

STANDARDS RELATED DOCUMENT

AMedP-7.2-1

CBRN FIRST AID HANDBOOK

Edition A Version 1

FEBRUARY 2018



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED MEDICAL PUBLICATION

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NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

15 February 2018

1. The enclosed Standards Related Document, AMedP-7.2-1, Edition A, Version 1, CBRN FIRST AID HANDBOOK, which has been approved in conjunction with AMedP-7.2 by the nations in the Military Committee Medical Standardization Board, is promulgated herewith.
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RECOGNITION OF A CBRN INCIDENT

Indicators of an environmental or CBRN hazard include:

Any symptoms involving incident response or reconnaissance personnel

Multiple casualties with similar non-traumatic symptoms and signs

Unusual taste, smell or mist

Unexplained dead animals

Unexplained symptoms including:

Altered vision

Eye pain

Headache

Excessive secretions

Chest tightness

Difficulty in breathing

Non-thermal burns

Any unusual or unexplained symptoms, signs, illness or deaths

Smells associated with chemicals Chemical detection

Chlorine

Swimming pools

Cyanide

Bitter almonds

Hydrogen sulphide

Bad eggs

Lewisite

Geraniums

Phosgene

Freshly mown hay

Sulphur mustard

Garlic

Chemical

H - mustard

Agent

G - nerve agents

Monitor

3 colour

Red - mustard (H)

detector

Yellow - nerve (G)

paper

Green - nerve (V)

Principles of CBRN casualty management:

Recognition

Safety (Six 'C's Confirm - Clear - Cordon - Control - Communicate - Contain)

Self / Buddy first aid

Triage

Casualty assessment ('Quick Look')

Life saving interventions (T1 casualties only)

Casualty hazard management (Decontaminate and/or Isolate/Quarantine)

Supportive management (includes critical care)

Definitive management (includes specific antidotes & antibiotics, and surgery)

Rehabilitation

CBRN INCIDENT IMMEDIATE ACTIONS

Six Cs

CONFIRM

- Put on Individual Protective Equipment (where available)
- Warn others nearby
- Identify possible routes of exposure (e.g. food, airborne, skin)

CLEAR

- Move upwind, if gas, vapour or airborne particles
- Move to a safe distance (outside any exclusion zone)

CORDON

- Establish hot and warm (decontamination) zone
- Establish a formal clean / dirty line (CDL)

CONTROL

- Stop any eating, drinking or smoking in contaminated area
- Control and monitor re-entry and exit to / from zones
- Limit movement downwind of hazard
- Protect the area for further assessment including forensics (exploitation)

COMMUNICATE

- Inform Command using METHANE report and/or CBRN1 incident report
- Warn local Medical Treatment Facilities and personnel

CONTAIN (also see Casualty Hazard Management references)

- Prevent secondary contamination, if persistent hazard
- Prevent secondary infections, if contagious biological agent

METHANE REPORT

| | | | | | |
|----------|---|----|----|----|------|
| M | My call sign | | | | |
| E | Exact location and wind direction | | | | |
| T | Type of incident | | | | |
| H | Hazards identified (C, B, R, combined or unknown) | | | | |
| A | Assessment (or Access): Scene / Casualty | | | | |
| N | Number of casualties: triage and type | T1 | T2 | T3 | Dead |
| E | Emergency treatment given and resources required (incl.decontamination) | | | | |

MEDICAL INCIDENT MANAGEMENT

SCENE LAYOUT

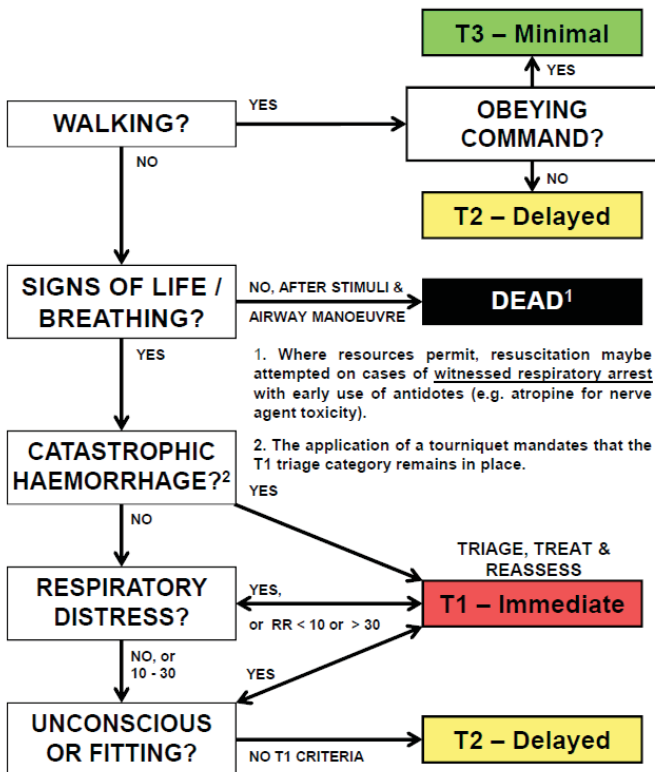
Wind direction / speed:
Ambient temperature:

| CONSIDERATIONS / BRIEF | |
|---------------------------------------|--|
| Safety | Hazard(s): |
| | PPE/IPE state? Work/Rest rate? |
| Cordons | Hot zone? |
| | Exclusion zone? Downwind hazard? CDL marked? CDA? |
| Command/ Control Comms | I/C: |
| | Call signs/channels: Next report due: |
| Assessment | Agent(s) detected: |
| | T1 T2 T3 D |
| Triage | See Cards 7-9 |
| Treatment | AXP HLS |
| Transport | SIBCRA? Recovery end state? Time to end state? |
| Exploit/ Recovery | |

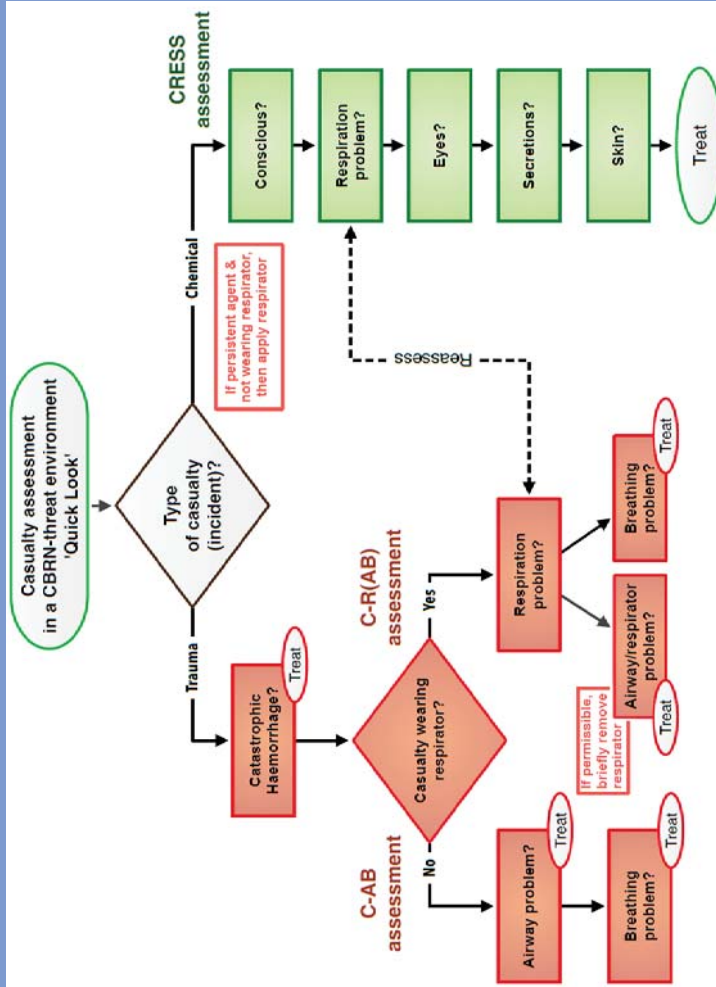
CBRN TRIAGE (HOT ZONE)

Triage Categories

| | | |
|-----------|------------------|--|
| T1 | Immediate | Requires life-saving interventions (S) |
| T2 | Delayed | Stretch or casualty not requiring S or casualty is incapacitated |
| T3 | Minimal | Alive and not incapacitated |



'QUICK LOOK' ASSESSMENT



'CRESS' ASSESSMENT

| | | | | | | | |
|----------|-----------------------|----------------------------------|---------------------------|-----------------------------------|---------------------------------|-----------------------------|-------------------------|
| C | Consciousness | Neurological | Cyanide | Oximeter (Morphine) | Atroline | Seis | Heart rate |
| | Consciousness | Consciousness | Unconscious / Convulsions | Reduction in consciousness | Altered Consciousness | Normal, reduced or agitated | Altered |
| R | Respiration | Increased or reduced / stopped | Increased or stopped | Reduction in SpO2 | Increased | Increased | Increased |
| E | Exams | Pupils | Normal / Large pupils | Pupils | Bilateral Pupil Reaction | Normal | Normal / Large pupils |
| S | Secretions | Increased | Normal | Normal | Normal / First | Normal / Sputum | Normal |
| S | Skin | Sweaty | Pink → Blue | Normal / Blue | Flushed / Dry | Warm → Pale (cool) | Varied |
| O | Other features | Vomiting Incontinence Slow pulse | Sudden onset | | | Asymmetry | Temperature (°C) |

Pupils are not equal in size in a situation of eye protection.
Bilateral means involving both sides.
Asymmetry means not the same.
Normal / First refers to the first breath.
Asymmetry refers to unevenness in the chest.
Asymmetry refers to unevenness in the chest.
Asymmetry refers to unevenness in the chest.

CBRN MEDICAL TREATMENT

Priorities for Treatment

| HOT (1st Aid) | WARM (MT) | INTERVENTION |
|---------------------|-------------------|--|
| | | *Emergency Medical Treatment by medical personnel only |
| <C> | <C> | Catastrophic haemorrhage control |
| A | A | Basic Airway management |
| a | a | antidotes |
| B | B | Breathing (and administration of oxygen) |
| | C | Circulation (and initial management of sepsis)* |
| | Decon | Decontamination (and disability) |
| Evac | Evac | Evacuation to warm or clean zone |

General First Aid Treatment Options



Catastrophic Haemorrhage Control

Attempt to apply pressure dressing

- If limb - apply tourniquet (where available)
- If torso - manage as conventional catastrophic haemorrhage

Apply dressing / marking to protect and notify if potential contamination

(Expose to treat drill)



Airway Management*

Basic airway manoeuvres

- head tilt & chin lift (non-trauma)
- jaw thrust (trauma)

* Where a respirator is worn:

If airway problem is suspected and there is no immediate airborne hazard, then perform an airway check drill and refit as required after.

Suction airway, if equipment available, or self-drainage

Place in recovery position



Antidotes (See agent-specific first aid)



Breathing

RIBS* (team medic) assessment

*RIBS - rate, injuries, back & sides.

Breathing support and ventilation, as resources allow

If sucking chest wound

- apply appropriate dressing

If low oxygen level or blue

- give oxygen, if available

If penetrating injury - consider tension pneumothorax

- seek medical assistance immediately (medical skill required)

AGENT-SPECIFIC FIRST AID

Nerve agent

- Remove from scene, and decontaminate any liquid contamination
- Clear secretions and vomit (suction airway, if equipment available)
- Administer Nerve Agent antidote immediate therapy
- Place in recovery (semi-prone) position

Vesicant (Blistering agent)

Immediate pain - consider Lewisite / Phosgene Oxime / caustic agent

Delayed redness (6-12 hours) - consider Sulphur Mustard

- Remove from scene
- Immediate decontamination
- Monitor exposed for redness and irritation, especially eyes and airway
- Report any breathing or swallowing difficulty, incl. hoarse voice / cough

Pulmonary (choking) agent

- Remove from scene; avoid exertion
- If respiratory distress AND hazard cleared, remove respirator
- If liquid contamination or T1, remove clothing
- Basic airway management including head tilt and chin life
- If respiratory secretions, allow free drainage in recovery position
- If cyanosed (blue), give oxygen, if available

Cyanide (Blood agent)

- Remove from scene immediately
- If breathing and symptomatic, give oxygen (if available)
- Start CPR if cardiac arrest witnessed or within 10 minutes
- Administer cyanide immediate therapy MedCM, where available

Heat illness including heat stroke

Heat stroke is an altered conscious level with an excessive core temperature (>40°C) and is a medical emergency

- Stop activity, and check for any use of atropine
- Relax individual protective equipment state, if permissible
- Strip, soak, fan and fluids (SSFF), if permissible
- Rehydrate but avoid drinking large volumes ('little and often')
- Record any altered level of conscious, confusion or agitation
- Record core body temperature, where possible

BIOLOGICAL & RADIATION FIRST AID

MENTAL (PSYCHOTROPIC) INCAPACITANT / DELIRIUM / ATROPINE OVERDOSE

- If confused or agitated, remove any weapon system and reassure
- Avoid physical restraint due to risk of heat illness
- Manage in cool, calm & sheltered environment (manage as heat illness)

BIOLOGICAL CASUALTY MANAGEMENT

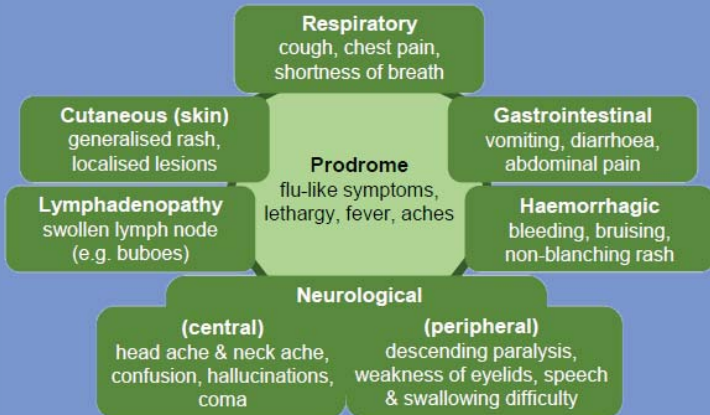
Assess risk of transmission (contagious disease)

- consider isolation & contact tracing

Monitor vital signs and identify type of bio-syndrome

- pulse rate, respiratory rate, temperature and level of consciousness

BIO-SYNDROMES



RADIOLOGICAL CASUALTY MANAGEMENT

Treat trauma first

- Record any physical / personal dosimetry
- Record the proximity and duration near to known source
- Record the onset time of any nausea, vomiting and / or diarrhoea
- Record any use of anti-sickness or stable iodine medication

AT-MIST-D HANDOVER

| | | | |
|------------------|--|--|---|
| ID number | If known e.g. AB1234 | | |
| A | Age of casualty (adult / child (& age)) | | |
| T | Time of wound / exposure or time of onset of symptoms | | |
| M | Mechanism of injury or type of incident | | |
| I | Injuries (including injury pattern & observed injuries) | Intoxication (type, route of exposure, & contamination risk) | Infection Irradiation (including any dosimetry) |
| | Symptoms and signs (including toxidromes) | | Other: |
| S | Cat haem | C onsciousness | |
| | A | R esp | |
| | B | E yes | |
| | Circ | S ecretions | |
| | D | S kin | |
| T | Treatment given: | Auto-injector | Other MedCM: |
| | | Atropine | |
| | | Oxime | |
| | | Anticonvulsant | |
| D | Decontamination status: (no contamination; fully decontaminated; wound contamination; internal hazard) | | |