Student Officer Safety Guidelines

Physical Training

Commonwealth of Massachusetts Municipal Police Training Committee

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The Municipal Police Training Committee (MPTC), an agency of the Executive Office of Public Safety and Security (EOPSS), serves the Commonwealth by establishing training standards, oversight and policy guidance for policing professionals.

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Application of Guidelines

These guidelines represent the collective input of subject matter experts in establishing best practices for reducing or preventing reasonably foreseeable injuries or serious adverse events in physical training.[1]

Academy directors and instructors should be fully knowledgeable of the safety guidelines.

Training Site Characteristics

- Physical training shall occur in a suitable location.
- Ventilation is a key factor in the selection of indoor facilities suitable for strenuous physical activity.
- Restrooms and drinking water shall be readily available during training sessions.
- Appropriate safety procedures shall be established for offsite training activities.
    - For example, instructors conducting offsite group runs, should consider the use of a vehicle with emergency lights, road guards with high visibility or reflective clothing, radio communications, and other appropriate safety measures.
- Outdoor training activities shall always consider environments that could harbor poisonous vegetation.
- To the extent possible, running areas shall afford adequate traction and shall be free from hazards such as physical obstructions.
- Mats and fitness equipment shall be cleaned daily, and disinfectants shall be available.

Facility and Site Inspections

Academy Directors, Staff Instructors and Physical Training Instructors shall routinely inspect the training facilities and training equipment so that potential safety hazards can be detected and corrected before instruction.

Physical Training Instructor Qualifications

The Municipal Police Training Committee requires that all physical training instructors shall meet the minimum specified training standards prior to instructing in physical training.

- MPTC PT Instructor Certification.
- Tactical Strength and Conditioning (TSAC) Practitioners Course for lead PT instructor trainers.
- 3-Day Instructor Training Course
- First Aid and CPR/AED certified

[1] Melissa Metzke, TSAC-F, National Strength and Conditioning Association, CDC, IACP

Instructors should remain up to date on recent advances within the field, emerging safety issues and instructional practices applicable to physical training. Recommended resources include the National Strength and Conditioning Association and the American College of Sports Medicine.

- Instructors shall participate in periodic instructor update courses, skills refresher training and other forms of continuing education.
- Instructor-level training can be more intensive and may require a higher degree of physical fitness.

Instructor-To-Student Ratio

An instructor-to-student ratio that provides adequate supervision of students in training is essential to ensure student safety.

- Establishing appropriate instructor-to-student ratios requires an analysis of:
    - Relative risk of the training activity – low, moderate, or high
    - Students' experience level
    - Experience level of the instructors
- Experienced Physical Training Instructors
    - Three or more year's experience of teaching recruit physical training.
    - Subject matter expert
        - Certified Strength and Conditioning coach
            - CSCS, TSAC-F or related degree
        - Athletic Trainer
    - Experienced instructors can teach the following:
        - 1-30 student officers- 1 instructor
        - 31-50 student officers- 2 instructors
        - 51-70 student officers- 3 instructors
        - 71-90 student officers- 4 instructors
- Novice Physical Training Instructor
    - Less than three years' experience teaching physical training.
    - Must have another instructor always assisting with physical training.
    - 1-30 student officers- 2 instructors
    - 31-50 student officers- 2 instructors
    - 51-70 student officers- 3 instructors
    - 71-90 student officers- 4 instructors

Instruction Guidelines

Instructors retain primary responsibility for the safe conduct of training.

- Safety policies and procedures shall be adhered to during all instruction and training activities.
- Instructors shall always maintain an appropriate level of supervision over students.
- Instructors shall consistently maintain a professional atmosphere during training.
- Student officers shall be directed to immediately report any perceived safety hazard to the instructors or ask for clarification if unsure how to safely perform a physical task.

Means of Communication

The instructors shall ensure that emergency communications (phone, radio, or other means) are readily available at all training sites.

Physical Training Requirements

Students new to a physical training program or in poor physical condition have an increased potential for injury. The transition from general life to the highly physical and mental demands of academy training can cause stress, leading to an increased risk of injury.

- Students shall be notified in advance on the specific fitness requirements of the training course as well as any related testing standards.
- Students shall be asked to indicate if they have any injuries or pre-existing medical restrictions that may affect their ability to safely participate in training.
- Instructors shall be alert to student injuries and report all injuries (minor or major) to the academy director who will then report the injury to the MPTC Chief of Training and Manager of Fitness and Testing.
- Instructors shall be aware of physical fatigue factors that affect the ability of the student officer to perform physical training safely.
    - The physical condition or fatigue of the student officer, the climatic conditions (i.e., extremes in heat and cold), the type of terrain, and other environmental factors such as air quality, can affect the capabilities and safe performance of participants.
        - All these factors could suggest a reduction in training intensity and shall be considered when establishing the instructional space and climate conditions.

First Aid, Trauma Care, and Other Emergency Supplies

A fully equipped first aid/trauma kit shall be readily accessible at each individual training site.

- First aid/trauma kits shall include supplies for the emergency treatment of injuries associated with the training activity.
- An AED shall be readily accessible at each individual training site.

Injury Prevention

Instructors shall be familiar with the causes of common training-related injuries and strategies for preventing such injuries.

- This includes recognizing the symptoms of heat illness, exhaustion, musculoskeletal injuries, and respiratory and cardiac emergencies.
- Many student officer injuries are preventable when proper safety practices, physical conditioning, exercise methodologies and equipment are employed.
- Ensure student officers receive physical training appropriate to their levels of physical conditioning and follow a gradual progression to avoid unnecessary overuse injuries and adverse events.
- Training programs should consist of an appropriate work-to-rest ratio especially during intense activity.
- Physical activity should not be used as retribution, for coercion, or as discipline for unsatisfactory athletic or academic performance or unacceptable behavior.
- Instructors shall advise students of the causes of common exercise and training-related injuries, and strategies for preventing such injuries.
- All exercise sessions shall be preceded by an appropriate warm-up and shall conclude with an appropriate cool-down stretching activity.
- Physical training is generally best taught by first describing the new skill, then demonstrating it, and finally having the student perform it at a reduced speed until proficiency is achieved. Instructors should be looking for quality of movement before quantity can be achieved.
- Close attention shall be given to recognize symptoms of:
    - Heat and cold related illnesses.
    - Respiratory and cardiac emergencies.
    - Muscle strains, fractures, and dislocations.
    - Other illnesses related to intense physical activity such as “Rhabdo” (Rhabdomyolysis)

Long periods of training, psychologically demanding activities, adverse weather and environmental conditions, and other factors can mentally and physically fatigue student officers, thereby increasing the potential for injury.

- These factors could suggest a reduction in training intensity and shall be considered when establishing the instructional pace.
- Frequent rest and water breaks may be necessary.

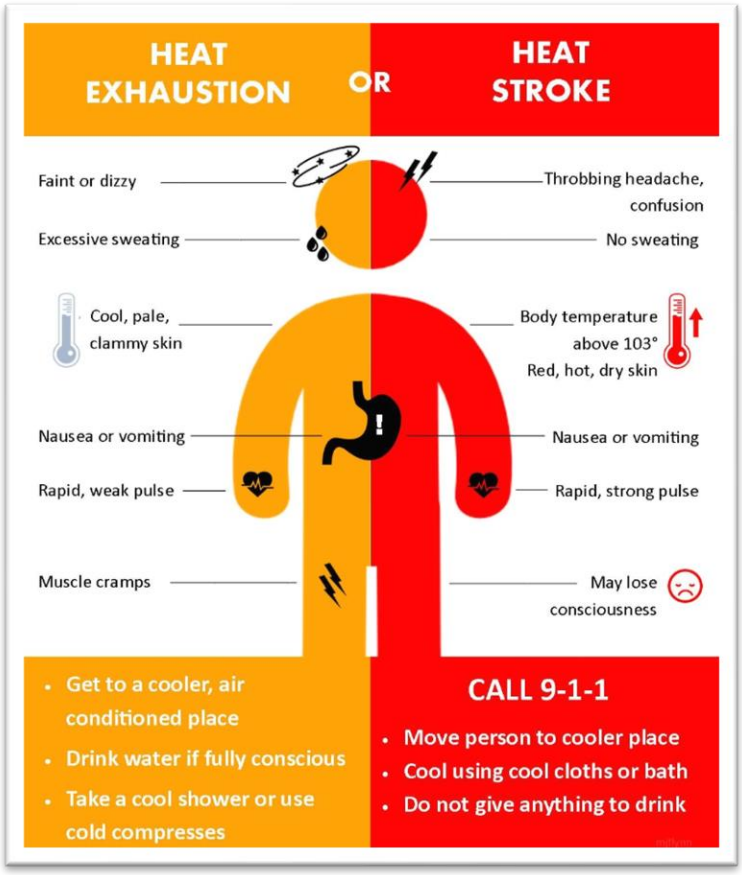
Weather Conditions

Instructors shall consider the weather conditions and the type of training to be conducted.

- Weather conditions shall be considered regarding the need to provide shaded areas, shelter, or protective clothing.
- Excessive heat or high humidity could suggest a reduction in instructional intensity or cancelation of training.
    - Heat related illnesses are the product of both temperature and humidity. Exercise during moderate temperature conditions but with elevated humidity can be as dangerous as exercise during high temperature conditions.
    - The temperature of certain surfaces, such as asphalt or concrete, shall be monitored to avoid heat-related student officer injuries.
    - The National Weather Service's heat index incorporates relative humidity with air temperature to measure what temperatures "feel like." Since heat index values were devised for shady, light wind conditions, exposure to full sunshine can increase heat index values by up to 15°F.
        - **Please note that during a heat advisory, all physical training must be scheduled before 8:00 a.m. and if possible, kept indoors in an air-conditioned environment (Frequent breaks for rest and hydration). If the heat index is in the red zone, physical training is canceled. You will need to download the OSHA app that will give you the current heat index and risk levels to your geographical location.**
          https://www.cdc.gov/niosh/topics/heatstress/heatapp.html

Heat Index Chart (Temperature Left, Relative Humidity Top)

	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
115	103	107	111	115	120	127	135	143	151								
110	99	102	105	108	112	117	123	130	137	143	151						
105	95	97	100	102	105	109	113	118	123	129	135	142	149				
100	91	93	95	97	99	101	104	107	110	115	120	126	132	136	144		
95	87	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136
90	83	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113
85	78	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97
80	73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86
75	69	69	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78
70	64	64	65	65	66	66	67	67	68	68	69	69	70	70	70	70	71



- Training activities during cold temperatures shall be closely monitored. Prolonged exposure to cold weather or wet clothes can cause hypothermia.
- Strenuous exercise shall be avoided during periods of unhealthy air quality in conformance with the Air Quality Index (AQI), and during periods of excessively inclement hot or cold weather.

Response to Injuries

Student officers must immediately report any injury to the physical training instructors. PT instructors must immediately report to the Staff Instructor and Academy Director.

If a student officer gets injured during training, it may be necessary to stop the activity right away. If the injury is serious and requires emergency medical attention, call 9-1-1 immediately.

If a student officer must be transported to a local emergency room:

- A staff member or academy director will accompany the student officer to the hospital.
- Obtain written documentation of the student officer's treatment and discharge orders.
- The academy director shall notify the student officers sponsoring department and emergency contact.

Specify the name, location, and phone number of the nearest emergency medical facility for each training site and post this information in a conspicuous place.

Notification procedures for student officer injuries:

- Investigate and complete an injury report using the appropriate reporting format specified by the MPTC.
- The appropriate notification includes the Instructor, Academy Director, MPTC Chief of Training, Manager of Fitness and Testing, and the student officer's agency.
- All student officers should feel they can approach instructors to notify them of an injury.
- When doubt exists as to the student's ability to perform safely due to an injury, instructors shall notify the academy director.

Procedure for return-to-training medical releases following a student officer injury:

- Students who sustain an injury that requires treatment by a physician shall obtain a medical release before they are authorized to resume training.
- It is recommended that student officers consult with their physician to receive a detailed explanation of which physical activities they cannot participate in.

After a student officer's injury, the academy director and instructors will evaluate the cause of the injury and if there were any dangerous situations or other reasons that caused the incident. This way, they can prevent it from happening again in the future.

A student officer may become separated from a police academy at any time after beginning but before completing the prescribed course of study due to a severe injury that will make it unsafe for them to continue in physical training.

- **Medical Deferment**. A student officer who sustains an injury while participating in police academy training or is diagnosed with a medical condition that prohibits them from participating in the police academy training may be granted a medical deferment separation upon request of the appointing/sponsoring agency head. A diagnosed medical condition shall not include a physical injury the occurs outside of police academy training. To qualify for a medical deferment, the student officer must be under the care

of a medical physician who determines the student officer is unable to return to the police academy training or is unable to participate in the physical requirements of the curricula.

Areas of concern that can arise in physical training

[2]Preventing Sudden Death

The Inter-Association Task Force for Preventing Sudden Death in Collegiate Conditioning Sessions published recommendations in January 2012 for the best practices in preventing sudden death. These recommendations were endorsed by the National Strength and Conditioning Association, American College of Sports Medicine, American Medical Society for Sports Medicine, American Osteopathic Academy of Sports Medicine, Collegiate Strength and Conditioning Coaches Association, and National Athletic Trainers' Association, to name a few. The following are some recommendations for preventing sudden death:

- Acclimatize progressively for utmost safety
- Introduce new conditioning activities gradually
- Do not use exercise and conditioning activities as punishment
- Ensure proper education, experience, and credentialing of instructors
- Develop and practice emergency action plan
- Be cognizant of medical conditions
    - Exertional sickling and SCT-related concerns
    - Exertional heat stroke
    - Cardiac conditions
- Administer ability-based strength and conditioning programs

Sickle Cell Trait

Sickle cell trait refers to the change in shape of red blood cells from their typical, rounded frisbee-like shape to a sickle shape ("sickle" refers to the quarter moon shape of the red blood cell). Sickle cell trait can be fatal. People with this condition will show moderate fatigue but can still talk and move. If they are suffering from the condition, they will likely have ischemic (lack of oxygen making it to body tissues) pain and muscle weakness. Heat, altitude exposure, asthma, and dehydration may be contributors to the condition even when the exercise is mild. Evidence has shown that incidents occur in hard training, but the cause or causes of athlete collapse are not yet known.

Recommendations include:

[2] https://www.nsca.com/education/articles/the-inter-association-task-force-for-preventing-sudden-death/

- Slow build-up of exercise intensity
- Allow athlete to set own pace
- Provide adequate rest, and when in doubt rest
- Stop activity if pain, unusual muscular weakness, or shortness of breath occurs
- Stay hydrated, stay cool
- Avoid high caffeine and energy drinks
- Manage asthma

Concussion

A concussion is a brain injury caused by a blow to the head that results in shaking, or otherwise traumatizing, the brain. The brain, housed inside the skull, is surrounded by and floats in cerebrospinal fluid. Concussions do not have to be present with unconsciousness, and most people will fully recover from a concussion. Concussions are serious and can be trauma of such significance that the injury affects the person for the rest of his/her life.

Symptoms of a concussion include:

- Unconsciousness
- Unclear thinking
- Inability to concentrate
- Forgetfulness
- Headache
- Blurred vision
- Nausea and vomiting
- Dizziness
- Light sensitivity
- Ataxia (balance problems)
- Agitation
- Inability to sleep

If a student officer suffers a concussion, they should be removed from training immediately and taken to the hospital. The seriousness of this type of head injury cannot be judged by a layperson. The student officer should be removed from all physical participation until cleared by a physician.

[3]Exertional Rhabdomyolysis

Rhabdomyolysis is the destruction of skeletal muscle. There are many causes of rhabdomyolysis. One cause is extreme muscle strain. Extreme muscle strain can come from new exercises, too many sets and repetitions (reps) of an exercise, too much training to failure, too many "negative" reps of an exercise, and high levels of exercise after a training layoff of even just a few weeks. Of course, if someone is dehydrated, the damage and symptoms can be even worse.

The best treatment for rhabdomyolysis is prevention. Guidelines to avoid rhabdomyolysis include:

- Do not begin training programs with excessive and intense exercise (instead, build training loads progressively)
- Separate student officers based on varying fitness levels
- Maintain adequate hydration
- Feelings of dizziness should be taken seriously by reducing training intensity
- Train progressively and use delayed onset muscle soreness (DOMS) as a clue that training may be too difficult for the athletes
- Make sure the trainees are in good physical condition to begin training.
- Avoid sudden increases in training, especially if there has been a break from training for even just a few weeks.
- Introduce new exercises gradually.
- Follow established, evidence-based program designs that have a progression of training loads and intensity and recovery, with short-term and mid-term goals.
- Avoid the use of physical training as punishment. The added training load on a trainee who is already lagging may be the very thing that lands him or her in a hospital's intensive care unit.
- Ensure proper hydration and avoid heat exertion as these factors may contribute to rhabdomyolysis (although they are not the cause).
- Make sure student officers have been advised to notify instructors or coaches of their urine becoming darker. At this point, medical attention is needed, especially if there is excessive soreness and Symptoms include:
    - Pain in the muscle(s), and on exertion

2. [3] Joseph Horrigan and Joseph Dulla, "Rhabdomyolysis—More Than Dehydration," Focus on Officer Wellness, *Police Chief* 87, no2 (February 2020): 14-16.

- Muscle weakness and swelling
- Myoglobin in the urine (myoglobin turns the urine a brown color)
- Other muscle cell proteins and enzymes are found in the blood
- Increased amount of large proteins in the blood (can lead to kidney failure and death)

Hyperthermia

Hyperthermia means overheating. Hyperthermia is a potentially fatal condition, most often seen in training during the latter summer months when outside temperatures are hot, accompanied by high humidity. Heat injury can range from mild heat cramps to heat stroke.

Recommendations for avoiding heat-related performance problems include:

- Encourage and even enforce frequent rest periods in hot and humid environments
- Encourage maintenance of hydration by frequent drink breaks (thirst is a poor indicator of dehydration—encourage fluid intake before the athlete is thirsty)
- Urine color can be a helpful tool in gauging hydration (dark yellow or brown urine indicates dehydration—urine should be light yellow in color or clear)
- Training very slowly
- Use the cooler parts of the day to train
- Wear light clothing and light colors
- Do not be afraid to stop training if the environment is prohibitive for safety

Factors include:

- Environmental temperature
- Environmental wind direction and speed (wind is a potential cooling agent)
- Environmental humidity (greater than 60% can be problematic, especially when combined with high temperatures)
- Dark clothing tends to absorb heat from the sun
- Fitness and acclimatization
- Hydration (the athlete must remain hydrated throughout training)
- Sickle cell trait is aggravated by hot environments

In closing, always keep the best interest of the student officer foremost in your mind. Training decisions should always proceed from a safety premise. Training should be well-designed, well-instructed, and well-supervised.

Notice

The guidelines are intended to provide relevant practice parameters for staff instructors and physical training instructors to use when carrying out their responsibilities in providing instruction to student officers or other participants. The standards and guidelines presented here are based on published scientific studies, pertinent statements from other associations, analysis of claims and litigation, and a consensus of expert views. However, this information is not a substitute for individualized judgment or independent professional advice. Neither the Municipal Police Training Committee nor the contributors to these guidelines assume any duty owed to third parties by those reading, interpreting, or implementing this information.

Neither the Municipal Police Training Committee nor the contributors to this project, by reason of authorship or publication of this document, shall be deemed to be engaged in practice of any branch of professional discipline (e.g., medicine, physical therapy, law) reserved for those licensed under state law. Instructors using this information are encouraged to seek and obtain such advice, if needed or desired, from those licensed professionals.

References:

- Joseph Horrigan and Joseph Dulla, "Rhabdomyolysis—More Than Dehydration," Focus on Officer Wellness, *Police Chief* 87, no2 (February 2020): 14-16.
- https://blogs.cdc.gov/niosh-science-blog/2021/05/07/heat-stress-2021/
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