

COMBAT CASUALTY CARE MANUAL



CIOMR GUIDELINE

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ALGORITHM

details on following pages

- **Always think security and call for help ASAP!**
- **Master Drill:** under fire / hostile / safe page 3
- Multiple casualties: perform triage page 4
- Assess / treat individual casualty / casualties page 5
- Primary Survey page 5
 1. stop massive external bleeding page 5
 2. immobilize neck in blunt trauma, if necessary page 5
 - assess level of consciousness
 - ↓
 - conscious
 - ↓
 - 3. check airway (page 5)
 - ↓
 - 4. check breathing (page 5)
 - ↓
 - 5. check circulation page 6
 - ↓
 - 6. check neurological status page 6
 - unconscious (page 7)
 - ↓
 - check mouth / open airway
 - listen for passage of air
 - ↓
 - present
 - ↓
 - maintain airway
 - (?hostile)/safe
 - ↓
 - BLS (page 8)
 - if successful: maintain airway
 - absent
 - ↓
 - hostile
 - ↓
 - casualty is DEAD
- Secondary Survey (depends on tactical situation) page 9
 - then:
 - prevent hypothermia page 13
 - position casualty page 13
 - give pain relief & medication; provide comfort page 13
 - communicate / « nine-liner » page 14
 - **re-examine, re-treat, re-triage casualty !!** page 14
 - evacuate page 14

MASTER DRILL

- Assess:**
- under fire
 - hostile environment
 - safe environment

1. Under fire (→ Care Under Fire)

- win the fight/get out
- don't get shot yourself/prevent injuries to the casualty
- direct casualty to get under cover and apply self-aid
- **stop life threatening external bleeding**
 - * **follow NATIONAL guidance**
 - * tourniquet, (2nd tourniquet), high on the limb
- turn unconscious casualty on belly
- **NO FURTHER EXAMINATION or TREATMENT**
- don't leave casualty and/or weapons behind
- **when no longer under fire, re-assess: see # 2 below**

2. Hostile environment (→ Tactical Field Care)

- secure the area
- use Personal Protective Equipment
- disarm casualty/casualties with altered consciousness
- assess number of casualties
 - multiple: triage, assess, treat **go to page 4**
 - single: assess, treat **go to page 5**

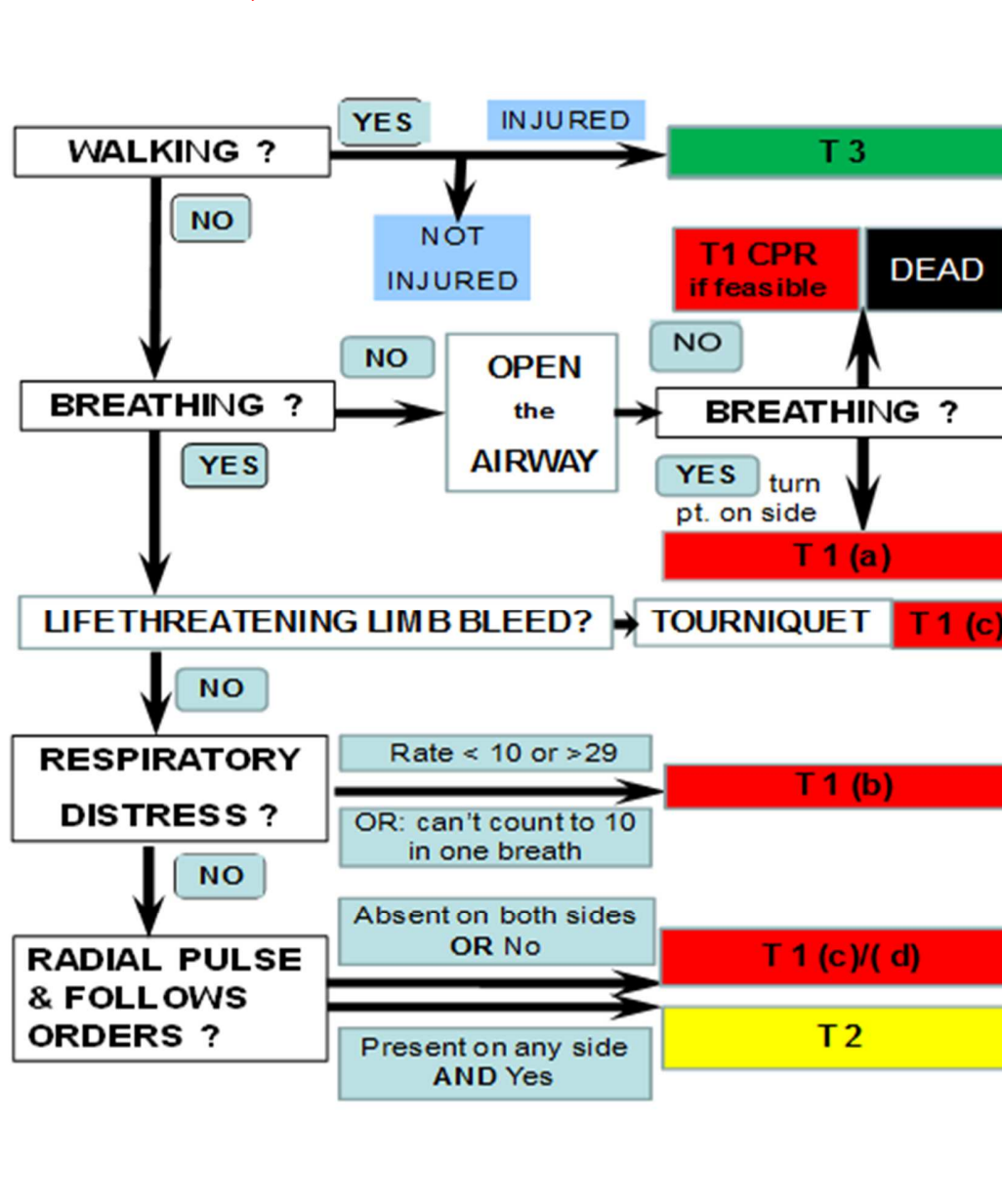
3. Safe environment (→ Tactical Field Care)

- take safety precautions for
 - self (use Personal Protective Equipment)
 - bystanders & casualty/casualties
- disarm casualty/casualties with altered consciousness
- assess number of casualties
 - multiple: triage, assess, treat **go to page 4**
 - single: assess, treat **go to page 5**

TRIAGE and TREATMENT of MULTIPLE CASUALTIES

TO BE DONE WHEN THERE ARE 2 OR MORE CASUALTIES

TRIAGE FIRST, TREAT NEXT



NOW assess and treat each individual casualty, in order of T1a (Airway), T1b (Breathing), T1c (Circulation), T1 d (Disability) T2, T3

go to page 5

ASSESSMENT / TREATMENT of EACH CASUALTY

PRIMARY SURVEY (only in TFC !)

1. Stop life threatening external bleeding
 - **follow NATIONAL guidance**
 - * direct pressure, haemostatic / pressure dressing
 - * tourniquet, (2nd tourniquet), 5 cm proximal to wound
 - if tourniquet is used: write T plus time on casualty
: assess bleeding / distal pulse
2. Immobilize neck of casualty (in blunt trauma) and shout
 - no reply, eyes closed, no movement
(unconscious casualty)

go to page 7

- casualty replies
(conscious casualty)

check #3 “airway”

3. Check **airway (“A”)** (ask what’s wrong)

- if voice is clear:

check #4 “breathing”

- if voice is hoarse/breathing is noisy:
 - * permit casualty’s preferred posture
 - * inspect mouth; clean if necessary

check #4 “breathing”

4. Check **breathing (“B”)**

- >30/min or inability to count to 10 in one breath:
distress → consider chest injury, blast, shock
- <10/min: think of head injury
- ASAP seal (vented/non-vented) to ALL chest wounds
- if casualty deteriorates, remove/burp seal temporarily
- needle decompression: follow **NATIONAL guidance**

check #5 “circulation”

5. Check **circulation** (“C”)

- assess for / stop external bleeding (also on back !)
 - * expose wounds
 - * direct pressure, elevation, pressure dressing, haemostatic dressing, (tourniquet)
 - * if tourniquet is used: write T plus time on casualty
 - : assess bleeding / distal pulse
- for earlier applied tourniquets: reposition if necessary or change for dressing (not if casualty is in shock / has traumatic amputation)
- feel for pulsations at radial artery (if absent, at carotid)
- assess for shock: sweaty; pale/grey
 - respiratory distress / rate >30/min
 - radial pulse absent / rate >120/min
- stop internal bleeding in fractured limbs by splinting
- **follow NATIONAL guidance** on drinking, i.v. access, i.v. fluids

check #6 “neurological status”

6. Check **neurological status** (“D”)

- level of consciousness: conscious <> unconscious
- pupils
- movement of all limbs

Secondary Survey (only in TFC !)

depends on tactical situation; may have to be delayed!

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Then

- prevent HYPOTHERMIA **go to page 13**
- position casualty **go to page 13**
- give pain relief & medication **go to page 13**
- remove maps/documents
- communicate / “nine-liner” **go to page 14**
- **re-examine, re-treat, re-triage casualty !**
- evacuate

UNCONSCIOUS CASUALTY

Casualty doesn't react to shouting (no reply, eyes closed, no movement)

1. Inspect mouth, remove debris (blood, vomit, teeth)
2. Open airway (chin lift)
3. Listen for passage of air (for max 10 seconds)
 - present
 - * maintain airway by nasopharyngeal airway
follow NATIONAL guidance
 - * and/or turn casualty on side / in recovery position
check #4 "breathing"
 - absent in hostile environment
 - * casualty is most likely **DEAD**
 - * if torso trauma also present,
follow NATIONAL guidance on bilateral needle decompression
 - * occasionally BLS can be considered

absent in safe environment

Basic Life Support
go to page 8



Chin lift

BASIC LIFE SUPPORT (BLS)

is appropriate in SAFE environment;
is occasionally considered in hostile environment

Casualty is unresponsive; breathing is absent
(NOTE: “gaspings” equals absent breathing)

1. Get help
2. Place heel of one hand on lower half of breastbone
3. Place 2nd hand on top of 1st hand
4. Compress chest perpendicularly
depth: 5-6 cm
rate: 100-120/min
5. After 30 compressions, give 2 rescue breaths
 (“mouth-to-mouth”) in max. 10 seconds

Don’t wait for 2nd exhalation; resume compressions
6. Alternate 30 compressions with 2 breaths
7. Maintain until:
 - casualty begins to breathe/move
 - exhaustion of caregiver sets in
 - BLS is taken over by other personnel
8. **If BLS successful but casualty still unconscious**
 - maintain airway by nasopharyngeal airway
follow NATIONAL guidance
 - and/or turn casualty on side / in recovery position
check #4 “breathing”

SECONDARY SURVEY (only in TFC !)

(extent depends on tactical situation; survey may have to be postponed!)

1. wounds (expose; look also for exit wounds !)

- cover with dressings
(chest: vented/non-vented seal)
- remove rings
- protruding gut → do not push back
- use wet dressing
- visible brain → do not compress
- foreign objects → do not remove
- bones → do not push back

2. fractures

(pain, reduced movement, abnormal posture; +/- wound)

- give pain relief
- immobilize (device or improvised)
- check pulse/function before/after
- cover wounds

3. burns

all burns: - follow **NATIONAL guidance** for vascular access, fluids, infusion rate

- prevent hypothermia
- estimate total body surface area burned (TBSAB)

- flames → extinguish source
- do not remove adhering clothes
- cool for 10 minutes
- do not burst blisters
- cover burnt area
- **caution:** airway burn

- chemical → remove soaked clothing
(**caution**)
- rinse for 30 minutes
- cover burnt area
- phosphorus → rinse
- cover with wet dressing
- **keep dressing wet !**
- electrical → switch off source
- cover wounds

4. **eyes**

- pain, redness, blepharospasm → rinse (flames, chemicals) and protect other eye
- foreign objects → do not remove
- cover eye without pressure (preferably with hard shield)

5. **“hidden injuries”** (blast and blunt trauma)

- chest: shortness of breath, external markings
- abdomen: pain, rigidity, external markings
- evacuate

6. **spine injuries**

- (pain in neck/back, tingling, paralysis)
- (unclear in unconscious casualties !)
- immobilize spine, if tactical situation permits and if equipment is available

NOTE: securing the airway and removing a casualty from danger has priority over immobilizing the spine !

7. freezing injuries

- frost nip
(pale, no feeling, elastic skin) → buddy heat
- frost bite (1st, 2nd, 3rd degree)
(pale, no feeling, rigid skin) → cover, no pressure
→ evacuate
→ treatment in MTF
- trench foot (pale/blue, blisters)
→ dry, don't rub
→ do not burst blisters
→ evacuate

8. environmental injuries

- hyperthermia (overheating)
(evolving from cramps thru discomfort/headache to loss of consciousness)
→ move to cool place
→ drinks if conscious
→ cool actively (fan, rinse, wet sheet)
→ evacuate if unconscious
- hypothermia (chill)
(evolving from shivering thru bizarre behavior to loss of consciousness)
→ move to warm place
→ replace wet clothes
→ use buddy heat
→ give warm fluids (NO alcohol) if conscious
→ evacuate if unconscious

9. bites and stings

- human/animal bites → clean and cover
- snake bites → do NOT suction/
incise wound
- pressure bandage
- check ABCs
- stings → cover
- check ABCs
- ticks → remove with special
pincers
- mark spot

10. high altitude sickness

(shortness of breath, dizziness, confusion)

- descend to 2000 m ASL

11. battle stress

(withdrawn, suspicious, frightened,
aroused, talkative, risk taking)

- disarm
- ALSO ASSESS
FOR INJURIES
- support by buddies
- if ineffective: evacuate

NOW PROCEED WITH:

PREVENTING HYPOTHERMIA

POSITIONING

PAIN RELIEF & MEDICATION; COMFORT (page 13);

COMMUNICATION

RE- EXAMINATION, RE-TREATMENT and RE-TRIAGE

EVACUATION (page 14)

PREVENTING HYPOTHERMIA

Remove wet clothing

Cover all casualties; use whatever equipment is available

POSITIONING

NOTE: positioning also depends on tactical situation

1. Conscious casualty
 - in general: position preferred by casualty
 - burnt airway: (half) upright position
 - injuries to the eye: (half) upright position
 - chest injuries: (half) upright position
 - abdominal injuries: on back, with bent knees (if no fractures in legs or spine)
2. Unconscious casualty
 - recovery position (LSP) (**follow NATIONAL guidance**)
 - on injured side, unless foreign object in place
 - on back with protection of airway (chinlift)
(ONLY in safe environment)
 - in head injured casualties: upper body slightly elevated

PAIN RELIEF, MEDICATION and COMFORT

- ALWAYS talk to the casualty
- good First Aid (e.g. splinting) relieves pain
- pain medication/alternatives, and antibiotics:
follow NATIONAL guidance
- morphine is prohibited in
 - * unconsciousness
 - * head injuries
 - * breathing difficulties
- protect casualty from weather
- don't let casualty drink when level of consciousness is diminished; otherwise drinking is ALLOWED

COMMUNICATION

METHANE message (to report and call for help)

“Me” (who’s calling)

Exact location (GPS, map grid, “description”)

Type of incident (firefight, IED, etc)

Hazards (unexploded ordnance, chemicals, etc)

Accessibility

Number and type of casualties/injuries

Expected/required help (helo, armoured ambulance etc)

ATMIST handover (to medical personnel)

Adult <>child (age)

Time of injury

Mechanism of injury

Injuries found and/or suspected

Signs: airway, respiratory (rate), pulse (rate), consciousness

Treatment given

EVACUATION

1. call for evacuation, as early as possible, using NATO (nineliner, page 15) or national procedures
2. **re-examine casualty** and re-triage after treatment
3. evacuate in order of T1 (A,B,C), T2, T3
4. unresponsiveness / tourniquet / burnt airway as T1
5. this may be overruled by higher echelon

DEATH

1. unmistakable signs: decapitation, lividity, decomposition
2. during treatment: permanent loss of respiratory activity and cardiac activity
3. remove tags and personal effects (**NATIONAL guidance**)
4. make every effort not to leave the dead behind

Nine-liner

Line 1. Location of the pick-up site

Line 2. Radio frequency, call sign, and suffix

Line 3. Number of patients by precedence:

- **A – Urgent**
- **B – Urgent Surgical**
- **C – Priority**
- **D – Routine**
- **E – Convenience**

Line 4. Special equipment required:

- **A – None**
- **B – Hoist**
- **C – Extraction equipment**
- **D – Ventilator**

Line 5. Number of patients:

- **A – Litter**
- **B – Ambulatory**

Line 6. Security at pick-up site:

- **N – No enemy troops in area**
- **P – Possible enemy troops in area (caution)**
- **E – Enemy troops in area (approach with caution)**
- **X – Enemy troops in area (armed escort required)**

Line 7. Method of marking pick-up site:

- **A – Panels**
- **B – Pyrotechnic signal**
- **C – Smoke signal**
- **D – None**
- **E – Other**

Line 8. Patient nationality and status:

- **A – Coalition Military**
- **B – Coalition Civilian**
- **C – Non – coalition Military**
- **D – Non – coalition Civilian**
- **E – EPW**
- **F – High Value Target**

Line 9. NBC Contamination:

- **N – Nuclear**
- **B – Biological**
- **C – Chemical**

