AIDE MEMOIRE

for

Military Medical Personnel

(up to and including role 1 MTF)

CIOMR GUIDELINE

Version 1.3 2013

NOTES

NINELINER		example
1. Exact pick-up location		grid 123456
2. Radiofrequency & call-sign at pick-up		123.45 A3C
3. Priorities and numbers	A (non-surgical; pick-up < 2 hours)	
	B (surgical; immediate pick-up)	B 1
	C (pick-up < 4 hours)	C 2
	D (pick-up < 24 hours	
	E (pick-up whenever)	
4. Special equipment needed (e.g. hoist, ventilator)		NIL
5. Type and numbers	L (litter/stretcher cases)	L 2
	A (ambulatory)	A 1
6. Security at pick-up	N no enemy	
	P possible enemy	P
	E confirmed enemy	
	X engaged with enemy	
7. Marking of pick-up point		mirror signals
8. Patient political status	A coalition military	
	B coalition civilian	
	C non-coalition military	A, D
	D non-coa;ition civilian	
	E EPW	
	F high value target	
9. Contamination	N nuclear/radiological	
	B bacteriological	NIL
	C chemical	

INTRODUCTION

- this guideline is aimed at all medical personnel

- each individual should be aware of his/her level of competence, of the available equipment and of national judicial constraints

- in military medicine the actual tactical situation is of paramount importance; a military health professional should always think: "where am I, what is the situation, what assets do I have and is there a possibility of a CBRN attack?"

- this guideline consists of the following parts:
  1. approach and primary survey
     a. in the field (pages 4-11)
     b. at a role 1 Medical Treatment Facility (MTF) (pages 12-16)
  2. secondary survey (to be used in the field (if possible) and at a role 1 MTF); depends on the tactical situation (pages 17-19)
  3. additional measures (pages 20-21)

- medical aspect of weapons of mass destruction are addressed elsewhere

- there are many ways to perform particular procedures. This aide memoire, therefore, does not go into technical details; it describes the approach, and items to be considered

ALGORITHM in the field *field*

- **Always think security and call for help ASAP!**
- **Master Drill**: under fire / hostile / safe page 5
- Multiple casualties: perform triage page 6
- Assess / treat individual casualty / casualties page 7
- **Primary Survey** page 7
  1. stop **life threatening external bleeding** page 7
  2. immobilize **neck** in blunt trauma, if necessary page 7
  3. assess level of **consciousness** page 7

conscious — unconscious (page 10)

4. assess **"airway"** (page 7) — open airway, check mouth, check movement of air

maintain airway

5. assess **"breathing"** (page 8) ← present absent

absent → safe / hostile

maintain airway

BLS ← negative

central pulse — single cas. — multiple cas.

insufflate ← positive

insufflate ← positive< central pulse>negative → DEAD

6. assess **"circulation"** page 9
7. assess **"disability/neurology"** page 9
8. assess **"environment"** page 9
9. obtain **"history"** page 9

- **Secondary Survey**(depends on tactical situation) page 17
- prevent hypothermia page 20
- position casualty page 20
- give pain relief & other medication/provide comfort page 20
- remove maps/documents page 20
- communicate/« nineliner » & write documentation page 21
- **re-examine & re-triage casualty !!** page 21
- evacuate page 21

COMMUNICATION

NINELINER (see page 22)

MIST handover
- Adult <>child
- Time of injury
- Mechanism of injury
- Injuries found and/or suspected
- Signs:airway,respiratory rate, pulse rate, consciousness
- Treatment given

RE-ASSESSMENT and RE-TRIAGE; DOCUMENTATION

EVACUATION

1. call for evacuation, as early as possible, using NATO (nineliner, page 22) or national procedures
2. re-assess 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, decomposition, lividity, stiffness in 2 or more joints (starting at the jaw)
2. during treatment: permanent loss of respiratory activity and cardiac activity
3. in both cases: remove tags and personnel effects, following **NATIONAL guidelines**
4. don't leave the dead behind

PREVENTION of HYPOTHERMIA

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, if unsupervised (following **NATIONAL guidelines**); on injured side, unless foreign object in place
   - on back with protection of airway (chinlift) (ONLY in safe environment and with supervision)
   - upper body slightly elevated in head-injured casualties

PAIN RELIEF, MEDICATION and COMFORT

- good First Aid (e.g. splinting) relieves pain
- ALWAYS talk to the casualty
- **medication (analgesics/alternatives and antibiotics): follow NATIONAL guidelines ONLY**
- consider tetanus (re-)immunization
- 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

MASTER DRILL

Assess:

- under fire
- hostile /safe environment (in the field)

1. Under fire **(→ Care Under Fire)**

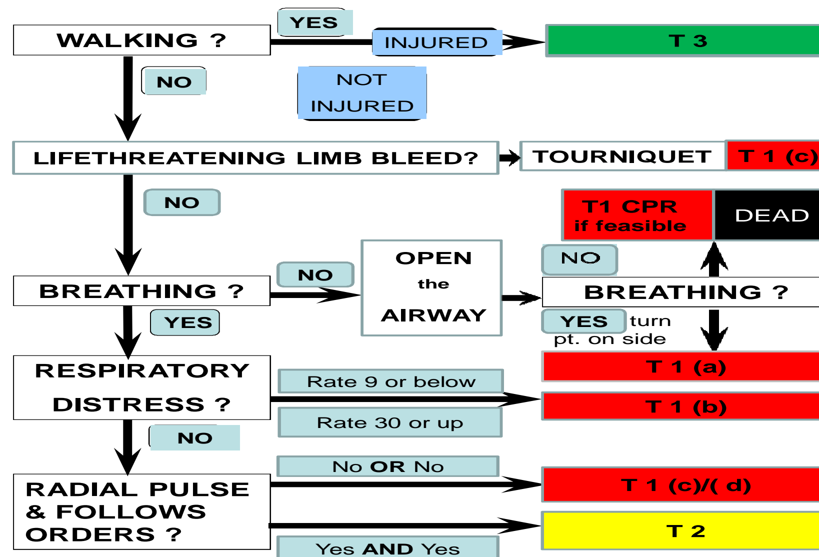
- win the fight/get out
- don't get shot yourself/prevent injuries to the casualty
- direct casualty to get under cover and apply self-aid
- prevent injuries to yourself
- prevent further injuries to the casualty
- **stop life threatening external bleeding**
  - * **follow NATIONAL guidelines**
  - * **dressing,** tourniquet (see also page 7)
- turn unconscious casualty on belly/side
- **NO FURTHER EXAMINATION or TREATMENT**
- don't leave casualty behind
- **when no longer under fire, re-assess** **see #2** (below)

2. Hostile/safe environment **(→ Tactical Field Care)**

- secure the area and everybody present
- disarm casualty/casualties with altered consciousness
- take safety precautions
  - self (wear gloves if available)
  - bystanders
  - casualty/casualties
- assess number of casualties
  - multiple: triage, assess, treat **go to page 6**
  - single: assess, treat **go to page 7**

TRIAGE and TREATMENT of MULTIPLE CASUALTIES (in the field) (triage sieve)

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**

Triage to be repeated when situation changes

go to page 7

- stings → cover
  → check ABCs
- snake bites → do NOT suction or incise wound
  → pressure bandage
  → check ABCs
- ticks → remove with pincers
  → mark spot

9. **environmental injuries**
   - hyperthermia (overheating)
     (evolving from cramps thru discomfort/headache to loss of consciousness)
     → move to cool place
     → give 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/blanket
     → give warm fluids (NO alcohol) if conscious
     → evacuate if unconscious
   - high altitude sickness
     (shortness of breath, dizziness, confusion)
     → descend to 2000 m ASL

10. **battle stress**
    (withdrawn, suspicious, aroused, frightened, talkative, risk taking)
    → disarm
    → ALSO ASSESS FOR INJURIES
    → support by buddies
    → evacuate if ineffective

NOW PROCEED WITH ITEMS on page 20-22

all burns: - follow **NATIONAL guidelines** for vascular access, fluids, infusion rate
- prevent hypothermia
- estimate total body surface area burned

4. **spine injuries** (difficult in unconscious casualties !)
(pain in neck/back, tingling, paralysis) → immobilize spine, if tactical situation permits and if equipment available

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

5. **"hidden injuries"** (blast and blunt trauma)
chest: shortness of breath, external markings
abdomen: pain, rigidity, external markings → evacuate

6. **eye injuries**
(pain, redness, blepharospasm) → rinse (flames, chemicals) and protect other eye
foreign objects → do not remove
→ cover BOTH eyes; preferably with shield

7. **freezing injuries**
- frost nip → buddy heat
(pale, no feeling, elastic skin)
- frost bite → cover, no pressure
(pale, no feeling, rigid skin) → evacuate
→ treatment in MTF
- trench foot → dry, don't rub
(pale/blue, blisters) → do not burst blisters
→ evacuate

8. **bites and stings**
- human/animal bites → clean and cover

ASSESSMENT / TREATMENT of EACH CASUALTY

- **NOT WHEN UNDER FIRE**
- **TAKING TACTICAL SITUATION INTO ACCOUNT!**

PRIMARY SURVEY (only in TFC !)

Tactical/environmental situation may interfere with full examination and treatment!

1. Stop **life threatening external bleeding**
- **follow NATIONAL guidelines**
  * direct pressure, elevation, pressure points
  * dressing, haemostatic dressing, tourniquet
- write T plus time on casualty, when using tourniquet

2. Immobilize **neck** (in blunt trauma), if necessary
3. Assess **level of consciousness**
- unconscious casualty **go to page 10**
- conscious casualty

check #4 "airway"

4. Assess **"A" airway**
Ask what's wrong
- if voice is clear: **check #5 "breathing"**
- if voice is hoarse/movement of air is noisy
  * permit casualty's preferred posture
  * inspect mouth; clean if necessary
  * consider burnt airway
  * consider laryngeal injury
  * **follow NATIONAL guidelines** on inserting nasopharyngeal airway

check #5 "breathing"

5. Assess **"B" breathing**
- position of trachea
- subcutaneous emphysema
- larynx
- neck veins
- rate
- injuries
- symmetry
- effort
- auscultation
- percussion
- palpation
- inspection of back

Considerations:
- breathing still noisy (in particular in casualties with decreased level of consciousness)
  → treatment: naso/oropharyngeal airway
  (occasionally surgical airway)
  recovery position after assessment
- **>30/min** (or inability to count to 10):
  consider chest injury, blast, shock
  → treatment: injury specific
- **<10/min**: consider head injury, hypothermia, opioids
  → treatment: depending on cause
- open pneumothorax (sucking chest wound)
  → treatment: airtight dressing/opsite/seal
- tension pneumothorax
  → treatment: thoracocentesis
- flail chest
  → treatment: transport to role 1 MTF
- massive hemothorax
  → treatment: none before role 2/3

check #6 "circulation"

SECONDARY SURVEY

In the field the tactical/environmental situation may interfere with full examination/treatment!

1. **wounds**(check for exit !) → cover (consider: airtight on chest)
   → 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 (splint)
   → check peripheral pulse
   → cover wounds

3. **burns**
   - flames
     → extinguish source
     → do not remove adhering clothes
     → rinse for 10 minutes
     → do not burst blisters
     → cover burnt area
     → caution: burnt airway
   - chemical
     → remove soaked clothing (caution)
     → rinse for 30 minutes
     → cover burnt area
   - phosphor
     → put wet dressing on
     → keep dressing wet !
   - electrical
     → switch off source
     → cover wounds

UNCONSCIOUS CASUALTY *role 1*

Casualty doesn't react to verbal or painful stimulus
(no reply; often eyes closed and no movement)

1. Open airway (chin lift)
2. Inspect mouth, remove debris (blood, vomit, teeth) by finger sweep (caution) or manual suction
3. Check for movement of air (for max 10 seconds)

- present
  - insert OPA/NPA (if not contra-indicated)
  - consider surgical airway if (partial) obstruction of airway is still not relieved by above mentioned measures

    go back to page 15, #6 "breathing"
- absent
  - BLS in progress: continue BLS
  - no BLS in progress: check central pulse
    - * pulse negative:
      - casualty is most likely **DEAD**
      - if torso trauma is present, ` **follow NATIONAL guidelines** on bilateral needle decompression, before considering casualty **DEAD**
      - occasionally **BLS** will be started
        for technique; **see page 11**
    - * pulse positive:
      - insufflate
      - if breathing returns: maintain airway

        go back to page 15, #6 "breathing")

6. Assess **"C" circulation**

- assess and stop external bleeding (also posteriorly !)
  *** follow NATIONAL guidelines**
  * write T + time on casualty, when tourniquet in place
- determine pulse rate at radial or carotid artery
- check for shock: diminished mental status
  diaphoretic skin, pallor
  pulse rate >120/min
  increased respiratory rate
  absence of radial pulse
  capillary refill time >2 sec
- if shock not present: change tourniquet for dressing
- if shock present: find cause
  - external
  - chest/abdomen/pelvis
  - long bone fractures

→ treatment:
access: i.v(lock), i.o
i.v.fluids: endpoint 80 mm Hg(<1h.) (100 in head injury)
drinking: follow **National guidelines**
splinting (check peripheral pulse)

7. Assess **"D" disability (neurology)**

- assess level of consciousness (LOC): AVPU or GCS
- possibly assess: pupil size and reactivity
  lateralization

→ treatment: none

8. Assess **"E" environment**

- prevent hypothermia

9. Obtain **history**: allergies / medications / previous

SECONDARY SURVEY **go to page 17**
(depends on tactical situation; may have to be postponed)

UNCONSCIOUS CASUALTY

Casualty doesn't react to verbal or painful stimulus
(no reply; often eyes closed and no movements)

1. Open airway (chin lift)
2. Inspect mouth, remove debris (blood, vomit, teeth) by finger sweep (caution) or manual suction
3. Check for movement of air (for max 10 seconds)
   - present:
     - insert OPA/NPA (if not contra-indicated)
     - consider surgical airway if (partial) obstruction of airway is still not relieved by above mentioned measures

       go back to page 8, #5 "breathing"
   - absent
     - hostile environment
       - multiple casualties: casualty is **DEAD**
       - single casualty: check central pulse
         - * central pulse absent: casualty is **DEAD**
         - * central pulse present: consider insufflation (if breathing returns, **go back to page 8, #5 "breathing"**)
     - safe environment: check central pulse
       - * central pulse present: insufflate
       - * central pulse absent: **Basic Life Support** **go to page 11**

- in non-breathing, pulseless casualties: follow **NATIONAL guidelines** on bilateral needle decompression, before considering casualty DEAD

6. Assess "B" (breathing) (also see page 8 #5)
- consider assisting ventilation (e.g. bag-mask-valve)
- consider inserting chest tube for:
  - ineffective thoracocentesis(tension pneumothorax)
  - deterioration in treated open pneumothorax
  - chest trauma before transportation by air

7. Assess "C" (circulation) (also see page 9 #6)
- stop bleeding from narrow tract with Foley catheter
- perform logroll for assessing bleeding from back
- use warmed i.v. fluids
- use normotensive resuscitation in head injuries
- use hypotensive resuscitation for max. 1 hour
- use Parkland formula in burn patients **after haemodynamic stabilization**
- use cardiac monitoring and pulsoxymetry
- use sonography, if available
- use traction splint for # femur (check peripheral pulse)
- use wrap for unstable pelvic fracture

8. Assess "D" (disabilty/neurology) (also see page 9 #7)
- assess level of consciousness by GCS, not AVPU
  - pupil size and reactivity
  - lateralization

9. Assess "E" (environment) (also see page 9 #8)
- protect against climatic conditions
- consider nasogastric tube
- consider Foley catheter

10. Obtain history: allergies / medications / previous

Secondary Survey **go to page 17**

ASSESSMENT / TREATMENT of EACH CASUALTY

At role 1 this is a "team effort", with team members, each taking care of a part of ABCDE, working alongside each other ("horizontal approach")

At role 1 the same ABCDE system is followed as in the field. Per item only the differences are mentioned (extra options)

Keep in mind what supplies are available and be aware of transportation distances and times

PRIMARY SURVEY

1. Stop **life threatening external bleeding**(also see page 7#1)

2. Immobilize **neck (in blunt trauma)**

3. Give **oxygen** by non-rebreathing mask

4. Assess **level of consciousness**

- unconscious casualty

go to page 16

- conscious casualty

check **#5 "airway"**

5. Assess "A" (airway) (also see page 7 #4)
for maintaining the airway,consider:
naso/oropharyngeal airway
LMA (laryngeal mask airway)
Combitube
endotracheal tube
surgical airway

check **#6 "breathing"**

BASIC LIFE SUPPORT (BLS)
is appropriate in SAFE environment;
could be considered in hostile environment

Casualty is unresponsive; breathing and pulse are absent
NOTE: "gasping" (irregular breathing, slower than 6/min) 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; keep arms straight
4. Compress chest perpendicularly 5-6 cm; at a rate of 100-120/min
5. After 30 compressions, insufflate twice (in max 5 sec) ("mouth-to-mouth"/"mouth-to-nose"/"mouth-to-mask")
   insufflate 1½ sec
   casualty exhales 2 sec
   insufflate 1½ sec
6. Alternate 30 compressions with 2 insufflations
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 unconscious insert NPA/ OPA and/or turn casualty on side / in recovery position

go to (field) page 8, #5
or (role 1) page 15, #6

ALGORITHM at role 1 MTF *role1*

- **Always think security and call for help ASAP !**
- **Master Drill**: page 13
- Multiple casualties: perform triage page 13
- Assess / treat individual casualty / casualties page 14
- **Primary Survey** page 14
  1. stop **life threatening external bleeding** page 14
  2. immobilize **neck** in blunt trauma, if necessary page 14
  3. give **oxygen** by non-rebreathing mask page 14
  4. assess level of **consciousness** page 14

conscious → 5. assess **"airway"** (page 14)

unconscious (page 16) → open airway, check mouth, check movement of air → present / absent

6. assess **"breathing"** (page 15) ← maintain airway ← present

absent → positive<central pulse>negative

positive → insufflate → (page 15) if successful: maintain airway

negative → (occasionally) BLS / DEAD unless BLS in progress

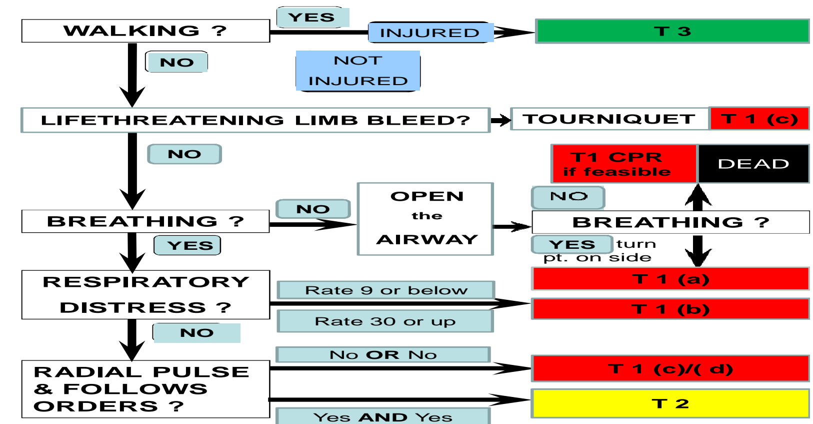
7. assess **"circulation"** page 15
8. assess **"disability (neurology)"** page 15
9. assess **''environment''** page 15
10. obtain **"history"** page 15

- **Secondary Survey** page 17
- prevent hypothermia page 20
- position casualty page 20
- give pain relief & other medication/provide comfort page 20
- communicate/« nineliner » & write documentation page 21
- **re-assess & re-triage casualty until evacuation** page 21
- evacuate page 21

MASTER DRILL *role 1*

- prepare team and equipment
- take safety precautions (gloves/mask)
- multiple casualties: disarm, triage **see below**
- one casualty: disarm, assess, treat

TRIAGE and TREATMENT of MULTIPLE CASUALTIES (on entering role 1 MTF) (triage sieve)



NOTE: mortality of trauma victims in cardiac arrest is appr. 100%
T4 is NOT a routine classification at role 1

Triage to be repeated when situation changes

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

go to page 14