

Table 3

Severity of injury

Introduction

These risk assessment guidelines distinguish between four levels of injury severity. It is important to realise that severity should be assessed completely objectively. The aim is to compare the severity of different scenarios and to set priorities, not to judge the acceptability of a single injury at this stage. Any injury that could easily have been avoided will be difficult to accept for a consumer. However, authorities can justifiably invest more effort into avoiding irreversible consequences than into preventing temporary discomfort.

In order to assess the severity of the consequences (acute injury or other damage to health), objective criteria can be found, on the one hand, in the level of medical intervention, and, on the other hand, in the consequences to the further functioning of the victim. Both could be expressed as cost, but the costs of consequences of health damage may be difficult to quantify.

Combining these criteria, the four levels may be defined as follows:

1. Injury or consequence that after basic treatment (first aid, normally not by a doctor) does not substantially hamper functioning or cause excessive pain; usually the consequences are completely reversible.
2. Injury or consequence for which a visit to A&E may be necessary, but in general, hospitalisation is not required. Functioning may be affected for a limited period, not more than about 6 months, and recovery is more or less complete.
3. Injury or consequence that normally requires hospitalisation and will affect functioning for more than 6 months or lead to a permanent loss of function.
4. Injury or consequence that is or could be fatal, including brain death; consequences that affect reproduction or offspring; severe loss of limbs and/or function, leading to more than approximately 10 % of disability.

The following table, which should be considered as a guide rather than prescriptive or complete, provides examples of injuries at all four levels. National differences may exist, either cultural or caused by different systems of health care and financial arrangements. However, deviating from the proposed classification in the table will affect uniform assessment of risks in the EU; this should be clearly stated and explained in the risk assessment report, and reasons should be given.

| Type of injury | Severity of injury | | | |
|---|---|---|--|---|
| | 1 | 2 | 3 | 4 |
| Laceration, cut | Superficial | External (deep) (> 10 cm long on body) (> 5 cm long on face) requiring stitches Tendon or into joint White of eye or cornea | Optic nerve Neck artery Trachea Internal organs | Bronchial tube Oesophagus Aorta Spinal cord (low) Deep laceration of internal organs Severed high spinal cord Brain (severe lesion/dysfunction) |
| Bruising (abrasion/contusion, swelling, oedema) | Superficial ≤25 cm ² on face ≤50 cm ² on body | Major > 25 cm ² on face > 50 cm ² on body | Trachea Internal organs (minor) Heart Brain Lung, with blood or air in chest | Brain stem Spinal cord causing paralysis |
| Concussion | — | Very short unconsciousness (minutes) | Prolonged unconsciousness | Coma |
| Entrapment/pinching | Minor pinching | — | (Use as appropriate the final outcomes of bruising, crushing, fracture, dislocation, amputation, as applicable.) | (Same outcome as for suffocation/strangulation.) |
| Sprain, strain, musculoskeletal disorder | Extremities Joints Spine (no dislocation or fracture) | Knee ligaments strain | Ligament or tendon rupture/tear Muscle tear Whiplash | — |
| Dislocation | — | Extremities (finger, toe, hand, foot) Elbow Jaw Loosening of tooth | Ankle Wrist Shoulder Hip Knee Spine | Spinal column |
| Fracture | — | Extremities (finger, toe, hand, foot) Wrist Arm Rib Sternum Nose Tooth Jaw Bones around eye | Ankle Leg (femur and lower leg) Hip Thigh Skull Spine (minor compression fracture) Jaw (severe) Larynx Multiple rib fractures Blood or air in chest | Neck Spinal column |

| Type of injury | Severity of injury | | | |
|---|--|---|--|--|
| | 1 | 2 | 3 | 4 |
| Crushing | — | — | Extremities (fingers, toe, hand, foot) Elbow Ankle Wrist Forearm Leg Shoulder Trachea Larynx Pelvis | Spinal cord Mid-low neck Chest (massive crushing) Brain stem |
| Amputation | — | — | Finger(s) Toe(s) Hand Foot (Part of) Arm Leg Eye | Both extremities |
| Piercing, puncturing | Limited depth, only skin involved | Deeper than skin Abdominal wall (no organ involvement) | Eye Internal organs Chest wall | Aorta Heart Bronchial tube Deep injuries in organs (liver, kidney, bowel, etc.) |
| Ingestion | — | — | Internal organ injury (Refer also to internal airway obstruction where the ingested object gets stuck high in the oesophagus.) | Permanent damage to internal organ |
| Internal airway obstruction | — | — | Oxygen flow to brain blocked without permanent consequences | Oxygen flow to brain blocked with permanent consequences |
| Suffocation/ Strangulation | — | — | Oxygen flow to brain blocked without permanent consequences | Fatal suffocation/ strangulation |
| Submersion/ Drowning | — | — | — | Fatal drowning |
| Burn/Scald (by heat, cold, or chemical substance) | 1°, up to 100 % of body surface 2°, < 6 % of body surface | 2°, 6-15 % of body surface | 2°, 16-35 % of body surface, or 3°, up to 35 % of body surface Inhalation burn | 2° or 3°, > 35 % of body surface Inhalation burn requiring respiratory assistance |
| Electric shock | (See also under burns as electric current can cause burns.) | Local effects (temporary cramp or muscle paralysis) | — | Electrocution |
| Neurological disorders | — | — | Triggered epileptic seizure | — |

| Type of injury | Severity of injury | | | |
|---|--|---|---|--|
| | 1 | 2 | 3 | 4 |
| Eye injury, foreign body in eye | Temporary pain in eye without need for treatment | Temporary loss of sight | Partial loss of sight Permanent loss of sight (one eye) | Permanent loss of sight (both eyes) |
| Hearing injury, foreign body in ear | Temporary pain in ear without need for treatment | Temporary impairment of hearing | Partial loss of hearing Complete loss of hearing (one ear) | Complete loss of hearing (both ears) |
| Poisoning from substances (ingestion, inhalation, dermal) | Diarrhoea, vomiting, local symptoms | Reversible damage to internal organs, e.g. liver, kidney, slight haemolytic anaemia | Irreversible damage to internal organs, e.g. oesophagus, stomach, liver, kidney, haemolytic anaemia, reversible damage to nerve system | Irreversible damage to nerve system Fatality |
| Irritation, dermatitis, inflammation or corrosive effect of substances (inhalation, dermal) | Local slight irritation | Reversible eye damage Reversible systemic effects Inflammatory effects | Lungs, respiratory insufficiency, chemical pneumonia Irreversible systemic effects Partial loss of sight Corrosive effects | Lungs, requiring respiratory assistance Asphyxia |
| Allergic reaction or sensitisation | Mild or local allergic reaction | Allergic reaction, widespread allergic contact dermatitis | Strong sensitisation, provoking allergies to multiple substances | Anaphylactic reaction, shock Fatality |
| Long-term damage from contact with substances or from exposure to radiation | Diarrhoea, vomiting, local symptoms | Reversible damage to internal organs, e.g. liver, kidney, slight haemolytic anaemia | Damage to nervous system, e.g. Organic Psycho Syndrome (OPS; also called Chronic Toxic Encephalopathy, also known as 'painters' disease'). Irreversible damage to internal organs, e.g. oesophagus, stomach, liver, kidney, haemolytic anaemia, reversible damage to nervous system | Cancer (leukaemia) Effects on reproduction Effects on offspring CNS depression |
| Microbiological infection | | Reversible damage | Irreversible effects | Infection requiring prolonged hospitalisation, antibiotics-resistant organisms Fatality |