# For Polyclinic User in Tokyo 2021 Olympics

# Please Cooperate for This Study Project

## Objective of the project:

Purpose of this study is to survey epidemiology and imaging of stress fracture and muscle injury and to identify the risk factors in Tokyo 2021 Olympics.

## Relevance and significance of the project:

Stress fracture and muscle injury is common sports injury which can disrupt training and competition. The general absence from sports is so long after stress fracture and muscle injury. A total of 49 and 25 stress fracture were reported at the London 2012 Olympics and the Rio de Janeiro 2016 Olympics, respectably. A total of 81 muscle injuries were reported at Rio de Janeiro 2016 Olympics. In Olympians, the risk factors associated with stress fracture and muscle injuries have not been evaluated. Identification of the risk factors associated with stress fracture and muscle injuries in Olympians will prevent undesired injuries for not only Olympians, but also young athletes aspired to be in future Olympic games.

Study design: Retrospective

### Study subjects:

All Olympians who are diagnosed or suspected with stress fracture and muscle injuries at Polyclinic in Olympic Village

## Outcome measures:

We use the data of medical records at Polyclinic in Olympic Village after Tokyo 2021 Olympics. The information which identifies an individual person will be delete and an anonymity for Olympians will be kept in this study. Demographics collected will include age, gender, position, mechanism of injury and past medical history. A questionnaire detailing their symptoms/duration, training details, performances and menstrual history and a brief eating disorder will be collected. And, physical examination, blood sampling data and image including X-ray, MRI, and ultrasound will be collected.

The above anonymized information will be shared using a cloud system when the information is provided to the collaborative research organization.

#### Data analysis:

The frequency, means, standard deviations, and incidence rates of injury will be calculated. Statistical analysis of all the data will be completed post Olympic games.

#### Project team:

Takuya Adachi <sup>1</sup>, Hiroki Katagiri<sup>3</sup>, Hideyuki Koga<sup>3</sup>, Kazuyoshi Yagishita<sup>2</sup>, Jae-Sung An <sup>3</sup>, Yukihisa Saida<sup>6</sup>, Ukihide Tateishi <sup>6</sup>, Kentaro Onishi<sup>4</sup>, Lars Engebretsen<sup>5</sup>, Bruce Forster<sup>6</sup>

- 1) Department of Al Radiology, Tokyo Medical and Dental University
- 2) Sports Medicine Center, Medical Hospital of Tokyo Medical and Dental University
- 3) Joint Surgery and Sports Medicine, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University
- 4) Department of Orthopedics, University of Pittsburgh
- 5) Department of Orthopedics, University of Oslo
- 6) Department of Radiology, The University of British Columbia
- 7) Medical and Scientific Games Group, International Olympics Committee

#### Title:

Epidemiological and imaging study of fatigue fracture/muscle injury/separation in athletes participating in the 2021 Tokyo Olympic Games

## Research Period:

From the approval of the Research Ethical Committee of the Tokyo Medical and Dental University School of Medicine to March 31, 2026

Principal Investigator: Takuya Adachi, Department of Al Radiology, Tokyo Medical and Dental University

## Approval Code of Research Ethical Committee:

Tokyo Medical and Dental University School of Medicine Code Number(M2021-053)

## Conflict of Interest:

We have no financial relationships to disclose.

## Facultativity and Refusal to this study

It depends on your free will if you cooperate to this study as subject. If you do not want to join in this study, there is no disadvantage to you. When you decline to join in this study, we will exclude you from this study and delete your information. Please contact to us when you have any question and want to decline to join in this study.

## Contact Address and Phone number:

MD tower 9<sup>th</sup> Flore 1-5-45 Yushima, Bunkyo-ku, Tokyo, 113-8519 Japan Department of Radiology, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University

Tel: 03-5803-5311 (weekday 9:00-17:00)