

Summary

Background: There have been very few published reports which concerns sports-related acute injuries and chronic disorders sustained during surfing. Therefore, we have been making survey of professional surfers certified by Japan Pro Surfing Association (JPSA) since 2009.

Materials and methods: Data were collected through the survey of professional surfers certified by JPSA at the competitions and our outpatient clinic.

Results: Acute injuries during surfing competitions were rare, and commonly happened at lower extremities. Knee MCL injuries, foot and ankle ligamentous injuries were remarkable for lower extremity. Especially, midfoot injuries would be characteristic of competitive surfing, because those injuries happen in aerial manoeuvres which is too difficult to perform for recreational surfers. Chronic disorders of competitive surfers were seen in lower back, shoulder joint, and neck areas. Most of the disorders were diagnosed as myofascitis caused by overuse of muscles during long-time paddling.

Conclusions: Our results are substantially different from the results of a survey of recreational surfers, and appear to be reflective of the competitive characteristics of surfing.

Keywords

Surfing– Competition– Injury– Chronic disorder– Overuse

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Äkute Verletzungen und Überlastungsschäden beim wettkampfmäßigen Wellenreiten

Aus der Betreuung der Profi Surfer in Japan

Zusammenfassung

Hintergrund: Nur wenige Publikationen beschreiben die sportart-spezifischen Verletzungen und Überlastungsschäden beim Wellenreiten.

ORIGINAL PAPER / SPECIAL ISSUE

Acute injuries and chronic disorders in competitive surfing

From the survey of professional surfers in Japan

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Background

Surfing is recently attracting a lot of attention as one of the Olympic games at Tokyo 2020. However, there have been very few published reports which concerns sports-related acute injuries and chronic disorders sustained during surfing. Moreover, many studies of injury on surfing were conducted on recreational (armature) surfers. Those studies tend to include many minor injuries such as skin laceration and contusions, which would be resulted from surfer's insufficient skills. Thus, we believe that those studies do not precisely reflect the specificity of athletic surfing in terms of epidemiology. Therefore, we have been making survey of professional surfing competitors certified by Japan Pro Surfing Association (JPSA) since 2009. The purpose of this study is to clarify the characteristics of acute injuries and chronic disorders on athletic but not recreational surfing based on a survey of professional surfing competitors.

Materials and methods

Data were collected from the survey of professional surfers certified by JPSA at the competitions and our outpatient clinic. At the competitions, we have taken care of competitors as on-site medical personnel which consists of medical doctors, nurses, physical therapists and athletic trainers. Medical records of 1707 cases on physical problems (acute and chronic) during 50 contests of Japan Pro Surfing Tour between 2009 and 2016 were analyzed. The number of competitors and heats at one contest were, shortboard: 104 ± 19 and 59 ± 11 , longboard: 83 ± 22 and 46 ± 10 , respectively. At our outpatient clinic dedicated for the professional surfing competitors, medical records of 152 cases between 2010 and 2016 were analyzed. The specialty of our clinic is orthopaedic surgery, and we do not have Emergency rooms.

Results

Acute injuries during surfing competitions were only 26 cases among total number of 1707 cases

³ <http://katsuura-seikei.or.jp/>.

⁴ <http://www.ismi.jp/index.html>.

Aus diesem Grund haben wir, zertifiziert durch die Japanische Pro Surfing Association (JPSA), seit 2009 eine Analyse bei den professionellen Surfern durchgeführt.

Material und Methode: Es wurden Daten analysiert, die bei der Betreuung der professionellen Surfer durch die JPSA im Rahmen der Wettkampfbetreuung und in unserer ambulanten Einheit gesammelt wurden.

Resultate: Akute Verletzungen während der Surf-Wettbewerbe waren selten und betrafen im Allgemeinen die unteren Extremitäten. Knie-MCL-Verletzungen und Bandverletzungen an Fuß und Sprunggelenk waren typisch. Speziell Mittelfuß-Verletzungen waren charakteristisch für wettkampfmäßiges Surfen. Diese Verletzungen ereignen sich typischerweise bei Aerial-Manövern, die für Freizeit-Surfer zu schwierig sind. Chronische Überlastungsprobleme bei Wettkampf-Surfern wurden im Bereich der Lendenwirbelsäule, der Schulter und des Nackens / HWS gefunden. Der Großteil dieser Probleme wurde als myofasciale Läsionen diagnostiziert, hervorgerufen durch die Überlastung der Muskulatur bei langdauerndem Paddeln.

Zusammenfassung: Unsere Resultate unterscheiden sich substantiell von den Ergebnissen der Betreuung von Freizeit-Surfern und scheinen die Charakteristik des Wettkampf-Surfens zu reflektieren.

Schlüsselwörter

Surfen – Wellenreiten – Wettkampf – Verletzung – Überlastungsschäden – Chronische Verletzung

(Fig. 1). The injury rate was 6.6 per 1000 h of competitive surfing. Most of the injuries were lacerations or abrasions happened at lower extremities by the contact with sea bottom in longboard surfers. Then, acute injuries treated at our outpatient clinic were 39 cases among total number of 152 cases. Ligamentous injures of lower extremities were common especially in shortboard surfers. Region and type of all injuries (N = 65) are shown in Fig. 2. 23

cases (35%) of all injuries happened in knee joints, such as MCL injuries. Then, 26 cases (40%) happened in foot and ankle joints, such as lateral ligamentous injuries and midfoot injuries. As shown in Fig. 2, most of the injuries occurred in lower extremities at competitive surfing. Fig. 3 shows cases of midfoot injuries that would be remarkable for the characteristic of competitive surfers. First case was Lisfranc (tarsometatarsal) joint injury, which was treated with screw fixation. Second

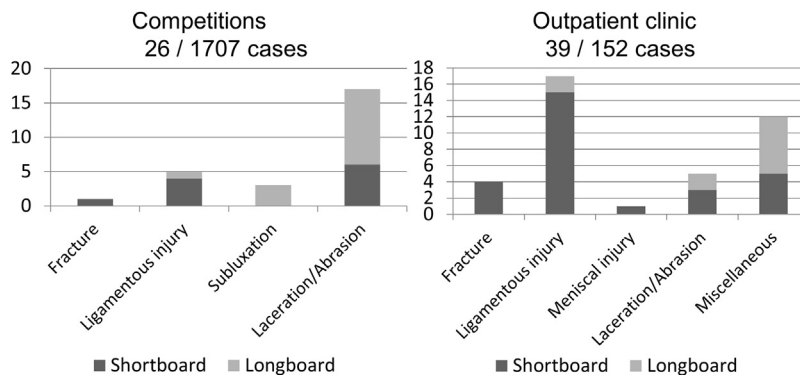


Figure 1 Acute injuries.

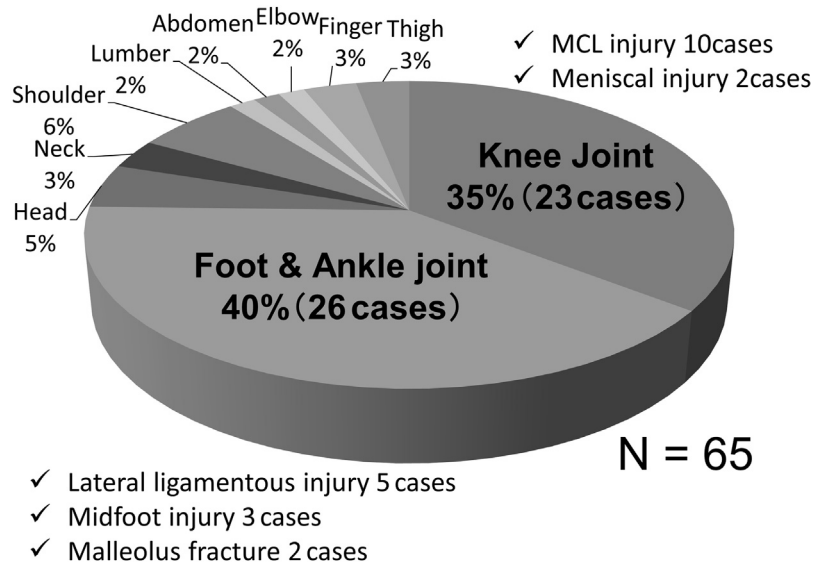


Figure 2 Region and type of acute injuries.

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