

To AJKA-International  
AJKA-I of PA  
Instructor Trainee's Report #30

**Subject: Prevention of Injuries**

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Safety is an important part of training in karate. It is the *sensei's* job to prevent injuries, but when they occur the sensei should be trained to give first aid and advice to the injured *karate-ka*. Injuries discontinues the karate training, disrupts other aspects of daily living and may cause discontinuation in karate by the injured person or the people who witnessed the injury.

### **Prevention**

Safety is the responsibility of the *karate-ka* as well as the *sensei*. The message of safety must be given to students through (1) written rules of the dojo; (2) lectures and reminders; and (3) behavior and actions of the *sensei*. Unsafe behavior or actions must be immediately corrected and the student reprimanded so that everyone understands the importance of safety.

Some simple ways to prevent injuries are:

- Complete a warmup before hard physical training and cool down after training. Karate places stress on muscles and joints so warming up allows the blood to flow to the muscles and help the body to prepare for the workout; while the cool down allows the heart and muscles time to relax.<sup>1</sup>
- Improve body flexibility. Stretching improves flexibility which allows greater range of motion without injury. Stretching should be down not only before class, but also on off training days as well to help with body conditioning.
  - Stretching and flexibility are very important in injury prevention. Stretching helps prevent pulling and straining of the muscle and allows greater range of movement through the lengthening of the muscle and other tissues, as well as relaxing of the proprioceptors.<sup>2</sup>
- Condition muscles to develop strength to prevent over exhaustion or other improper joint movements that can cause injury. This will ensure that the body,

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<sup>1</sup> Powers, S.K. and E.T. Howley, Exercise Physiology: Theory and Application to Fitness and Performance. 9th ed. ed. 2015, New York, NY: McGraw-Hill Education

<sup>2</sup> Kim, S.H., Ultimate Flexibility: A complete guide to stretching for martial arts. 2004, U.S.A.: Turtle Press.

- especially the muscles surrounding the joints, has the strength to be able to hold together the joints during the fast explosive movements that karate requires.<sup>3</sup>
- It is important that the practitioner also work their core to prevent back injury and develop the ability to keep a strong center when training<sup>4</sup>
  - Recognize and correct improper karate techniques.<sup>5</sup>
    - A prerequisite is that the athlete listens to their instructor and follows their advice. An experienced instructor understands the nature of the movement in the joints and it is their job to inform the student if something is incorrect that can lead to injury. However, it is then up to the practitioner to make the change.
    - Karate has been developed in accordance with the principles of biomechanics and if performed correctly will lead to few, if any, injuries.
    - If the karate-ka finds that their body is starting to ache (especially joint pain), they need to bring it up with their physician and/or their instructor.
    - Chances are that the athlete has incorrect movement for their body's make up and need modifications.
    - The final concept is that of over training. It has been recommended that for most people 3-5 hours of Karate practice per week is sufficient<sup>6</sup>, however, at times where extra training is required (tournament or examination practice) extra time may be employed.
    - Symptoms of overtraining include an increase in muscle aches and strains, trouble sleeping, and eventually a breakdown of the immune system.<sup>7</sup> It is important for the practitioner to pay attention to these types of symptoms as the increase in injury rate climbs significantly.

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<sup>3</sup> Swanson, Ph.D, et al., Comparison of Shotokan Karate Injuries against Injuries in other Martial Arts and Selsect NCAA Contact Sports. The Sports Journal, 2017

<sup>4</sup> Id.

<sup>5</sup> Id.

<sup>6</sup> Zetaruk, M.N., et al., Safety recommendations in Shotokan karate. Clin. J. Sport Med., 2000. 10: p. 117-122.

<sup>7</sup> Powers, S.K. and E.T. Howley, Exercise Physiology: Theory and Application to Fitness and Performance. 9th ed. ed. 2015, New York, NY: McGraw-Hill Education.

## **Treatment**

Every training area should be equipped with a first aid kit. Accidents happen in the dojo so the sensei needs to be prepared because you never know when they will occur. The first aid kit should include: Band-Aids, medical tape, latex gloves, cold compresses, one way mouth shield to protect people if they need to conduct CPR. The sensei and others who are responsible for the class should be trained in first aid and CPR and must know their responsibility for helping an injured karate-ka.

## **Common martial arts injuries**

Martial arts can result in a wide array of injuries. The most common karate-ka injuries are

- Concussion

Common symptoms of concussion include headache, dizziness, nausea, balance problems, difficulties with concentration, and memory problems. Symptoms can last from several minutes to days, weeks, months, or even longer in some cases. Any athlete with symptoms of concussion should be removed from training and evaluated by a health professional. They should not be allowed to return until cleared by a qualified health care professional.

- Head/Eyes/Ear/Nose

Striking, kicking, punching or grappling can result in minor injuries such as cuts, bruises and lacerations. More serious injuries, such as fractures of the nose, face, or skull, as well as, significant injuries of the eyes mouth or teeth can result. These injuries may be minimized by the use of protective equipment.

- Neck

Minor injuries to the neck, such as bruising and abrasions, are most common. It's important to understand the risks of different forms of martial arts and to learn them under appropriate supervision.

- Extremities

Injuries to the extremities include cuts, bruises, sprains, and strains. Fractures and joint dislocations are less common, but can occur. Injuries can be minimized with proper supervision and the use of appropriate technique.

- Skin

Cuts are fairly common injuries in martial arts. Athletes participating in contact sports, such as martial arts, can be more prone to developing certain skin infections. These injuries should be evaluated and treated by an appropriate health care professional.

When injuries are severe the sensei should advise that the karate-ka seek immediate treatment at a hospital or other medical facility. It is important for the Sensei to know when medical help is needed.

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