

## INJURIES IN BOXING, CLASSIFICATION AND FIRST AID WITHIN 1950-1955

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- sport medicine,
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### Abstract:

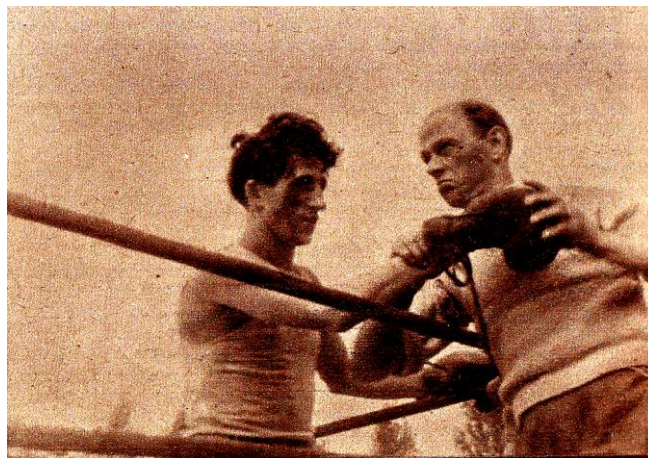
Main purpose of this article is presentation of development sport medicine in boxing in 2<sup>nd</sup> Republic of Poland. The article is based on reliable sources, which are also included in notes and references. Medical classification of injuries which can occur during boxing fights and securing them. Article showed how medical system works in boxing at 1945-1955 when development of fighting sports was big.

Sport discipline with high risk of injuries is boxing, in which athletes were strictly looked after by doctors. One of the methods which they were using to increase level of protection of their health, was obligatory verification of health condition, at beginning, in the middle, and in the end of the season of fights. Furthermore, every participant of boxing competition should visit sport-medicine doctor, after any illness to check if his body is ready to fight at maximum effort at the ring.

Character of this sport demands from organizers and doctors to check player condition just before his fight, to be supposed to eliminate risk of confrontation between healthy and injured opponent.

The parts of the body with the most exposure for any injury parts of body are: face and hands. One can define few risk factors which can result in the level of injuries to arise:

- strength of impact,
- quality of equipment,
- physical preparation.



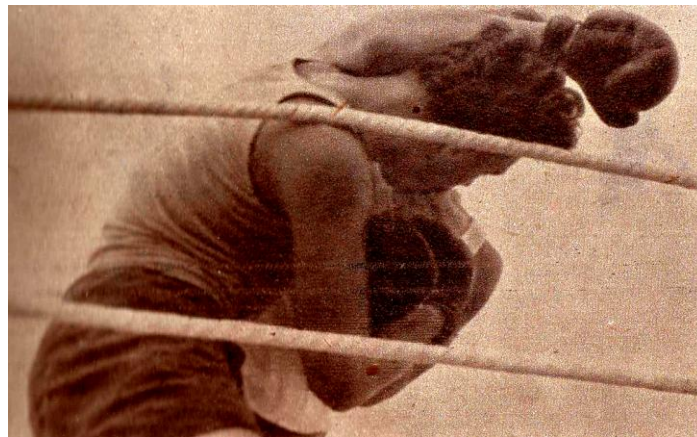
**Picture 1.** After injury of face ring judge sent boxer for doctor checkout  
Source: "Sportowiec", 1950 no 24 p. 11.

In order to maintain proper weight for boxers category, there were special practices designed to cause dehydration of organism, which change the density of the blood. Consistency of blood is more thick, causing a heart to use more energy to pump it, therefore the capacity of body is lower and the risk of any injury is higher (this occurs on a daily basis in boxing competitions). [S. Bober, W. Grzęda: *Elektrokardiogram spoczynkowy i wysiłkowy u bokserów*, „Acta Physiologica Polonica”, 1954 fasc. 3, pp. 303–307] [S. Grochmal: *Próby czynnościowe układu krążenia w kontroli treningu*, „Kultura Fizyczna”, 1954 no 8, pp. 438–446].

Training and methods of teaching are also important. Weak physical or technical preparation of boxers has a big influence on possibility of injury for them or for opponents. Another factor is that they used wrong equipment during training or fight. First aid should minimize or even prevent the hazard of injury. [Dr Jerzy Albrycht: *Unikajmy kontuzji w boksie*, vol. I, „Sportowiec”, 1950 no 20, pp. 14] At the turn of 40's and 50's sport-medical theory in boxing was defined by 6 main injuries:

1. Scrapes (epidermis abrasion),
2. Cuts,
3. Bruises and contusions,
4. Wrings,
5. Sprains,
6. Bones fractures.

Epidermis abrasion were the result of the impact of a punch (glove slipping on skin surface); often the lacing of the glove cut the skin, especially when it was dry. Later, to avoid abrasions, boxers started to use Vaseline or cream to moisten skin (less friction) and allow it to stretch. The most exposed parts were eyebrows, shoulders and cheeks.



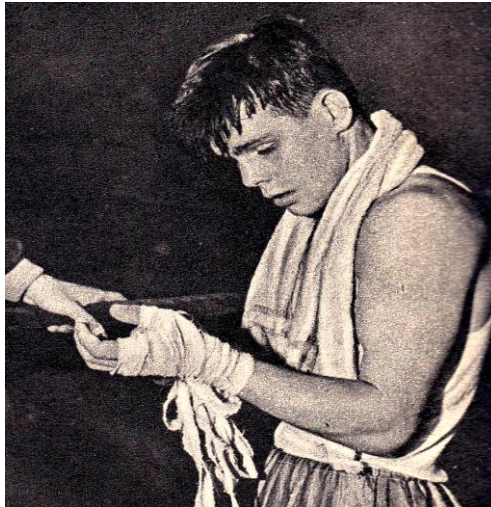
**Picture 2.** Often epidermis abrasion appeared after direct body contact (of boxer) with rope,  
Source: „Sportowiec”, 1950 no 24, p. 11.

Greasing treatments were prepared directly before fight (15-20 minutes). During breaks it was recommended not to degrease or dry any abrasions by the same towel or sponge, because they were used in many other actions like wiping gloves, bleeding nose etc. It was rightly thought that any contact of the same equipment (cloth or sponge) for cleaning gloves or sweating skin and later using them in first aid actions, dam up cuts, is not hygienic and could provide infection.

First aid:

- A) Wash it using hydrogen peroxide,
- B) Put on strong disinfecting medicine (iodine, mercurochrome, sepsotinctura), using cotton wool,

- C) Sprinkle sulphanilamide powder, if abrasion was on part of the body which had contact with cloths, and cover it with sterile gauze.

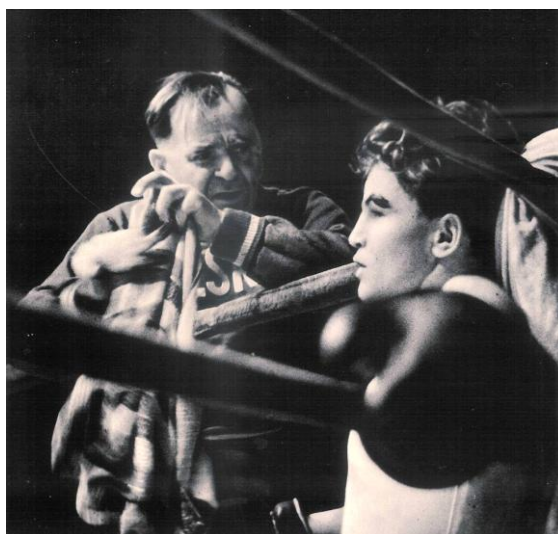


**Picture 3.** 1952 Representative of Polish National Team of boxing- Zawadzki, taking off bandage, Source: "Sportowiec", 1952 no 22, p.4.

Cuts in boxing were mostly on face, rather than on head, neck or shoulders. [Z. Knychalska: *Mechanizm uszkodzenia sportowego twarzy ze szczególnym uwzględnieniem szczęk zębów*, „Kultura Fizyczna”, 1953 no 7, pp. 530–537]. They arouse due to hit by gloves or unintentional teeth hit (especially when opponent had an opened mouth). Result of that were skin cracks and small (few mm deep) gaps. Bleeding which occurred, depending on the range of the damage, stopped after a few minutes. However, when artery was damaged, doctor intervention was needed to diagnose and block bleeding. Finally the doctor qualified the boxer's condition and judged the potentiality to continue fight.

First aid steps:

- A) Do not rub it,
- B) For diagnosis it is recommended to dry the cut,
- C) Rinse it using hydrogen peroxide,
- D) It was recommended to lubricate the edges of the cuts with iodine carefully (to make sure it is not inside of the cut).



**Picture 4.** Feliks Sztam – second boxer with cut eye-brown  
Source: J. Parandowski: "Olimpic athletes", Warszawa 1960, p. 34.

It was recommended to put on a bandage or a small injury gauze at the end. After healing it was recommended to protect scar from new injuries for at least 10-14 days [Dr Jerzy Albrycht: *Unikajmy kontuzji w boksie*, vol. II, „Sportowiec”, 1950 no 24, p. 11].

Third group of injuries occurring during boxing fights were bruises, which are created due to tissue damage, without cutting skin, caused mostly by blunt injury and resulting in swollen tissues. Blood vessels are cracked, and blood seeps under skin making a characteristic bruise, often with a lump (puffiness).

Oedema occurred when an area had an increasing amount of liquid. Since it did not have any space to run, the skin stretched and made a lump. Places with higher risk of injury are ears, eyelids and often in box, around the hands (joints). First aid actions for bruises were to quickly cool down the injured place, doctors used following schema:

- A) Cool down skin (in the area of the hit) using ice, which constricted blood vessels and stopped increasing of lump,
- B) In oedema of limb procedures of first aid were similar, but additionally doctors used slings to minimize blood circulation,
- C) In oedema of face (cheek, eyelid, brow ridge) it was recommended to cool down injured place and keep it high to reduce blood creek,
- D) In oedema of ear it is important to put bandage on it and cool it down as soon as possible, that will help in quick recovery and prevent the appearance of a “cauliflower ear” (traumatic auricular hematoma). Popular methods were for example putting cold fresh meat on the ear, which was unhygienic and ineffective. Other example of wrong understanding sport medicine method was using a hot compress on the ear; hot temperature increases blood circulation and lump may grow,
- E) Hot compress were allowed to be used after 48 hours.

Dr Jerzy Albrycht urges in oedema treatment: ... in all cases fresh oedema must be cooled down to reduce haemorrhage blood (under skin), next step is heating by compress (after 48 hours). If even a small abrasion is present on skin surface, it is recommended to use “heat pack” (hot water in plastic bag or in bottle) or if doctor recommends diathermy. Break in training should be as long as necessary to exclude the risk of reoccurring injury.

Wrench in 50's XX century, in medical-sport profession called injuries which included: ligament, joint capsule, tendon. It was often mistaken with sprain, but the difference is in injury, in meaning of joint in 50's medical knowledge understood all joints, connection two or more bones:

- A) Bones created them (joint),
- B) Joint capsule build with resistant for stretching tissue,
- C) Ligament.

In meaning of wrench Dr J. Albrycht describes joint structure as: bones create joint contiguous each other with earmark surfaces (articular surface), many joints are built that one part (bone) is concave and second convex, the articular surfaces are smooth and slick, that create excellent conditions to work. Joint is closely bound with joint capsule (size is closely connected with task of joint). Joint capsule insure movement of entire joint, forbidding unnecessary range of movement [Dr J. Albrycht: *Unikajmy kontuzji w boksie*, vol. III „Sportowiec”, 1951 no 2, pp. 6].

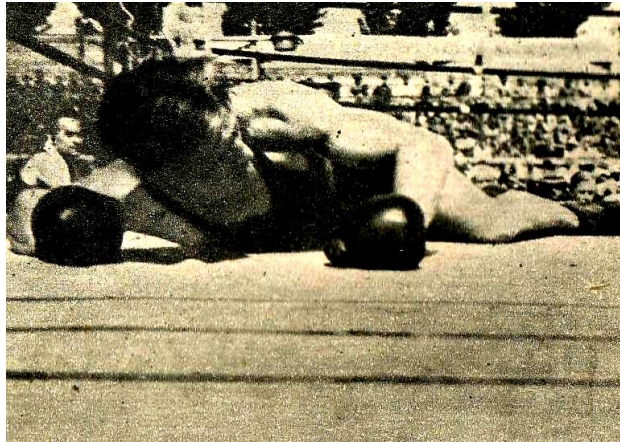
Wrench injury is when force presses on joint and provides movement not allowed for joint range, excessive extension, fold, twist. Consequence of this is damage of joint capsule (strain or rupture) and blood vessels are disrupted in place where tension was the highest.

Articular surface immediately comes back for right place, if not - it is sprain. Result of this injury is pain and oedema (blood pour from blood vessels to joint and close area).

In 1950 first aid in wrench injury was:

- A) Block possibility of any movement in joint, using sling,

- B) Put the injured area as high and comfortable as possible (example: it was forbidden to hold wrench arm low),
- C) Cool down injured joint,
- D) To diagnose and start treatment precisely, injured boxer were transported to hospitals.



**Picture 5.** Position of boxer at “slow counting”

Source: „Sportowiec”, 1951 no 5, p.13.

After sprain there is no possibility to perform any movement in joint, limb is blocked (result of move and block articular surfaces). Dr J. Albrycht describes first aid action (1950's) as follows:

- A) Firstly secure limb of injured joint, use sling and bandage to block any possibility of movement,
- B) Quickly transport the injured athlete to doctor or hospital,
- C) It is forbidden to manipulate with bones or joint not to compound injury [Dr Jerzy Albrycht: *Unikajmy kontuzji w boksie*, cz. III., Sportowiec”, 1951 nr 2, p. 6].

During trainings and sport competition rather injury were broken bones, it is result of force action exceed resistance of bone. Fracture is disconnection of bone continuity (with relocation or not). In boxing bone fracture is caused by using wrong equipment (gloves) or foul action.

In fraction with relocation sharp edges of bone can damage blood vessels and nerves next to it, which requires more first aid actions. In situation when nerves may be damaged, it is possible to feel emotional disorder, movement disorder, pain and oedema caused by damage of blood vessel. It may show minor bone fractions during break, which can be dangerous due to big mobility and can damage soft tissue around bone.

Other type of break is compound fracture. This situation is when part of bone pierces muscles and skin. It is dangerous due to complication which can appear in recovery. In fighting sports, especially in boxing, the risk of breaking bone is high, especially fingers.

Reasons of bone fracture are as follows:

- A) Forces act perpendicularly on bone,
- B) Other type of breaking is compression fracture, which occurs when force “squash” bone (mostly neck vertebrae),
- C) Fracture with detachment occurs when strong muscle force on insertion with bone,
- D) Bone fracture can be caused by static force act on long bone axis at wrench moment. Take place in boxing injury (scaphoid bone placed in wrist) [J. Moskwa: *Zapobieganie urazom dłoni i nadgarstka w boksie*, „Kultura Fizyczna”, 1956 no 5, pp. 374–378].

Symptom of bone fracture is characteristic sense of “crunch”, then pain in injured place and lack possibility of move, any attempt of move provides to edge of broken ridge and increase oedema, which is caused by haemorrhage from bone blood vessels and bone marrow.

Main task of first aid actions after accident were to secure injured place. It was important not to allow to relocation of the (broken) bone. The most important were to cripple limb, by splint and bandage (for time of transport to hospital), the best solution is blocking nearest joint to minimize risk of movement [Dr Jerzy Albrycht: *Unikajmy kontuzji w boksie*, cz. IV, „Sportowiec”, 1950 nr 4, p. 11].

Methods used within 1950-1955 are still in use, difference is in technology progress, which improves time and quality of diagnosis and recovery. Pioneer work of sport-medicine doctors built fundamentals of sport-medicine in Poland. Development and methods used in first aid and recovery after injury in sport, improve level of medicine used also in treatment of non-training people.

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