



## PROFILE OF SERVICES PROVIDED BY THE BRAZILIAN OLYMPIC COMMITTEE PHYSIOTHERAPY DEPARTMENT DURING THE PAN AMERICAN GAMES RIO 2007.

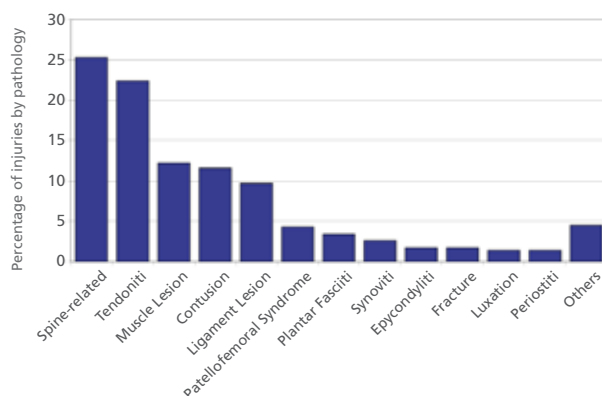
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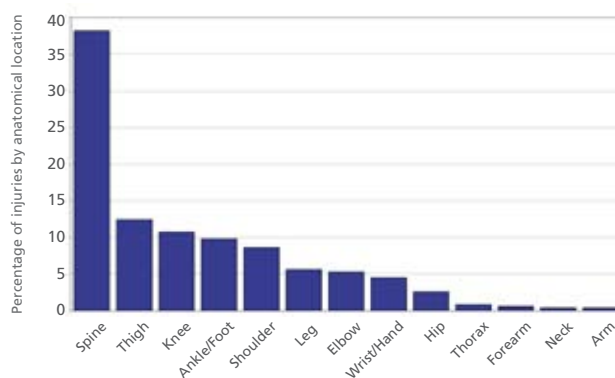
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Graph 1: Percentage of injuries by pathology

The body segment most frequently referred to by athletes was the spine (n=204, 38.2%), followed by thigh (n=66, 12.4%), knee (n=57, 10.7%), ankle (n=52, 9.8%), shoulder (n=46, 8.6%), leg (n=30, 5.6%), elbow (n=28, 5.3%), wrist and hand (n=24, 4.5%), hip (n=14, 2.6%), chest (n=4, 0.8%), fore arm (n=3, 0.6%), head (n=3, 0.4%) and arm (n=3, 0.4%) (graph 2).



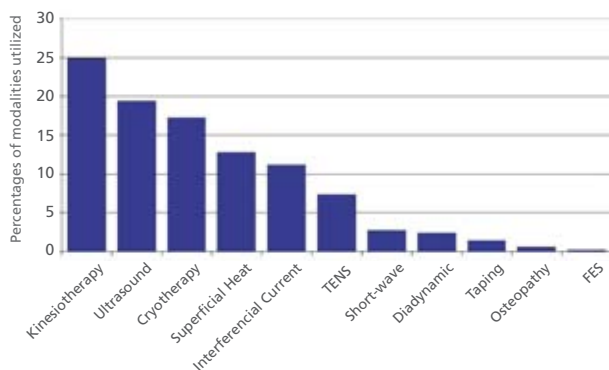
Graph 2: Percentage of injuries by anatomical location

During the Pan American Games Rio 2007, the Brazilian Mission had the larger number of participating athletes in BOC history (635 athletes). This was reflected on the number attending physiotherapists (20 professionals). From the 660 athletes of the Brazilian delegation during Rio 2007 Games, care was provided to 65.75% of athletes (434) by the physiotherapy department made available to the Brazilian Delegation. Brazilian athletes competed in all the 41 Games disciplines, and care was provided to at least one athlete in 40 of them, which is equivalent to 97.56% of total disciplines.

Most of the injuries (n=288, 66,4%) happened in a period of less than seven days. The most important injuries diagnosed when care was sought were pathologies related to the spine (lumbar, dorsal and cervical pain), totaling 25.3% (n=89) of all injuries, followed by tendinopathies (n=79, 22.4%), muscle injuries (n=43, 12.2%) and others. (graph 1).

During the period of services provided by the Brazilian Mission physiotherapy team 2,523 visits were recorded and 3,897 physiotherapeutic procedures performed, resulting in an average of 1.54 procedures by physiotherapy care provided. Kinesiotherapy procedure corresponded to 24.9% (n=969) of all procedures performed by our service; therapeutic ultrasound

application was equivalent to 19.4% (n=757); cryotherapy 17.2% (n=670); superficial heat application, 12.8% (n=500); interferential current, 11.1% (n=432); T.E.N.S., 7.3% (n=286); short wave, 2.7% (n=104); diadynamic current, 2.4% (n=94); bandage or functional ligature, 1.4%; osteopathy 0.6% (n=25) and FES 0.2% (n=6) (graph 3).



Graph 3: percentage of resources utilized

who also found these same three pathologies during the 2004 Athens Olympic Games as the main causes prompting athletes to seek physiotherapeutic care.

Thigh and knee, respectively, represented the second and third most frequently affected areas, which could result from the large number of tendinopathies and muscle injuries observed. Spine, thigh and knee, therefore, accounted for approximately 50% of all he injuries presented by our athletes.

Most frequently used procedures were kinesiotherapy (proprioceptive reeducation, muscle strengthening and flexibility exercises) and the use of therapeutic ultrasound. Added together, these two therapeutic modes are equivalent to approximately 40% of all procedures performed, which may have resulted from the fact that the most important pathologies seen by our department (those related to spine, tendinopathies and muscle injuries) required additional concerns related to tissue regeneration aspects and maintenance and/or muscle strength and flexibility increase. Similar findings were assessed at the Athens Games<sup>8</sup>. Procedures like cryotherapy, surface heat and T.E.N.S (analgesic current to neutralize the sensation of pain) were also utilized, once many athletes already presented chronic pathologies and were mostly looking for pain management. Differing from the study conducted by Anthanasopoulos et al.<sup>8</sup>, a small number of athletes who came to the physiotherapy service just asked for functional bandages.

*Most frequent injuries are related to spine, followed by tendinopathies and muscle injuries.*

The most frequent injuries seen in our physiotherapy department were pathologies related to the spine, with most of the athletes complaining about lower back pain. This information corroborates several studies evidencing the high rate of athletes presenting clinical symptoms of spine-related pathologies<sup>1-4</sup>. Studies conducted with high performance athletes in different disciplines, such as Olympic gymnastics, showed that 79% of them had already been subject to low back pain episodes keeping them away from training<sup>5</sup>. In the case of freestyle and Greco-Roman wrestling 59% of athletes complained of low back pain<sup>6</sup>. The presence of lower back pain prevented 38% of professional tennis players from entering at least one tournament along their careers<sup>2</sup> Incidence of low back pain among tennis players was 32%, while among football players the rate was 37%<sup>3</sup> and among competition rowers, 20%<sup>7</sup>.

A second group of frequently seen pathologies were tendinopathies, followed by muscle injuries, which added to spine pathologies represent approximately 60% of care provided. These findings corroborate the investigation conducted by Anthanasopoulos et al.<sup>8</sup>

*This work reveals that most of Brazilian Delegation athletes sought physiotherapeutic treatment and one third of them suffered injuries even before the competition started.*

This work reveals that most of Brazilian Delegation athletes sought physiotherapeutic treatment and one third of them suffered injuries even before the competition started. Most frequent injuries are related to spine, followed by tendinopathies and muscle injuries. Most frequently affected body areas were spine, thigh and knee. Kinesiotherapy, cryotherapy and ultrasound resources were the most frequently used management methods.

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