Assistance with dressing

Types of injuries

- **intentional injuries** – they occur during treatment (surgery, venipuncture, radiation burns),
- **unintentional injuries** – they are accidental, e.g. in a car accident.

Types of wounds

- **open wound** (a wound where the surface of the skin is impaired),
- **closed wound** (tissues are traumatized without skin impairment).

According to the mechanism of formation

- **contusion** – is a closed wound that occurs as a result of a blow from a blunt object,
- **abrasion** – is an open wound that occurs as a result of friction, e.g. after falling on the road surface, this injury affects only the *skin*,
- **stab wound** – is an open wound caused by a sharp instrument that penetrates through the skin and underlying tissues (this also includes venipuncture and intramuscular injection),
- **laceration** – occurs when tissues tear apart and create irregular edge ,
- **penetrating wound** – occurs when the tool penetrates deep into the tissues through the skin, often accidental, e.g. wounds caused by projectiles or metal fragments,
- **cut wound (*incision*)** – caused by a sharp instrument, e.g. a scalpel or accidentally a sharp knife.

According to the degree of contamination (Garner, 1986)

- **clean wounds** - they are not infected, there is no inflammation and they do not affect the respiratory, digestive, reproductive or urinary system,
- **clean contaminated wounds** - these are surgical wounds in which the respiratory, digestive, reproductive or urinary system is affected, we do not find any evidence of infection in these wounds,
- **contaminated wounds** - they include open, fresh, accidental wounds and surgical wounds where there has been a major violation of sterile technique or large amounts of contents are leaking from the gastrointestinal tract, signs of infection are also often visible,
- **unclean or infected wounds** – they are old, accidental wounds that contain dead tissue and wounds with evidence of clinical infection such as purulent discharge.

General principles in wound care

- caring for the patient's psychological well-being,
- instructing the patient about the procedure, its course and about necessary patient's behavior after the treatment,
- ensuring a suitable position for the patient, a suitable environment and privacy during dressing,
- keeping the affected area in a physiological position,
- applying bandages suitable for the type of indication, always sterilely and with gloves,
- ensuring correct application of the bandage (the bandage should embrace the affected area mildly but firmly, from all sides),
- monitoring the patient's condition throughout the dressing,
- checking the surroundings of the bandaged area (surrounded area must remain visible, sufficiently perfused, without swelling),
- if the patient reports pain, regularly evaluate the source of the pain and keep checking the wound.

Modern dressing materials

Non-adhesive dressings

- they are made of cotton or viscose fibers or nylon material,
- they are porous (airy), impregnated with an indifferent ointment that prevents the bandage from sticking to the wound,
- these dressings protect the granulation tissue but do not create a bacterial barrier,
- do not need secondary coverage,
- they are not left on the wound for more than 24 hours,
- are used to cover surface wounds, sutures or burns,
- these are for example ATRAUMAN ®, SILICONE ®, MELOLIN ®.

Antiseptic dressings

- these are bandages made of non-woven porous material impregnated with an antimicrobial substance,

- they protect granulation tissue, allow free passage of exudate, require secondary coverage,
- they can cause an allergic reaction so we must carefully consider who we apply them to,
- they may remain on the wound for several days,
- these materials are widely used for various types of wounds including infected ones,
- these are for example INADINE ®, IODOFLEX ®.

Activated charcoal dressings

- they are composed of fabric that contains activated carbon,
- clean the wound very well, reduces odor and excess exudate,
- suitable use is for strongly infected wounds, strongly odoured wounds, pressure ulcers, fistulas, also for wounds where the presence of yeast has been detected ,
- these are for example ACTISORB ®, VLIWAKTIV ®, CARBONET ®.

Alginate dressings

- basis of these bandages is brown seaweed which contains sodium and calcium alginate,
- these bandages create a non-adhesive gel and thus keep the wound in a moist environment,
- the gel must then be removed from the wound with physiological saline solution before evaluating the effect of the dressing.

Hydrogel dressings

- they are made of hydrogel polymers that contain up to 96% water,
- they shape well, cool the wound, reduce pain,
- the bandage is transparent so it is easy to check the defect.

Factors affecting wound healing

Internal factors

- vascularization – good blood supply supports healing,
- immune status – infection, diabetes mellitus or radiotherapy increases the requirements for the healing process,
- nutritional status - healing is prolonged in patients with poor nutritional status,
- obesity - fatty tissue limits blood supply and wounds are therefore difficult to suture,
- medicines - immunosuppressants may prolong healing,
- smoking - reduces functional hemoglobin in the bloodstream and therefore body tissues are less oxygenated,
- stress - places additional demands of the organism and thus adversely affects healing.

External factors include

- preoperative status,
- preoperative preparation,
- surgical performance.

Complications of wound healing

Bleeding

- persistent bleeding (hemorrhage) after surgery is abnormal, it can be caused by a blood clot, a loose ligature, visceral vessel erosion.

Infection

- it can appear 2-10 days after surgery, if infection is suspected, the exudate should be examined.

Dehiscence with possible evisceration

- it is a partial or complete rupture of the wound, often occurs after abdominal surgeries when the layers under the skin are also separated,
- evisceration is the extrusion of internal organs through an incision.

Links

Related articles

- Injury

Sources

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