CBRN

For Military Medical Personnel

CIOMR GUIDELINE

First edition v1.1

SPECIFIC DIAGNOSTICS

Airway	Secretions	increased	nerve agent
		decreased	atropine/BZ
	Smell	bad eggs	hydrogen sulphide
Breathing	Breathing	bronchospasm	nerve agent
		frothy sputum	lung agent
	Skin colour	cyanosis	cyanide / nitrites
		pink	cyanide
			carbonmonoxide
Circulation	Heart rate	bradycardia	nerve agent
	Venous blood	bright	cyanide
		“chocolate”	nitirites
Disability	Pupils	pinpoint	nerve agent
			opiate
		dilated	botulin
			atropine/BZ
	Confusion/Coma		nerve agent
			atropine/BZ
“Exterior”	“Burns”	immediate	hydrofluoric Acid
		delayed	mustard
	Muscle	fasciculation	nerve agent
		paralysis	botulin
	Skin	sweating	nerve agent
		dry	atropine/BZ

Warm Zone T2, T3:

- decon by non-med personnel, without removing clothing if no treatment at MTF; otherwise as T1

Cold Zone all (decontaminated casualties):

- full assessment (primary and possibly secondary survey) see “Aide Memoire”

Note:

Casualties are to wear their protective mask at all times

Antidotes: follow national guidelines

EVACUATION to ROLE 2/3 MTF or special CBRN Treatment Facility

Ideally all casualties will have been decontaminated
Otherwise as in “Evacuation to Role 1” (see above)

NOTE: it is best to have a SEPARATE evacuation chain and MTF designated and ready for ONLY contaminated casualties. To use the regular evac chain strains that chain unnecessarily (vehicles need to be decontaminated) and to use medics for decontamination tasks takes valuable personnel away from other critical tasks for non-contaminated casualties

Every Commander and soldier in a contaminated battlefield or where there is the potential use weapons of mass destruction MUST know the established medical evacuation routes and procedures for care for contaminated/poisoned casualties for that theatre of operations

This publication is to be read as an addition to the CIOMR publication “Aide Memoire for military medical personnel”

GENERAL REMARKS

Exposure: 1. accidental, or result of deliberate attack
(threat often, but not always known)
2. single or multiple agent;
often combined with conventional injuries

Effects : 1. Intoxication/poisoning (chemical agents, biological, toxins)
2. Infection (biological organisms)
3. Irradiation (radiological, nuclear)
4. Injuries (mechanical, burns)

Steps: 1. recognition/safety: QUICK HISTORY/QUICK LOOK
contaminated ? (all hazards)
external
internal
by ingestion
by inhalation
by inoculation / wounds
via intact skin
contagious?
biological
nuclear
fall-out (ingestion/inhalation)
2. triage (also for single casualties)
3. care (always considering the tactical situation)`
<c> CATASTROPHIC HAEMORRHAGE
Aa AIRWAY with ANTIDOTE
B BREATHING
C CIRCULATION
Dd DISABILTY + DECONTAMINATION + live-saving aid
Ee EXPOSURE / ENVIRONMENT and EVACUATION

CARE UNDER FIRE

Steps:

1. If possible: think of own safety (respirator, gloves)
DON'T GET CONTAMINATED !

then: <c>AaEvac

2. control catastrophic haemorrhage

3. ensure casualty wears respirator

give atropine/antidote for nerve agents / chemical attack

(if known)

4. get casualty to safe place

TACTICAL FIELD CARE

Steps:

1. **Quick History/Quick Look** (for recognition and reporting)

Any of the following (especially if found in more than 1 person)

a.SLUDGE (sweating, lacrimation, urination, drooling, diarrhea, gastritis, emesis)

b. unexplained weakness, fasciculations, seizures chem

c. blurry vision chem

d. bluish skin, blisters, non-thermal burns chem.

e. rapid / shallow and/or noisy breathing chem

f. flu-like complaints, spontaneous bleeding/haematoma bio

g. non-thermal burns, spontaneous bleeding irr.

3. Decontamination of casualties

Rationale: to stop casualty from further absorbing contaminants
to protect medical personnel and other casualties
to protect medical equipment and supplies
to clean personal equipment and vehicles

Decon Area - is located downwind of and outside MTF
- consists of hot zone, warm zone, cold zone
- casualties to proceed to MTF after decon

Contaminated clothing and equipment

- to be collected (except MOPP) in dump in closed plastic bags, or covered with earth
- blankets may be reused, after decontamination with warm soapy water for 1 hour
- MOPP and litters: follow national guidelines
- equipment exposed only to vapour: follow national guidelines
- decontaminated equipment: check for residual contamination (follow national guidelines)
- if residual contamination present: re-decontaminate or discard

4. Approach

Hot Zone:

- quick look and care as in Care Under Fire
- then triage T1, T2, T3

Warm Zone T1:

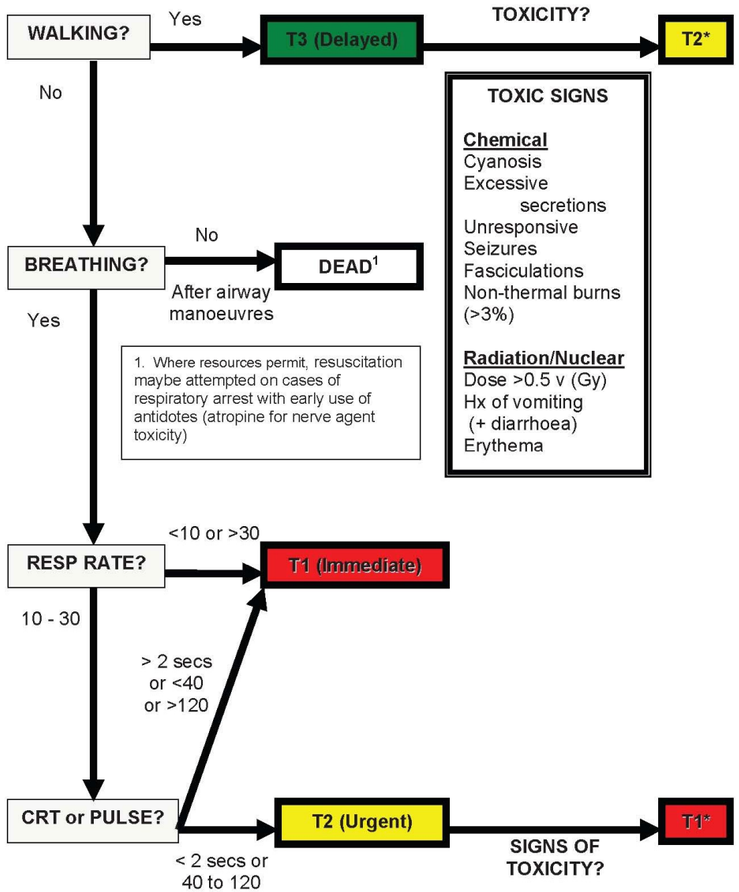
- decon + concommittant care after removal of clothing by non-med personnel
- protective mask stays on (but needs to be decontaminated)
- care as in TFC by specially equipped med personnel

ROLE 1 MTF (not a special CBRN Treatment Facility)

1. Planning

- choice of decon area, downwind from MTF
- choice of contaminated waste dump (100 m downwind)
- assignment of decon tasks to non-med personnel if available (wearing PPE!)

2. Triage algorithm to be used



For detailed information on symptoms and signs per agent: see Textbooks; also Specific Diagnostics (below)

If CBRN involvement suspected / confirmed:

- **personal protection** (also command responsibility)

  (minimum: respirator and gloves, up to MOPP4)

- casualties are to wear their protective mask at all time
- concentrate casualties downwind from uninvolved personnel
- report

If CBRN involvement confirmed
(intelligence, detection devices):

- **personal protection** (also command responsibility)

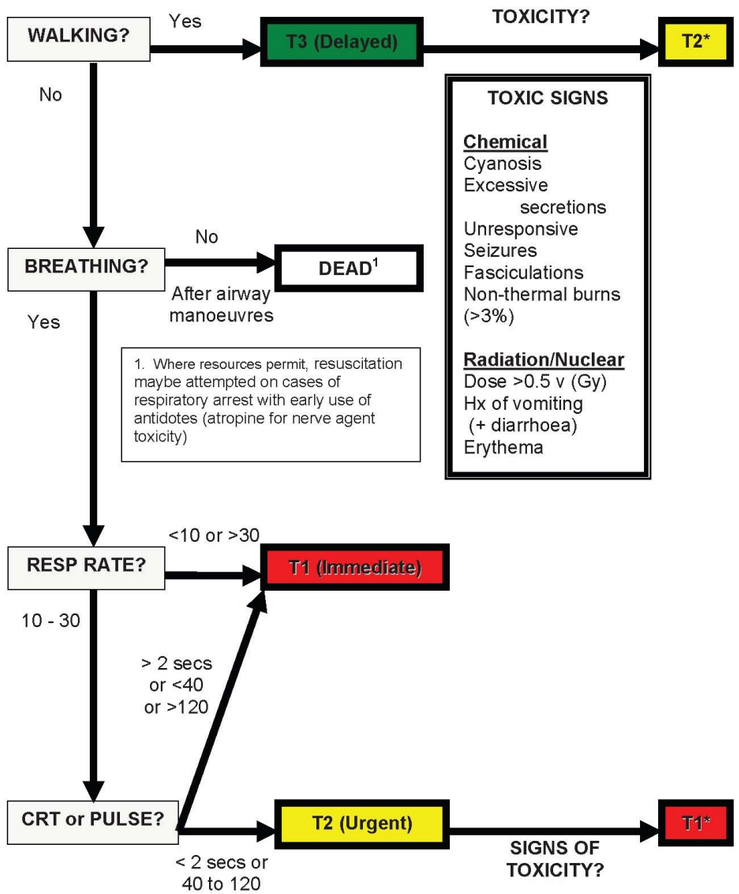
  (minimum protective mask and gloves, up to MOPP4)

- casualties are to wear their protective mask at all times
- concentrate CBRN casualties 100 m downwind from uninvolved personnel
- report
- select antidote(s) for chemical agents

Note:

Always consider inappropriately (indication, dosage) self-administered antidotes when assessing casualties
Be aware of possible anxiety reactions in exposed and unexposed personnel
Treatment for biological agents or irradiation is NOT available earlier than at a Role 1 MTF

3. Triage and Care (<c>AaBCDd)



T1: - Primary Survey (see “Aide Memoire”); at the same time
decontamination with water(if available), by self / buddy
for fluid and/or solid agents
not for gases/vapours/biologicals/irradiation (unless fall-out is present)
- antidotes, only if agent(s) is/are known

- possibly Secondary Survey
- isolation if possible
- evacuation, preferably via a separate evac chain to a Decon unit or a special MTF; otherwise to a Role 1 MTF

T2/T3:
- decontamination with water (if available), by self or buddy
for fluid and/or solid agents;
not for gases/vapours/biological/irradiation (unless fall-out is present)
- Primary, possibly Secondary Survey (see “Aide Memoire”)
- isolation, if possible
- evacuation, preferably via a separate evac chain to a decon unit or a special MTF; otherwise to a Role 1 MTF

EVACUATION to Role 1 MTF
(not a special CBRN Treatment Facility)

- “only” after decontamination (not always possible)
- ground vehicles / aircraft will be contaminated if decontamination not complete
- contagious patients only after consultation with medical personnel
- preferably accompanied by medical personnel; very often in-transit care not available
- casualties are to wear their protective mask at all times