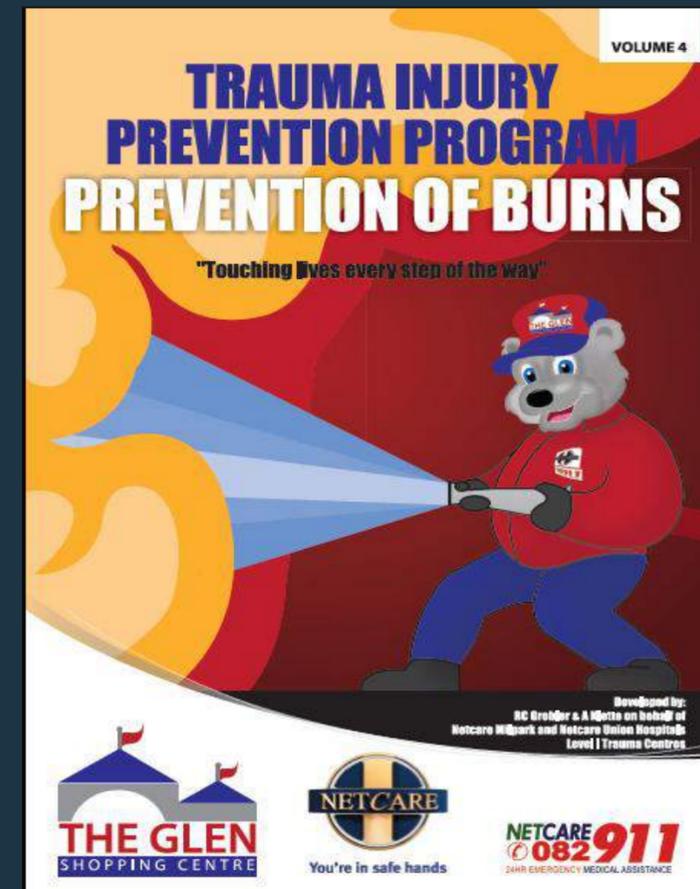
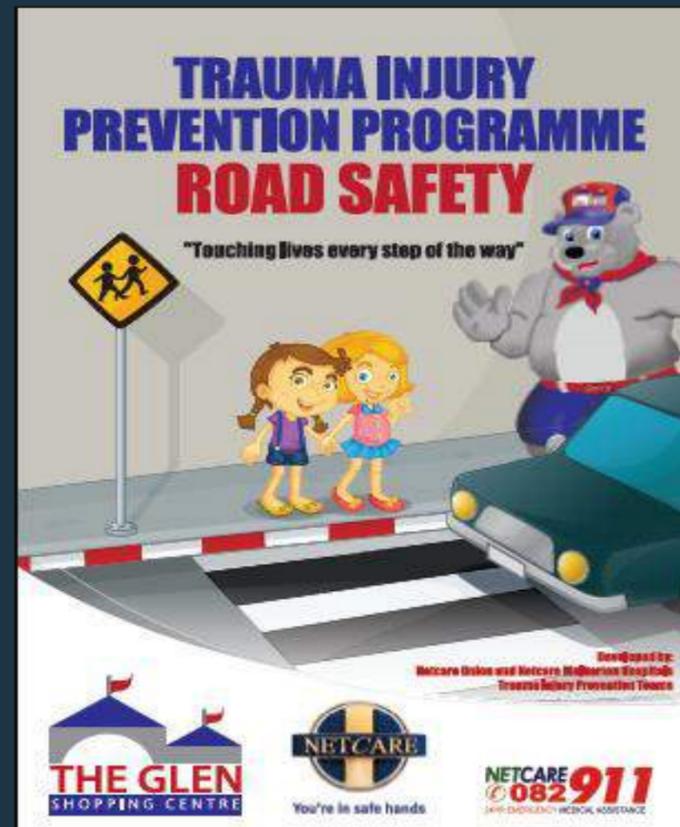


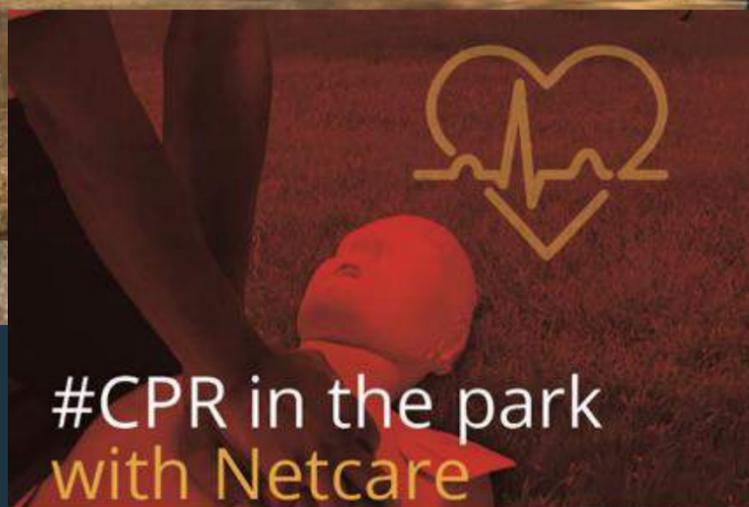
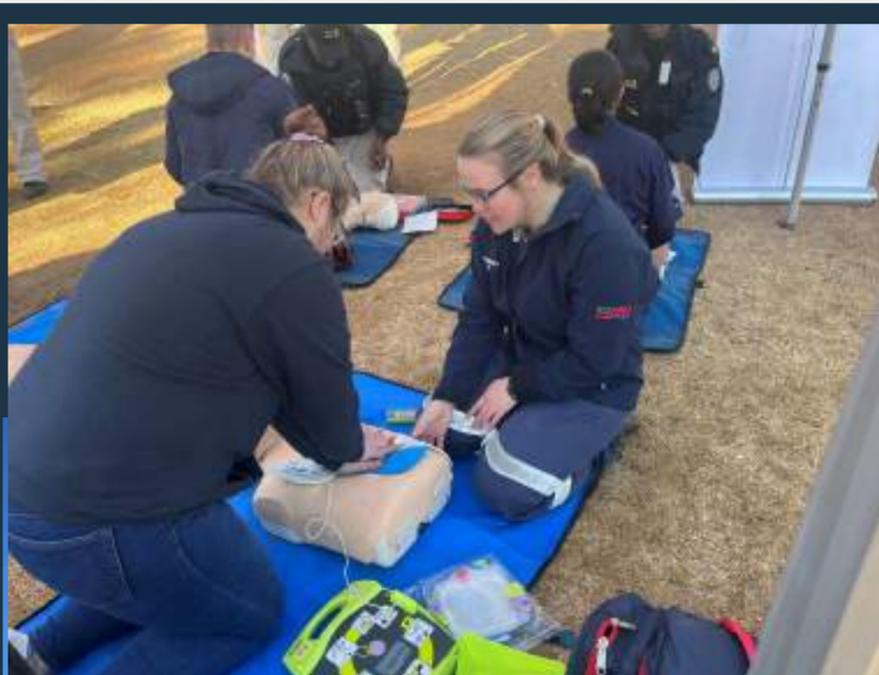
French



English







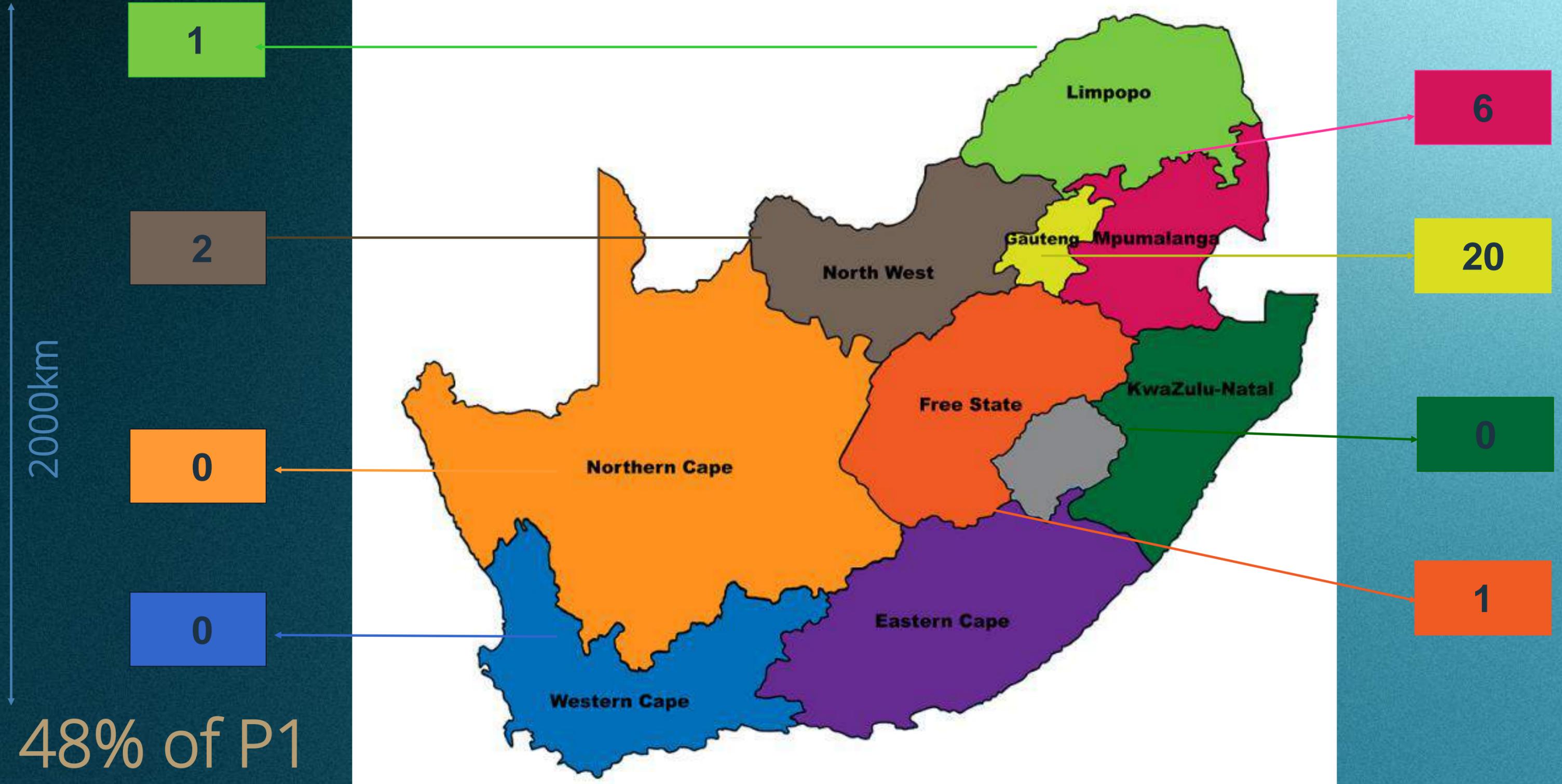


Outreach

Rationale

Education and outreach programs are integral parts of the trauma program and are designed to help improve outcomes from trauma and minimize the effects of injury. Trauma centers have an obligation to educate future providers and ensure that the public has an opportunity to access educational resources relevant to injury care.

Evidence of Level I Trauma Centre influence





**MILPARK
TRAUMA**

A Satellite Academic Centre of the
University of the Witwatersrand
Johannesburg



Department of Trauma Surgery: Netcare Milpark Hospital

Programme

Venue: Nelspruit Mediclinic

24 February 2023

Time	Topic	Presenter
07:30-08:30	Damaged Control Resuscitation	Prof MS Moeng <i>Specialist Trauma Surgeon</i>
08:30-09:15	Management of Head Injuries	Dr S Makhadi <i>Specialist Trauma Surgeon</i>
09:15-10:00	Management of Burn patients	Prof MS Moeng <i>Specialist Trauma Surgeon</i>
10:0-10:30	Morning Break	
10:30-12:00	Case studies	Prof MS Moeng/ Dr S Makhadi
12:00-12:30	Motion restriction	Neill Visser & Kathrine de Bruin <i>Netcare 911</i>
12:30-13:15	Lunch	
13:15-14:15	Transport of the Critical ill patient Inotropes	Neill Visser & Kathrine de Bruin <i>Netcare 911</i>
14:15-14:45	Crush injuries	Dr S Makhadi <i>Specialist Trauma Surgeon</i>
14:45-15:00	Afternoon break	
15:00-15:30	Importance of: Safety and communication	Leanne van Rooy <i>Trauma Programme Manager</i>

CPD points: 6 Clinical and 2 Ethical Points

Example of a Day Trauma Workshop





CME at Life Cosmos Hospital For EMS, Nurses and Doctors

16 August 2022

Time	Topic	Presenter
18:30-19:15	Crush injuries	Dr S Makhadi <i>Specialist Trauma Surgeon</i>
19:30-20:15	Management of Abdominal Trauma	Dr R Pretorius <i>Specialist Trauma Surgeon</i>





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TRAUMA**

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University of the Witwatersrand
Johannesburg



Department of Trauma Surgery: Netcare Milpark Hospital

CME at Life Midmed Hospital For EMS, Nurses and Doctors

30 August 2022

Time	Topic	Presenter
18:30-19:30	Primary Assessment and Management of Chest Trauma	Dr Marissa Joubert <i>Specialist Trauma Surgeon</i>
19:30-20:30	What is new in cardiac arrest and resuscitation	David Stanton <i>Hospital Manager</i>

CPD POINTS AWARDED (1 CLINIC / 1 ETHICAL)





**MILPARK
TRAUMA**

9:A Satellite Academic Centre of
the
University of the Witwatersrand
Johannesburg



Department of Trauma Surgery: Netcare Milpark Hospital

Marikana
Programme

Friday 13 January 2023

Time	Topic	Presenter
08:00-08:30	Management of Chest injuries	Dr Marissa Joubert <i>Specialist Trauma Surgeon</i>
08:30-09:00	Management of Head injuries	Dr Megan Lubout <i>Specialist Trauma Surgeon</i>
09:00-10:00	Transportation of critical injured patient	Neill Visser Charne vd Berg Kathrine de Bruin <i>Netcare 911 Team</i>
10:00-10:15	Importance of: Safety and communication	Leanne van Rooy <i>Trauma Programme Manager</i>
10:15-10:30	Conclude and questions and comments	

Speakers subjected to change due to availability.

CPD POINTS AWARDED (2 CLINIC / 1 ETHICAL)



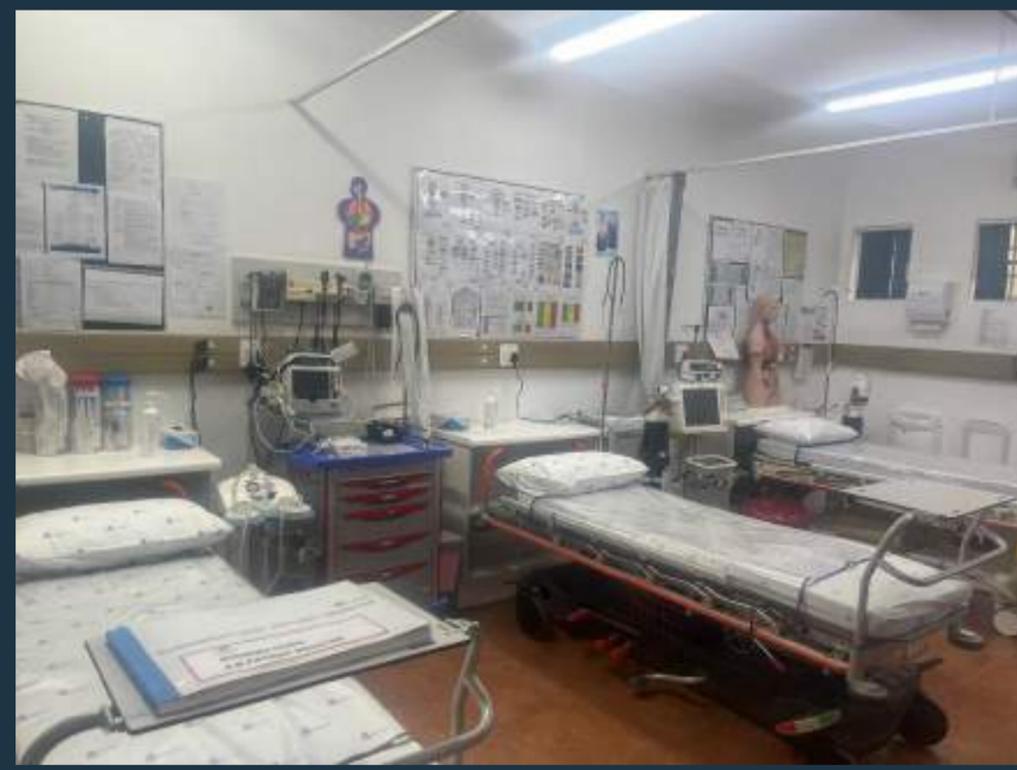
Monday 24 July 2023				
	Destination	Contact	KM / Duration	
248 –leave 06:00	Thabazimbi MC	Martjie Dr A Groenewald	233km 3h11	09:30-10:30
Leave 10:30	Lephalale Mediclinic	Celia Sharp Natali	134km 1h23	12:00-13:00
Lunch and leave 13:30	Mokopane PH Clinic	Dr K vd Merwe	185km 2h3min	15:30-16:30
Overnight at Mokopane at Park Hotel				
Tuesday 25 July 2023				
Mokopane	Mogalakwena Mine	D Frans Dr Radipape		
Back to Mokopane, via N1 to Polokwane, then on R37 towards Burgersfort	Bokoni mine	Dr Lebobo.		
Bokoni Mine	Modikwa PH clinic	Sr Amelia Molapo, Dr Monyela, Dr Mokonyane Dr Makhuela.		
Overnight at Thaba Moshate Casino and Hotel in Burgersfort.				
Wednesday 26 July 2023				
Burgersfort	Mototolo	Dr Mashele and her team		
Then home via R37, to Polokwane, then down on N1.				

Example of Road trip Mining



Visit hospital

Visit mine hospital



Rehab Centre Mine



**"NETWORKING IS NOT
ABOUT JUST
CONNECTING PEOPLE.
IT'S ABOUT CONNECTING
PEOPLE WITH PEOPLE,
PEOPLE WITH IDEAS, AND
PEOPLE WITH
OPPORTUNITIES."**

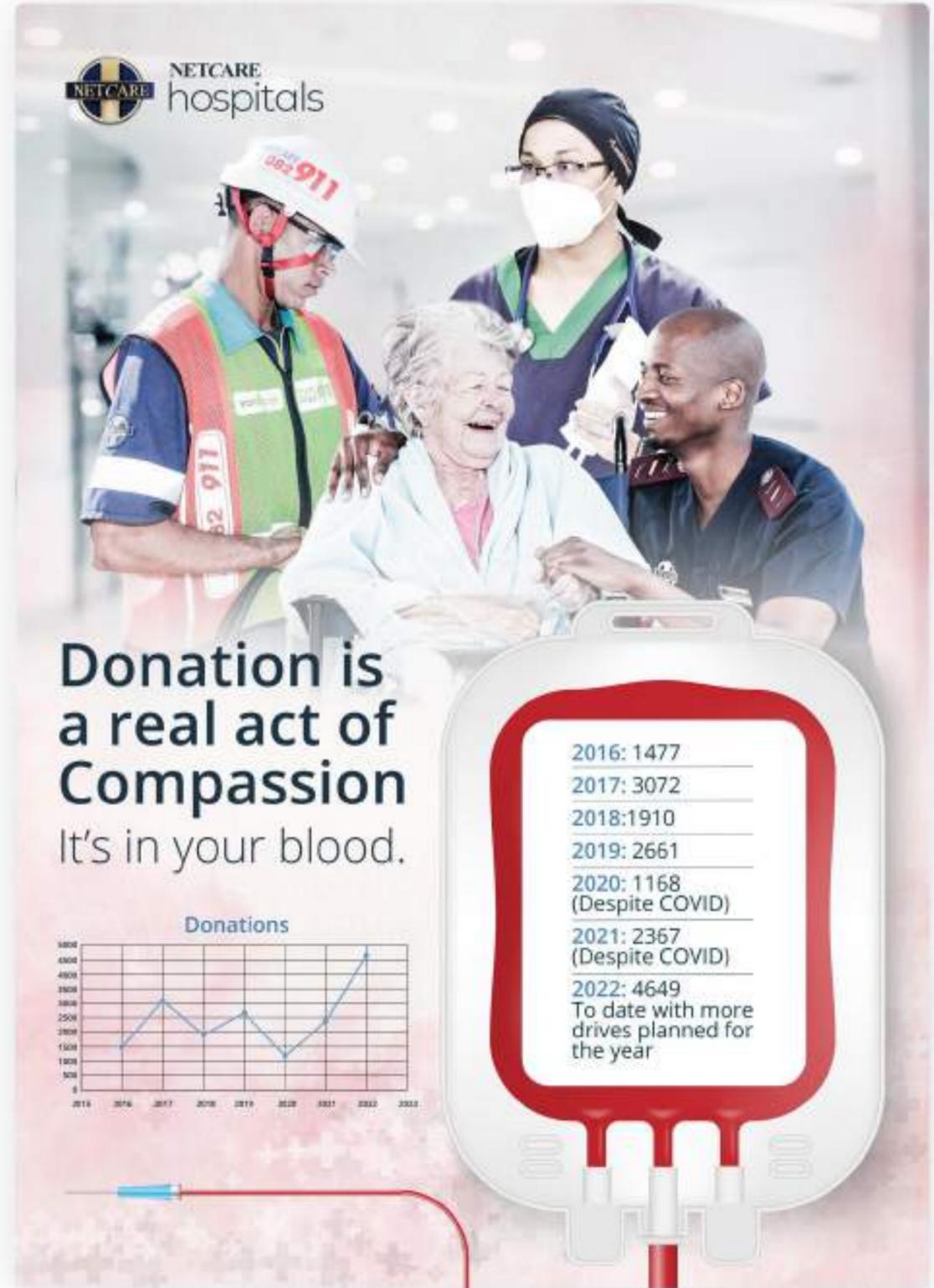
Michele Jenmore



TRANSFER TO DEFINITIVE CARE - CHECKLIST

	To Do	Yes/ No
A	Secure airway if intubation indicated	
	Maintain spinal motion restriction. Use head blocks No collars and no spine boards	
B	Secure all Tubes (Underwater drains / peripheral lines etc)	
	Insert chest tube if indicated	
C	Transfer with blood (if available) Consider Freeze-dried Plasma	
D	Provide patient with analgesia (consult accepting specialist if unsure about type of analgesia)	
E	Keep patient warm	
	Splint fractures and confirm pulses	
	Ensure all WCA Documentation * <ul style="list-style-type: none"> • WCL 2 • WCL 4 • ID / Passport 	
	Send images on CD Please do not perform CT scan if P1 Trauma patient.	

Know your capabilities and limitations
Remember: stabilise and send
Only perform necessary procedures and limit radiographic imaging



NETCARE hospitals

Donation is a real act of Compassion
It's in your blood.



2016:	1477
2017:	3072
2018:	1910
2019:	2661
2020:	1168 (Despite COVID)
2021:	2367 (Despite COVID)
2022:	4649

To date with more drives planned for the year

Providing YOU with the best and safest care

NETCARE

**BE A HERO...
IT'S IN YOUR
BLOOD!**

SANBS
South African National Blood Service

Western Cape Blood Service
Do something remarkable



Section 5 WCA support group with social workers

- * Photo taken with permission
- * Injury on duty



Coffee hour
@ 14:00

Wednesday 10 December
Sunday 21 December



Research

Research Requirements

Level I trauma centres have an obligation to innovate and advance trauma care through research and other scholarly articles. These activities also create opportunities for the development of future trauma leaders.

– *Resources for Optimal Care of the Injured Patient, ACS 2022*

Level I Trauma Centre demonstrate the following activities during the verification cycle to be Compliant

1. Ten (10) Trauma related research articles
2. Speaker invitation
3. Evidence showing support of resident or fellow scholarly activities



Quality Improvement

Rationale

Processes for identifying adverse events and implementing subsequent corrective action plans—measurable through patient outcomes—are inherent cornerstones of continuous performance improvement and patient safety (PIPS). Problem resolution, outcomes improvement, and assurances of patient safety (“loop closure”) must be readily identifiable through structured PI initiatives.

Definition and Requirements

All trauma centers must participate in a risk-adjusted benchmarking program and use the results to determine whether there are opportunities for improvement in patient care and registry data quality.



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Netcare Trauma Morbidity and Mortality Meetings 2025

11 December 2025



Providing YOU with the best and safest care.

Do we need a Trauma System?



Patient Journey

PATIENT JOURNEY
01



- Early Access
- Early Recognition
- Early Activation
- Think "Golden Hour"



- Correct Facility
- Correct Transport Method
- Activation of Trauma System
- Life-Line**



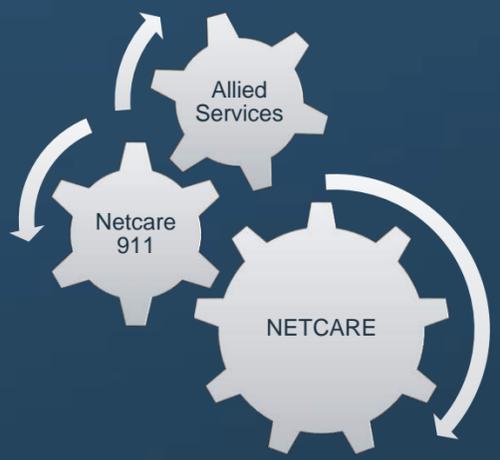
HOSPITAL
04

- Trauma Surgeon - 10 minutes
- Anesthetist - 20 minutes
- Other Surgical - 60 minutes
- Emergency Department / ICU / High-Care, Ward (trauma dedicated)

- Dedicated Trauma Theatre
- Radiology *



- Quality Improvement Programs
- Trauma Injury Prevention Programs
- Outreach
- Research

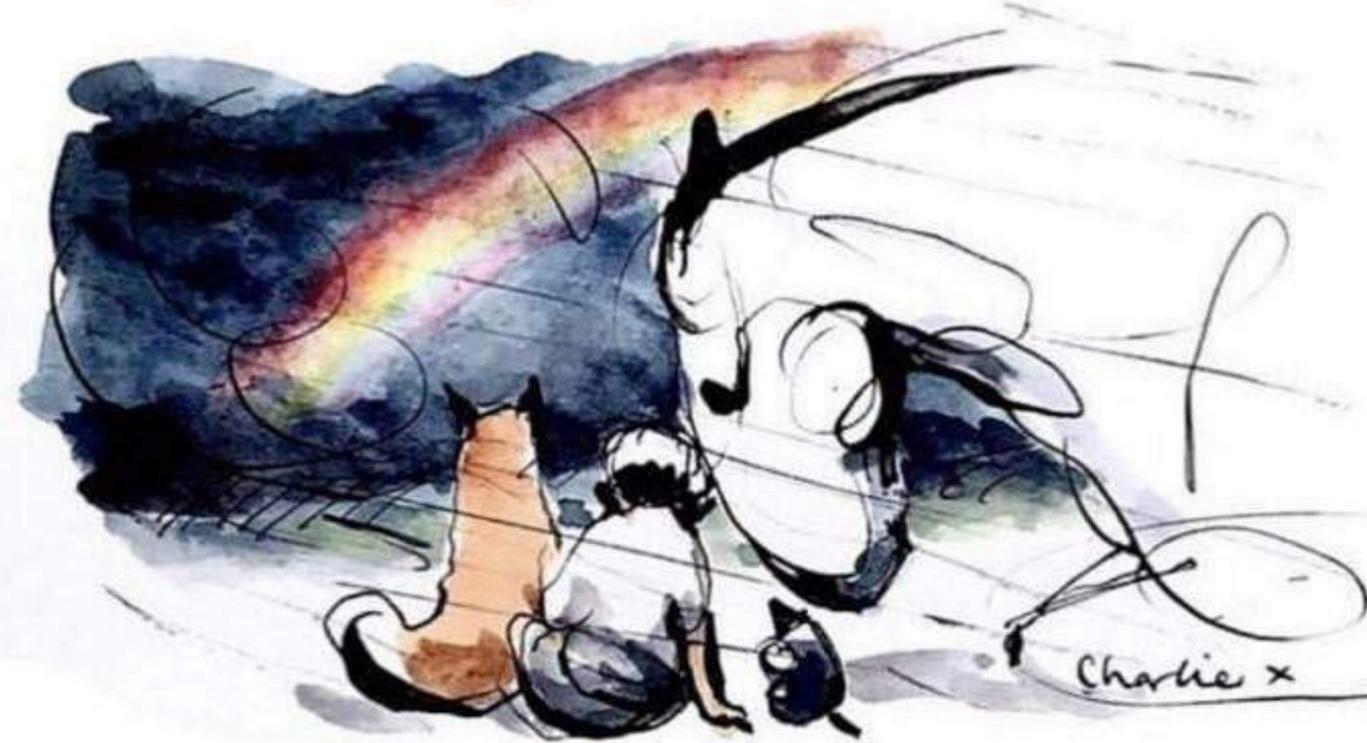


- Counseling / Social Work / Psychotherapy
- Occupational Therapy
- Physiotherapy
- Speech Therapy
- Dietetics
- Laboratories
- Rehabilitation





"Can anything good
come from a storm?"



"You learn to love yourself
and others who are struggling
said the horse."

