

Injuries in wrestling, boxing and pancration in ancient Greece

N.N. NOMIKOS, MSC¹, G.N. NOMIKOS, MD², A.F. MAVROGENIS, MD²,
P.J. PAPAGELOPOULOS, MD², D.S. KORRES, MD²

¹Faculty of Physical Education and Sports Science, ²First Department of Orthopaedics, Athens University Medical School, Athens Greece

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INTRODUCTION

The political significance of the ancient Greek games contributed significantly to complete mobilization of mental and body forces of the competitors in achieving high athletic performance. The desire for victory and earn of fame was the primary objective for competition, and led to the creation of elite athletic events. However, games such as pancration, wrestling and boxing were associated with direct contact and free arm movements between opponents, with a high risk and occurrence of musculoskeletal injuries.

METHODOLOGY

The present study was based on classic and modern related literature. We also studied ancient Greek history to determine the type and the severity of athletic injuries that occurred more frequently during ancient games. The figures have been drawn from ancient pottery and angiography, inscriptions, epigraphic plates, columns and vessels.

RESULTS

The athletic events in ancient Greece were divided into two categories; "light" and "heavy". According to Philostratus, light sports were the one stadium race, the two

stadium race, the long-distance run, the long jump and the javelin^{1,2,3}. Pentathlon consisted of a combination of light and heavy sports. The heavy sports were the pancration, wrestling, boxing and discus. While the javelin throwing, long jump and the track, were the light sports⁴. Heavy sports were always a pole of attraction and of significant interest for the spectators⁵. Most athletic injuries were observed in heavy athletic events¹⁻⁵.

Wrestling

According to Plutarch⁶, wrestling is the oldest and most popular of all sports; it is the first form of fight without the use of weapons^{7,8}. Wrestling preceded running since it involves the initial movements that the primitive man made to survive against the wild animals and his enemies⁹. Plutarch himself refers to wrestling as the most technical and brilliant of all sports¹⁰. Wrestling is distinguished into two types depending on the position of athletes; the standing wrestling or stadia, and the ground wrestling or alindisin or killisin. At standing wrestling, the competitors were fighting standing upright; the winner was the athlete that could accomplish the triagmos that means to throw his opponent on the ground three times^{11,12}. A "fall" was announced when the athlete's back touched the ground, the body of the opponent fell prone, or when a single handhold knocked-out the opponent¹³. At ground wrestling, the winner was the athlete that could force his opponent to raise his hand, thus "to deny" further game¹⁴.

Wrestling was one of the most painful and dangerous games. In his epic poems, Homer refers to wrestling as a painful and ferocious event¹⁵. At the epitaph in memory of Patroclus, it is mentioned that the fight between Ajax and Odysseus was of such intensity that "...cold sweat poured from their bodies, heavy bruises showed on their sides and shoulders, full of red blood..."¹⁶. Regarding the rules of wrestling, blows and grips on the genital area, biting and

Mailing address:
Andreas F. Mavrogenis, MD
Athens University Medical School
41 Ventouri Street, Holargos 15562, Athens Greece
Tel: +30-210-6540800, +30-6972226096
E-mail: andreasfmavrogenis@yahoo.gr



Figure 1. Ending of labe-grip at height "anavastase". The defeated athlete falls to the ground with the head. Florence, Museo Archeologico. The picture is from the book "Trauma", pg. 112, by S. Geroulanos.

strikes in the eyes were not allowed. Philostratus reports that biting, once done, caused the anger of the spectators, who reacted by throwing apples to the athlete¹⁷. There were no other restrictions even against life threatening strikes or grips. The athlete, however, could raise his hand to stop and "deny" the fight¹⁸.

Polydefkis provides names for wrestling grips such as the suffocating, the bending, the tripping-up, the blow, the holding round the neck or the waist, the blow on the jaw, and other grips¹⁹. The cruelty of wrestling is shown on a certain grip in which the athlete is lifted with the head downwards (figure 1)²⁰. Indicative of the occurrence of severe injuries in wrestling are the reports of Philostratus according to which "...if there is not enough bone marrow in the spine vertebrae, the spine bends easily, the vertebrae are pressed during the games, and sometimes they dislocate"²¹. According to Zurich University Professor, Mr. Geroulanos, dislocations and fractures in wrestling were frequent and brought victory whenever feasible²². At the 6th century before Christ, in a wrestling game, Leontiskos from Messina of Sicily crushed the fingers of his opponent, who then demanded to stop the fight²³. Aristotle refers on the necessity of combined muscle strength and ethics of the athletes. According to the Greek philosopher, "...strength is the force required to move, drag, push, lift, or crush the opponent"²⁴. In the reports of Solon, the wrestlers learned how to technically avoid handle, push, tripping-up and tightening around the neck grips, and how to lift their opponent from the ground²⁵.

The severity of wrestling injuries is also demonstrated in the reports of Galen, who referring to wrestlers claims that they are disabled, with their extremities twisted, broken or deformed²⁶. In contrary to other sports, training for wrestling



Figure 2. Rhine hemorrhage. The nose of the wrestler on the left of the picture is hemorrhaging heavily. Attica amphora. Around 500 B.C. London, British Museum. The picture is from the book "Trauma", pg. 113, by S. Geroulanos.

is also hard and similar to the main fight; the incidence of athletic injuries during training is also comparable²⁷.

Boxing

Apollon, one of the 12 Gods of Olympus is considered the architect of boxing or fist fighting. Early boxing games had simple and informal rules²⁸. The event was starting after the participants raised their arms high²⁹. The athletes wrapped their four fingers in a leather strip to make a firm and painless fist³⁰. Later, oxen skin straps have been used for harder blows³¹. Philostratus reports that hand straps made of pig skin were not allowed at boxing fights, because they could cause painful and serious wounds³². Plato reports tying leather balls in the palm instead of hand and finger straps³³.

The athletes of boxing were fighting until one fell unconscious or denied further fight. If the fight was prolonged without a winner, the judges were making use of the scale; this was a prearranged deal between the opponents that consisted of a variety of grips and blows without defense³⁴. Grips and blows in the genital area were not allowed³⁵; however, despite the strict rules wounds were frequent. After the fight, the athletes had deformities of the face, nose bleeding, fractures of the nose, ripped ears and swollen eyes (figures 2 and 3)³⁶⁻³⁸. Such injuries were common since blows to the head and face were permitted³⁹.

Boxing was one of the more dangerous games. Philostratos reports that: "...once the fighting time comes, the boxer will get wounded and will cause wounds..."⁴⁰. The great doctor and philosopher Galen, referring to elite athletes of boxing says that "...when the athletes grow old, they creep, wrinkle and squint due to the severe blows; their eyes fill with catarrhal liquids, their teeth fall, and their



Figure 3. Copper piece of wrestler's head. The face, due to the heavy deformation in eyes, nose and bones, relates to a wrestler. Around 330 - 320 B.C. Athens, National Archaeological Museum. The picture is from the book "Agon" pg. 219, illustrated by N. Kaltsas.



Figure 4. Forbidden grip in a Pancratium contest. An attempt to plack out the opponent's eye with the finger. London, British Museum. The picture is from the book "The Olympic Games in Ancient Greece", pg. 228, by N. Gialouris.

bones become porotic and break easily⁴¹⁻⁴². Artemidoros says that "...if you dream of boxing, this, apart from shame, also means trouble, because the person becomes ugly and bleeds"⁴³. Boxers' blows may be lethal; an example is the death of Amikus by Polydefkis with a single blow above the ear at a boxing game^{44,45}. In his reports on the same incident, Theocritus presents Amikus as a poor man with deformed face and ears from his opponent's blows⁴⁶. According to him, Polydefkis did not kill his opponent, but caused him severe wounds leading to mouth bleeding and suffocation⁴⁷; "...his jaws were full of injuries, his eyes narrow like cracks on a smashed face, ...black blood poured out of the torn head, ... smashing his teeth, ... ploughed his face and ripped his cheeks"⁴⁸.

Homer describes the boxing fight between Epeios and Evrialos, where Epeios says that he will tear the flesh of his opponent apart and crash his bones⁴⁹; Epeios won the brutal fight with a severe blow on the cheek breaking the teeth of Evrialos who had severe mouth bleeding and inability to walk⁵⁰. At 496 before Christ, the athlete of boxing Kleomidis from the island of Astypalea, broke the ribs and caused the death of Iko with one blow to the thorax⁵¹. At 488 before Christ, Diognitos also won a boxing game after killing his opponent; however, he has not been awarded⁵². Pausanias reports on the boxing event between Krefgas and Damoxenos, in which, due to the duration of the fight the judges had to use the scale. Damoxenos asked his opponent to raise his arm, and when the opponent did so, he struck him in the thorax with his fingers extended⁵³. Because of the force applied and the sharp nails, his hand penetrated the skin of Krefgas, grabbed his guts and ripped them out causing instant death⁵⁴. Many centuries later, John Chrisostomos reports that boxers suffer cracks on the scalp, deformities of the fascial bones and total loss of their teeth⁵⁵. Elianos reports that Efridamas the Kerinian although with broken teeth after severe blows to the face from his opponent, he swallowed his teeth and finally won the fight⁵⁶.

Pancration

Pancration or panmahion that means of all fights was a combination of wrestling and boxing⁵⁷. It involved boxing grips and free blows with the hands and legs⁵⁸. Similar injuries of wrestling and boxing occurred at pancration. Because it combined two fighting types, it was the most spectacular and popular of all games⁵⁹. According to Philostratus and Plutarch^{60,61}, wrestling and pancration were conceived as war techniques; this has been proven in the battles of Marathon and Thermopiles, where the Greeks, after breaking their swords and spears, they fought with bare hands using elements from pancration.

According to Socrates⁶², the athletes of pancration had improved muscle strength, great performance in all types of fighting, excellent technique in the battlefield, and always ensured victory. All types of grips and blows were allowed except from biting, eye ripping (figure 4)⁶³, and blows at the genitals^{64,65}. There was continuous movement of the athletes; the falls were spectacular and frequent⁶⁶. Blows with fists and elbows, throwing sand in the mouth, kicking, grips of suffocation at the neck, and dislocations of the knees and the ankles were frequent^{67,68}. Tripping-up, blows to the head, kick to the abdomen, pushing and lifting were allowed⁶⁹⁻⁷².

Because of the variety of painful and severe injuries, Anaharsis stated that the crowd would feel sorry for the winners because of their wounds⁷³. Galen reports that "...some athletes' faces became totally deformed and ugly..."⁷⁴. At 564 before Christ, Arrahion, immobilized by his opponent with a grip of legs and the suffocating grip of neck, he grabbed the big toe of his opponent's foot and dislocated his ankle with a violent lateral rotation grip. The opponent raised his hand and denied further game, and then fainted out of pain caused by the broken toe and ankle dislocation. Arrahion was awarded Olympic winner for his third time; however, he died after the fight from the suffocating grip⁷⁵.

Sostratos, the pancration athlete from Sicion, was also known as the akroherisitis because he used to grab his opponents' fingers and bend them so much that they gave up the fight because of extreme pain⁷⁶. Anaharsis, reports on pancration athletes that "...they strangle, and bend each other's bodies, they hit and kick each other, they spit their teeth from a mouth full of blood and sand, ... they sprinkle each other with blood and get strangled by their opponents..."⁷⁷. According to Philostratus the pancration athletes bend ankles and twist arms, give blows and jump to their opponents⁷⁸. Aristophanes, reports that "...you should participate to pancration games with youthful impulse, hit, rip eyes, give fist blows..."⁷⁹. Libanios has a critical attitude towards pancration and wrestling, because they cause injuries of the fascial bones and the eyes⁸⁰.

CONCLUSIONS

From all the above mentioned we apprehend, that in sports (such as wrestling, boxing, pancratium), in which the regulations give great freedom of movements -labe and the element of physical contact is strong, we have an increased percentage of traumatization. The participation in the sports in question resulted in significant injuries, such as edemas and hematomas⁸¹, dislocations⁸², fractures⁸³, bruising of limbs or face⁸⁴, cranium-brain bruising⁸⁵, loss of teeth^{86,87}, bleeding and rarely, death^{88,89}. We say rarely, because although the element of physical contact was strong, four deaths were totally recorded in boxing and one in pancratium. During the period from the prehistoric ages and till the classical age, although there was participation from thousands of athletes, the recorded lethal incidents were few. We are nevertheless obliged to mention, that traumas could have been multiple and could at many times have induced permanent or impermanent injuries.

Athletic ideal is not independent from the time which breeds it. On the contrary, it is directly related to the existing - at the specific time - socio-political and cultural framework of the time period under investigation. The existence or not of rules and of a general framework of norms, relate to what each society defines as permissible or not. Sports injuries of the time period under investigation, are indeed concrete and in some cases serious, but we don't have the right to talk about barbarity of the ancient games. These games - contests were realized in ancient times and the researcher is obliged to always keep in mind the fact, that sports contests are contests of individuals of that specific age. Finally it is pointed out, that it was due to the games and ideals which they represented, that so many admirable physical and moral performances were achieved, not only in stadiums, but also in war operations and battles, such as those of Marathon and Thermopylae.

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