

# EMERGENCY MEDICAL RESPONSE

A Guide to Sideline Care at the Sports Venue

[Reference List](#)



## Contents: Emergency Medical Response

<b>Medical Emergencies in Athletics .....</b>	<b>1</b>
<b>Considerations for the Young Athlete: Children &amp; Adolescents.....</b>	<b>3</b>
<b>Sideline Care of the Senior Athlete.....</b>	<b>5</b>
<b>Gender Differences in Sports Medicine.....</b>	<b>9</b>
<b>Injuries &amp; Emergent Conditions in Athletes with Physical Challenges.....</b>	<b>20</b>
<b>Performance Enhancement Issues in Athletes.....</b>	<b>21</b>
<b>Sport Variations &amp; Rules for Sideline Care.....</b>	<b>22</b>
<b>Environmental Considerations .....</b>	<b>23</b>
<b>Legal &amp; Ethical Concerns for the Athletic Venue.....</b>	<b>28</b>

## Medical Emergencies in Athletics

1. May 2016 National Occupational Employment and Wage Estimates, United States. Bureau of Labor Statistics – United States Department of Labor Web Site. [https://www.bls.gov/oes/2016/may/oes\\_nat.htm](https://www.bls.gov/oes/2016/may/oes_nat.htm) Updated March 31, 2017. Accessed December 29, 2017.
2. Homeland Security Presidential Directive / HSPD-8. Federation of American Scientists Web Site. <https://fas.org/irp/offdocs/nspd/hspd-8.html> Published December 17, 2003. Accessed December 29, 2017.
3. National EMS Scope of Practice Model. National Highway Traffic Safety Administration Web Site. [https://www.ems.gov/pdf/education/EMS-Education-for-the-Future-A-Systems-Approach/National\\_EMS\\_Scope\\_Practice\\_Model.pdf](https://www.ems.gov/pdf/education/EMS-Education-for-the-Future-A-Systems-Approach/National_EMS_Scope_Practice_Model.pdf) Published February, 2007. Accessed December 29, 2017.
4. National Emergency Medical Services Education Standards: Emergency Medical Responder Instructional Guidelines. National Highway Traffic Safety Administration Web Site. [https://www.ems.gov/pdf/education/National-EMS-Education-Standards-and-Instructional-Guidelines/EMR\\_Instructional\\_Guidelines.pdf](https://www.ems.gov/pdf/education/National-EMS-Education-Standards-and-Instructional-Guidelines/EMR_Instructional_Guidelines.pdf) Published January, 2009. Accessed December 29, 2017.
5. Miller MG, Berry DC. *Emergency Response Management for Athletic Trainers*. Philadelphia, PA: Lippincott Williams & Wilkins; 2011.
6. Delforge GD, Behnke RS. The history and evolution of athletic training education in the United States. *J Athl Train*. 1999;34(1):53-61.
7. Specialist Certification: Sports. American Board of Physical Therapy Specialists Web Site. <http://www.abpts.org/Certification/Sports/> Updated October 1, 2016. Accessed December 29, 2017.
8. Redhead J, Gordon J. *Emergencies in Sports Medicine*. New York, NY: Oxford University Press; 2012.
9. NEISS Data Highlights—2010. United States Consumer Product Safety Commission Web Site. [https://www.cpsc.gov/s3fs-public/pdfs/blk\\_media\\_2010highlights.pdf](https://www.cpsc.gov/s3fs-public/pdfs/blk_media_2010highlights.pdf) Accessed December 29, 2017.
10. Nolan JP, Hazinski MF, Aickin R, et al. Part 1: Executive summary: 2015 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. *Resuscitation*. 2015;95:e1-31.
11. Anderson JC, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association position statement: emergency planning in athletics. *J Athl Train*. 2002;37(1):99-104.
12. Courson R, Drezner J. Inter-association task force recommendations on emergency preparedness and management of sudden cardiac arrest in high school and college athletic programs.
13. Casa DJ, Guskiewicz KM, Anderson SA. National Athletic Trainers' Association position statement: preventing sudden death in sports. *J Athl Train*. 2012;47(1):96-118.
14. Casa DJ, Almquist J, Anderson SA, et al. The inter-association task force for preventing sudden death in secondary school athletics programs: best-practices recommendations. *J Athl Train*. 2013;48(4):546–553
15. Landry CH, Allan KS, Connelly KA. Sudden cardiac arrest during participation in competitive sports. *N Engl J Med*. 2017;377:1943-1953
16. NATA Official Statement on Commotio Cordis. National Athletic Trainers' Association Web Site. <https://www.nata.org/sites/default/files/commotiocordis.pdf> Published October, 2007. Accessed December 29, 2017.
17. Swartz EE, Boden BP, Courson RW, et al. National Athletic Trainers' Association position statement: acute Management of the cervical spine-injured athlete. *J Athl Train*. 2009;44(3):306-331.
18. American Red Cross. *Emergency Medical Response* textbook. San Francisco, CA: Staywell; 2011.
19. Prentice WE. *Arnheim's Principles of Athletic Training*. 13<sup>th</sup> ed. New York, NY: McGraw-Hill; 2009.
20. Anderson M, Parr GP, Hall S. Injury assessment. In: *Foundations of Athletic Training: Prevention, Assessment and Management*. 4<sup>th</sup> ed. Philadelphia, PA: Lippincott, Williams and Wilkins; 2008:86-128.

21. Mueller FO, Colgate B. Annual Survey of Football Injury Research: 1931-2012. National Center for Catastrophic Sport Injury Research Web Site. <http://nccsir.unc.edu/files/2014/05/2012FBInj.pdf> Published February, 2013. Accessed December 29, 2017.
22. Maron BJ, Thompson PD, Ackerman MJ, et al. Recommendations and considerations related to preparticipation screening for cardiovascular abnormalities in competitive athletes: 2007 update: a scientific statement from the American Heart Association Council on Nutrition, Physical Activity, and Metabolism: endorsed by the American College of Cardiology Foundation. *Circulation*. 2007;115(12):1643-455.
23. Conley KM, Bolin DJ, Carek PJ, et al. National Athletic Trainers' Association position statement: preparticipation physical examinations and disqualifying conditions. *J Athl Train*. 2014;49(1):102-120
24. Maron BJ, Maron MS, Lesser RL, et al. Sudden cardiac arrest in hypertrophic cardiomyopathy in the absence of conventional criteria for high risk status. *Am J Cardiol*. 2008;101:544-547.
25. Madias C, Maron BJ, Weinstock J, et al. Commotio cordis: athletes and strategies for preparticipation cardiovascular screening. *J Athl Train*. 2001;36(2):197-204.
26. Roberts WO. Determining a "do not start" temperature for a marathon on the basis of adverse outcomes. *Med Sci Sports Exerc*. 2010;42(2):226-32
27. Walsh KM, Cooper MA, Holle R, et al. National Athletic Trainers' Association position statement: lightning safety for athletics and recreation. *J Athl Train*. 2013;48(2):258-270
28. Casa DJ, DeMartini JK, Bergeron MF, et al. National Athletic Trainers' Association position statement: exertional heat illnesses. *J Athl Train*. 2015;50(9):986-1000
29. Miller, MG, Weiler JM, Baker R, et al. National Athletic Trainers' Association position statement: management of asthma in athletes. *J Athl Train*. 2005;40(3):224-245
30. Limmer D. *Emergency Care*. 13<sup>th</sup> ed. Englewood Cliffs, NJ: Prentice Hall; 2016.
31. Kelly DM. Hypovolemic shock: an overview. *Crit Care Nurs Q*. 2005;28(1):2-19.
32. American Red Cross. *Emergency Medical Response* textbook. San Francisco, CA: Staywell; 2017.
33. McCrory P, Meeuwisse W, Dvorak J, et al. Consensus statement on concussion in sport-the 5th international conference on concussion in sport held in Berlin, October 2016. *Br J Sports Med*. 2017;51(11):838-847
34. Schultz SJ, Houglum PA, Perrin DA. *Examination of Musculoskeletal Injuries*. 2<sup>nd</sup> ed. Champaign, IL: Human Kinetics; 2005
35. Erie JC. Eye Injuries: prevention, evaluation, and a treatment. *Phys Sportsmed*. 1991;19(11):100-226.
36. Drolsum L. Eye injuries in sports. *Scan J Med Sci Sports*. 1999;9(1):53-56.
37. McGrail JS. Nasal injuries in sports. *Can Fam Physician*. 1972;18(7):60-61.
38. Jouven X, Bougouin W, Narayanan K, Marijon E. Sudden cardiac death and sports. *Eur Heart J*. 2017;38(4):232-234.
39. Harmon KG, Asif IM, Klossner D, Drezner JA. Incidence of sudden cardiac death in National Collegiate Athletic Association athletes. *Circulation*. 2011;123(15):1594-1600.
40. Lee C, Porter KM. Prehospital management of lower limb fractures. *Emerg Med J*. 2005;22(9):660-663.
41. Abeysekera WYM, Ubayawansa DHB, De Almeida M, Dassanayake MBN. Avulsion fracture of the lesser trochanter apophysis. *Sri Lanka J Surg*. 2015;33(3):22-24

## Considerations for the Young Athlete: Children & Adolescents

1. Merkel DL. Youth sport: positive and negative impact on young athletes. *Open Access J Sports Med*. 2013;4:151-160.
2. Brenner JS. Sports specialization and intensive training in young athletes. *Pediatrics*. 2016;138(3).
3. Brenner JS. Overuse injuries, overtraining, and burnout in child and adolescent athletes. *Pediatrics*. 2007;119(6):1242-1245.
4. Sports Safety. Centers for Disease Control and Prevention Web Site. [https://www.cdc.gov/safecild/sports\\_injuries/index.html](https://www.cdc.gov/safecild/sports_injuries/index.html). Updated March 14, 2017. Accessed September 2, 2017.
5. National Action Plan to Ensure Safety Finalized at 4<sup>th</sup> Annual Youth Sports Safety Summit. (February 12, 2013). National Centers Sports Safety Web Site. <http://www.sportssafety.org>. Accessed September 2, 2017.
6. Youth Sports Safety Summit. 2016. Youth Sports Safety Alliance. <http://www.youthsportssafetyalliance.org> Accessed September 2, 2017.
7. Merkel DL, Gross CH, Molony JT. Pediatric and adolescent musculoskeletal considerations. In: Magee DJ, Zachazewski JE, Quillen WS, Manske RC, eds. *Pathology and Intervention in Musculoskeletal Rehabilitation*. 2<sup>nd</sup> ed. Maryland Heights, MO: Saunders; 2016.
8. Albaugh J, Eckenrode B, Ganley TJ. Upper extremity: differential diagnosis, surgical considerations and rehabilitation. In: Merkel DL, Molony JT, eds. *Pediatric and Adolescent Sports Medicine: Management and Prevention of Injuries Unique to the Young Athlete*. American Physical Therapy Association (APTA) Sports Section Home Study Course; 2011.
9. Patterson PD, Waters PM. Pediatric and adolescent sports injuries. *Clin Sports Med*. 2000;19:4
10. Paletta GA, Jr, Meiser K, Matava MJ. (2002). Adolescent sports injuries: shoulder and elbow. Presented at the American Orthopaedic Society for Sports Medicine 28th Annual Meeting.
11. Kocher MS, Waters PM, Micheli LJ. Upper extremity injuries in the paediatric athlete. *Sports Med*. 2000;30(2):117-135.
12. Reuss BL, Harding WG, 3rd, Nowicki KD. Managing anterior shoulder instability with bracing: an expanded update. *Orthopedics*. 2004;27(6):614-618.
13. Bishop JY, Flatow EL. Pediatric shoulder trauma. *Clin Orthop Relat Res*. 2005(432):41-48.
14. Crockett HC, Gross LB, Wilk KE, et al. Osseous adaptation and range of motion at the glenohumeral joint in professional baseball pitchers. *Am J Sports Med*. 2002;30(1):20-26.
15. Carson WG, Jr., Gasser SI. Little Leaguer's shoulder. A report of 23 cases. *Am J Sports Med*. 1998;26(4):575-580.
16. Mazzocca AD, Arciero RA, Bicos J. Evaluation and treatment of acromioclavicular joint injuries. *Am J Sports Med*. 2007;35(2):316-329.
17. Pujalte GGA, Housner JA. Management of clavicle fractures. *Curr Sports Med Reports*. 2008;7(5):275-280.
18. Pecci M, Kreher JB. Clavicle fractures. *Am Fam Physician*. 2008;77(1):65-70
19. Taylor CD, Escamilla R, Zachazewski JE. Peripheral nerve injuries. In: Magee DJ, Zachazewski JE, Quillen WS, Manske RC, eds. *Pathology and Intervention in Musculoskeletal Rehabilitation*. 2<sup>nd</sup> ed. Maryland Heights, MO: Saunders; 2016.
20. Luke A, Lee M, Safran M. Elbow and forearm injuries. In: Micheli LJ, Purcell L, eds. *The Adolescent Athlete: A Practical Approach*. New York, NY: Springer; 2007.
21. Merkel DL, Molony JT, Jr. Recognition and management of traumatic sports injuries in the skeletally immature athlete. *Int J Sports Phys Ther*. 2012;7(6):691-704
22. Ganley TJ, Lou JE, Pryor K, et al. Sports medicine. In: Dormans JP, ed. *Pediatric Orthopaedics and Sports Medicine: The Requisites in Pediatrics*. St. Louis, MO: Mosby; 2004.
23. Horn DB, Wells L, Tamai J. Lower extremity fractures. In: Dormans JP, ed. *Pediatric Orthopaedics and Sports Medicine: The Requisites in Pediatrics*. St. Louis, MO: Mosby; 2004.

24. Chang DS, Mandelbaum BR, Weiss JM. Special considerations in the pediatric and adolescent athlete. In: Frontera WR, Herring SA, Micheli LJ, Silver JK, eds. *Clinical Sports Medicine: Medical Management and Rehabilitation*. Philadelphia, PA: Saunders; 2006.
25. McTimoney M. Knee injuries. In: Micheli L, Purcell L, eds. *The Adolescent Athlete*. New York, NY: Springer; 2007.
26. LaFrance RM, Giordano B, Goldblatt J, Voloshin I, Maloney M. Pediatric tibial eminence fractures: evaluation and management, *J Am Acad Orthop Surg*. 2010;18(7):395–405
27. Molony JT, Merkel DL. Traumatic disorders and sports injuries. In: Tecklin JS, ed. *Pediatric Physical Therapy*. 4<sup>th</sup> ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2008.
28. Stanitski CL. Discoid meniscus. In: Micheli L, Kocher MS, eds. *The Pediatric and Adolescent Knee*. Philadelphia, PA: Saunders; 2006.

## Sideline Care of the Senior Athlete

1. Ahmadyar B, Rosemann T, Rust CA, Knechtle B. Improved Race Times in Marathoners Older than 75 Years in the Last 25 Years in the World's Largest Marathons. *The Chinese Journal of Physiology*. 2016;59(3):139-147.
2. Jokl P, Sethi PM, Cooper AJ. Master's performance in the New York City Marathon 1983-1999. *Br J Sports Med*. 2004;38(4):408-412.
3. Knechtle B, Nikolaidis PT, Konig S, Rosemann T, Rust CA. Performance trends in master freestyle swimmers aged 25-89 years at the FINA World Championships from 1986 to 2014. *Age (Dordr)*. 2016;38(1):18.
4. Gallmann D, Knechtle B, Rust CA, Rosemann T, Lepers R. Elite triathletes in 'Ironman Hawaii' get older but faster. *Age (Dordr)*. 2014;36(1):407-416.
5. Arvia, P. The growth of pickleball is on fire. *Chicago Tribune*. January 25, 2017. <http://www.chicagotribune.com/suburbs/daily-southtown/lifestyles/ct-sta-what-is-pickleball-st-0203-20170125-story.html>. Accessed May 9, 2018.
6. National Senior Games Association. About Us. <http://nsga.com/getinvolved>. Accessed February 10, 2018.
7. International Masters Games Association. About Us. <https://www.imga.ch/en/about-us/>. Accessed February 10, 2018.
8. Blair SN, Morris JN. Healthy hearts--and the universal benefits of being physically active: physical activity and health. *Ann Epidemiol*. 2009;19(4):253-256.
9. Marzetti E, Calvani R, Tosato M, et al. Physical activity and exercise as countermeasures to physical frailty and sarcopenia. *Aging Clin Exp Res*. 2017;29(1):35-42.
10. Oja P, Kelly P, Pedisic Z, et al. Associations of specific types of sports and exercise with all-cause and cardiovascular-disease mortality: a cohort study of 80 306 British adults. *Br J Sports Med*. 2017;51(10):812-817.
11. Jordre B, Schweinle W, Oetjen S, Dybsetter N, Braun M. Fall history and associated physical performance measures in competitive senior athletes. *Topics in Geriatric Rehabilitation*. 2016;32(1):1-16.
12. Brisk B, Jordre B, Schweinle S. Cardiovascular Disease, Diabetes and Anthropometric Measures in Competitive Senior Athletes. Poster Presentation at: 2016 Exercise and Physical Activity in Aging Conference; July, 2016; Indianapolis, IN.
13. Jordre B, Schweinle W, Beacom K, Graphenteen V, Ladwig A. The five times sit to stand test in senior athletes. *J Geriatr Phys Ther*. 2013;36(1):47-50.
14. Jordre B, Schweinle S, Aiken T, Berentschot B, Lemaster N. Grip Strength in Senior Athletes. Poster presented at: 2015 Combined Sections Meeting of the American Physical Therapy Association; February, 2015; Indianapolis, IN.
15. Jordre B, Schweinle W, Brown J, Lovro C, Wickett B. Flexibility of the Aging Athlete. Poster presented at: 2017 Combined Sections Meeting of the American Physical Therapy Association; February, 2017; San Antonio, TX.
16. Wright VJ, Perricelli BC. Age-related rates of decline in performance among elite senior athletes. *Am J Sports Med*. 2008;36(3):443-450.
17. Strait JB, Lakatta EG. Aging-associated cardiovascular changes and their relationship to heart failure. *Heart Fail Clin*. 2012;8(1):143-164.
18. Fleg JL, Morrell CH, Bos AG, et al. Accelerated longitudinal decline of aerobic capacity in healthy older adults. *Circulation*. 2005;112(5):674-682.
19. Wang E, Næss MS, Hoff J, et al. Exercise-training-induced changes in metabolic capacity with age: the role of central cardiovascular plasticity. *Age*. 2014;36(2):665-676.
20. Hawkins SA, Marcell TJ, Victoria Jaque S, Wiswell RA. A longitudinal assessment of change in VO<sub>2</sub>max and maximal heart rate in master athletes. *Med Sci Sports Exerc*. 2001;33(10):1744-1750.
21. Woltmann ML, Foster C, Porcari JP, et al. Evidence that the talk test can be used to regulate exercise intensity. *J Strength Cond Res*. 2015;29(5):1248-1254.

22. Persinger R, Foster C, Gibson M, Fater DC, Porcari JP. Consistency of the talk test for exercise prescription. *Med Sci Sports Exerc.* 2004;36(9):1632-1636.
23. Tanaka H, Dinenna FA, Monahan KD, Clevenger CM, DeSouza CA, Seals DR. Aging, habitual exercise, and dynamic arterial compliance. *Circulation.* 2000;102(11):1270-1275.
24. Guccione AA, Wong R, Avers D. *Geriatric Physical Therapy.* 3rd ed. St. Louis, MO: Mosby; 2012.
25. Brandenberger C, Mühlfeld C. Mechanisms of lung aging. *Cell and Tissue Research.* 2017;367(3):469-480.
26. Lowery EM, Brubaker AL, Kuhlmann E, Kovacs EJ. The aging lung. *Clinical Interventions in Aging.* 2013;8:1489-1496.
27. Roberts S, Colombier P, Sowman A, et al. Aging in the musculoskeletal system. *Acta Orthopaedica.* 2016;87(sup363):15-25.
28. Soucie JM, Wang C, Forsyth A, et al. Range of motion measurements: reference values and a database for comparison studies. *Haemophilia.* 2011;17(3):500-507.
29. James B, Parker AW. Active and passive mobility of lower limb joints in elderly men and women. *Am J Phys Med Rehabil.* 1989;68(4):162-167.
30. Vandervoort AA, Chesworth BM, Cunningham DA, Paterson DH, Rechnitzer PA, Koval JJ. Age and sex effects on mobility of the human ankle. *J Gerontol.* 1992;47(1):M17-21.
31. Ali S, Garcia JM. Sarcopenia, cachexia and aging: diagnosis, mechanisms and therapeutic options - a mini-review. *Gerontology.* 2014;60(4):294-305.
32. Nilwik R, Snijders T, Leenders M, et al. The decline in skeletal muscle mass with aging is mainly attributed to a reduction in type II muscle fiber size. *Exp Gerontol.* 2013;48(5):492-498.
33. Buford TW, Lott DJ, Marzetti E, et al. Age-related differences in lower extremity tissue compartments and associations with physical function in older adults. *Exp Gerontol.* 2012;47(1):38-44.
34. Baker AB, Tang YQ. Aging performance for masters records in athletics, swimming, rowing, cycling, triathlon, and weightlifting. *Exp Aging Res.* 2010;36(4):453-477.
35. Riggs BL, Melton LJ, Robb RA, et al. A population-based assessment of rates of bone loss at multiple skeletal sites: evidence for substantial trabecular bone loss in young adult women and men. *Journal of Bone and Mineral Research : The Official Journal of the American Society for Bone and Mineral Research.* 2008;23(2):205-214.
36. Friedman SM, Mendelson DA. Epidemiology of fragility fractures. *Clin Geriatr Med.* 2014;30(2):175-181.
37. Augat P, Weyand D, Panzer S, Klier T. Osteoporosis prevalence and fracture characteristics in elderly female patients with fractures. *Archives of Orthopaedic and Trauma Surgery.* 2010;130(11):1405-1410.
38. Kado DM, Huang MH, Karlamangla AS, Barrett-Connor E, Greendale GA. Hyperkyphotic posture predicts mortality in older community-dwelling men and women: a prospective study. *J Am Geriatr Soc.* 2004;52(10):1662-1667.
39. Kado DM, Huang MH, Barrett-Connor E, Greendale GA. Hyperkyphotic posture and poor physical functional ability in older community-dwelling men and women: the Rancho Bernardo study. *J Gerontol A Biol Sci Med Sci.* 2005;60(5):633-637.
40. van der Jagt-Willems HC, de Groot MH, van Campen JP, Lamoth CJ, Lems WF. Associations between vertebral fractures, increased thoracic kyphosis, a flexed posture and falls in older adults: a prospective cohort study. *BMC Geriatrics.* 2015;15:34.
41. Green AD, Colon-Emeric CS, Bastian L, Drake MT, Lyles KW. Does this woman have osteoporosis? *JAMA.* 2004;292(23):2890-2900.
42. Shaffer SW, Harrison AL. Aging of the somatosensory system: a translational perspective. *Physical Therapy.* 2007;87(2):193-207.
43. Clark DJ, Pojednic RM, Reid KF, et al. Longitudinal decline of neuromuscular activation and power in healthy older adults. *J Gerontol A Biol Sci Med Sci.* 2013;68(11):1419-1425.
44. Farage MA, Miller KW, Elsner P, Maibach HI. Functional and physiological characteristics of the aging skin. *Aging Clin Exp Res.* 2008;20(3):195-200.
45. Grove GL. Physiologic changes in older skin. *Clin Geriatr Med.* 1989;5(1):115-125.
46. Muehlman C, Rahimi F. Aging integumentary system. Podiatric review. *J Am Podiatr Med Assoc.* 1990;80(11):577-582.
47. Arlis-Mayor S. Medical considerations for the master athlete. *Conn Med.* 2012;76(8):455-459.



48. Rosenbloom CA, Dunaway A. Nutrition recommendations for masters athletes. *Clin Sports Med*. 2007;26(1):91-100.
49. Holcomb CA, Heim DL, Loughin TM. Physical activity minimizes the association of body fatness with abdominal obesity in white, premenopausal women: results from the Third National Health and Nutrition Examination Survey. *J Am Diet Assoc*. 2004;104(12):1859-1862.
50. McLean RR, Mangano KM, Hannan MT, Kiel DP, Sahni S. Dietary protein intake is protective against loss of grip strength among older adults in the Framingham Offspring Cohort. *J Gerontol A Biol Sci Med Sci*. 2016;71(3):356-361.
51. Rosenbloom CA, Dunaway A. Nutrition recommendations for masters athletes. *Clinics in Sports Medicine*. 2007;26(1):91-100.
52. Rodriguez NR, DiMarco NM, Langley S, et al. Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and athletic performance. *J Am Diet Assoc*. 2009;109(3):509-527.
53. Wright VJ. Masterful care of the aging triathlete. *Sports Med Arthrosc Rev*. 2012;20(4):231-236.
54. Riggs BL, Melton LJ, 3rd. The worldwide problem of osteoporosis: insights afforded by epidemiology. *Bone*. 1995;17(5 Suppl):505s-511s.
55. Wong CC, McGirt MJ. Vertebral compression fractures: a review of current management and multimodal therapy. *Journal of Multidisciplinary Healthcare*. 2013;6:205-214.
56. Court-Brown CM, McQueen MM. Global Forum: Fractures in the Elderly. *The Journal of Bone and Joint Surgery. American Volume*. 2016;98(9):e36.
57. McMahon PJ, Prasad A, Francis KA. What is the prevalence of senior-athlete rotator cuff injuries and are they associated with pain and dysfunction? *Clin Orthop Relat Res*. 2014;472(8):2427-2432.
58. Raikin SM, Garras DN, Krapchev PV. Achilles tendon injuries in a United States population. *Foot & Ankle International*. 2013;34(4):475-480.
59. McKean KA, Manson NA, Stanish WD. Musculoskeletal injury in the masters runners. *Clin J Sport Med*. 2006;16(2):149-154.
60. Leach RE, Abramowitz A. The senior tennis player. *Clin Sports Med*. 1991;10(2):283-290.
61. Vignon E, Valat JP, Rostignol M, et al. Osteoarthritis of the knee and hip and activity: a systematic international review and synthesis (OASIS). *Joint Bone Spine*. 2006;73(4):442-455.
62. Tromp AM, Pluijm SM, Smit JH, Deeg DJ, Bouter LM, Lips P. Fall-risk screening test: a prospective study on predictors for falls in community-dwelling elderly. *Journal of Clinical Epidemiology*. 2001;54(8):837-844.
63. Buatois S, Perret-Guillaume C, Gueguen R, et al. A simple clinical scale to stratify risk of recurrent falls in community-dwelling adults aged 65 years and older. *Physical Therapy*. 2010;90(4):550-560.
64. Learn about evidence-based fall prevention programs. National Council on Aging Web Site. <https://www.ncoa.org/healthy-aging/falls-prevention/falls-prevention-programs-for-older-adults/>. Accessed April 1, 2018.
65. Kenney WL. Are there special hydration requirements for older individuals engaged in exercise? *Aust J Nutr Dietetics*. 1996;53:543-44.
66. Phillips PA, Rolls BJ, Ledingham JG, et al. Reduced thirst after water deprivation in healthy elderly men. *N Engl J Med*. 1984;311(12):753-759.
67. Phillips PA, Bretherton M, Risvanis J, Casley D, Johnston C, Gray L. Effects of drinking on thirst and vasopressin in dehydrated elderly men. *Am J Physiol*. 1993;264(5 Pt 2):R877-881.
68. Fortes MB, Owen JA, Raymond-Barker P, et al. Is this elderly patient dehydrated? Diagnostic accuracy of hydration assessment using physical signs, urine, and saliva markers. *J Am Med Dir Assoc*. 2015;16(3):221-228.
69. Rigaud A-S, Forette B. Hypertension in Older Adults. *The Journals of Gerontology: Series A*. 2001;56(4):M217-M225.
70. Know Your Risk Factors for High Blood Pressure. American Heart Association Web Site. Retrieved from [http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/UnderstandSymptomsRisks/Know-Your-Risk-Factors-for-High-Blood-Pressure\\_UCM\\_002052\\_Article.jsp#.WvMG0qQvy4Q](http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/UnderstandSymptomsRisks/Know-Your-Risk-Factors-for-High-Blood-Pressure_UCM_002052_Article.jsp#.WvMG0qQvy4Q). Updated December 15, 2017. Accessed May 9, 2018.
71. Kalra S, Mukherjee JJ, Venkataraman S, et al. Hypoglycemia: The neglected complication. *Indian Journal of Endocrinology and Metabolism*. 2013;17(5):819-834.

72. Ferriolli E, Pessanha FP, Marchesi JC. Diabetes and exercise in the elderly. *Medicine and Sport Science*. 2014;60:122-129.
73. Heart Attack. Centers for Disease Control and Prevention Web Site. [https://www.cdc.gov/heartdisease/heart\\_attack.htm](https://www.cdc.gov/heartdisease/heart_attack.htm). Accessed April 2, 2018.
74. Lovlien M, Johansson I, Hole T, Schei B. Early warning signs of an acute myocardial infarction and their influence on symptoms during the acute phase, with comparisons by gender. *Gen Med*. 2009;6(3):444-453.
75. McSweeney JC, Cody M, O'Sullivan P, Elberson K, Moser DK, Garvin BJ. Women's early warning symptoms of acute myocardial infarction. *Circulation*. 2003;108(21):2619-2623.
76. Conditions that Increase Risk for Stroke. Centers for Disease Control and Prevention Web Site. <https://www.cdc.gov/stroke/conditions.htm>. Accessed April 2, 2018.
77. Lifestyle Risk Factors. National Stroke Association Web Site. <http://www.stroke.org/understand-stroke/preventing-stroke/lifestyle-risk-factors>. Accessed April 2, 2018.
78. Chyou JY, Hunter TD, Mollenkopf SA, Turakhia MP, Reynolds MR. Individual and combined risk factors for incident atrial fibrillation and incident stroke: An analysis of 3 million at-risk US patients. *J Am Heart Assoc*. 2015;4(7).
79. Rudd M, Buck D, Ford GA, Price CI. A systematic review of stroke recognition instruments in hospital and prehospital settings. *Emerg Med J*. 2016;33(11):818-822.
80. Morley RL, Sharma A, Horsch AD, Hinchliffe RJ. Peripheral artery disease. *BMJ*. 2018;360:j5842.
81. Symptoms and Diagnosis of PAD. American Heart Association Web Site. [http://www.heart.org/HEARTORG/Conditions/VascularHealth/PeripheralArteryDisease/Symptoms-and-Diagnosis-of-PAD\\_UCM\\_301306\\_Article.jsp#.WrGBAWrwbwQ](http://www.heart.org/HEARTORG/Conditions/VascularHealth/PeripheralArteryDisease/Symptoms-and-Diagnosis-of-PAD_UCM_301306_Article.jsp#.WrGBAWrwbwQ). Accessed March 20, 2018.
82. Maron BJ, Araujo CG, Thompson PD, et al. Recommendations for preparticipation screening and the assessment of cardiovascular disease in masters athletes: an advisory for healthcare professionals from the working groups of the World Heart Federation, the International Federation of Sports Medicine, and the American Heart Association Committee on Exercise, Cardiac Rehabilitation, and Prevention. *Circulation*. 2001;103(2):327-334.
83. Oliveira LP, Lawless CE. Making prudent recommendations for return-to-play in adult athletes with cardiac conditions. *Curr Sports Med Rep*. 2011;10(2):65-77.
84. Jordre B, Schweinle W, Ladwig A, Graphenteen V, Beacom K. Fitness Screening for Senior Games Athletes. Oral presentation at: 2013 Combined Sections Meeting of the American Physical Therapy Association; January, 2013; San Diego, CA.
85. Jordre B, Schweinle W, Bosma M, O'Neil K, Vance C. Gait Speed and Chronic Disease in Senior Athletes. Platform Presentation at: 2016 Combined Sections Meeting of the American Physical Therapy Association; February, 2016; Anaheim, CA.
86. Jordre B, Schweinle W, Barber L, Divine E, Kling K. The influence of Exercise Training on Gait Speed in Senior Athletes. Poster Presentation at: 2016 Exercise and Physical Activity in Aging Conference; July, 2016; Indianapolis, IN.
87. Jordre B, Schweinle W, Kopriva I, Carlson J, McMahon M. Forward Head Posture and Shoulder Flexibility in Senior Athletes. 2015 Combined Sections Meeting of the American Physical Therapy Association; February, 2015; Indianapolis, IN.

## Gender Differences in Sports Medicine

1. Legato, M. *Principles of Gender-Specific Medicine*. 2<sup>nd</sup> ed. San Diego, CA: Elsevier; 2010.
2. Orzack SH, Stubblefield JW, Akmaev VR, Colls P, Munné S, Scholl T, Steinsaltz D, Zuckerman JE. The human sex ratio from conception to birth. *Proc Natl Acad Sci U S A*. 2015; 112(16):2102-11.
3. Statistical Abstract of the United States 2015. Washington, DC: Department of Commerce, US Bureau of the Census, 2015.
4. Pedersen J. Ultrasound evidence of sexual difference in fetal size in first trimester. *BMJ*. 1980; 281:1253.
5. Ray P, Conaghan J, Winston R, et al. Increased number of cells and metabolic activity in male human preimplantation embryos following in vitro fertilization. *J Reprod Fertil*. 1995;104(1):65-171.
6. Naeye R, Burt L, Wright D, et al. Neonatal mortality, the male disadvantage. *Pediatrics*. 1971; 48(6):902-906.
7. Kraemer S. The fragile male. *BMJ*. 2000; 321(7276):1609-1612.
8. Drevenstedt GL, Crimmins EM, Vasunilashorn S, et al. The rise and fall of excess male infant mortality. *Proc Natl Acad Sci USA* 2008;105:5016-5021.
9. Grumbach MM, Hughes IA, Conte FA. Disorders of sex differentiation. In Larson PR, Kronenberg HM, Melmed S, Polonsky KS, eds. *Williams Textbook of Endocrinology*. 10th ed. Philadelphia, PA: W.B. Saunders; 2003: 855-876.
10. Barsoum I, Yao HH-C. The road to maleness: from testis to Wolffian duct. *Trends Endocrinol Metab* 2006;17:223-228.
11. Grumbach MM: Sex begins in the womb. In Wizemann TM, Pardue M-L, eds. *Exploring the Biological Contributions to Human Health: Does Sex Matter?* Washington, DC: National Academy Press; 2001:45-72.
12. CDC Growth Charts, United States. National Center for Health Statistics, Division of Data Services - US Department of Health and Human Services, Centers for Disease Control and Prevention Web Site. Retrieved from [https://www.cdc.gov/growthcharts/cdc\\_charts.htm](https://www.cdc.gov/growthcharts/cdc_charts.htm). Published April 20, 2001. Updated December 7, 2016. Accessed December 9, 2017.
13. Tanner JM, Whitehead RH. Clinical longitudinal standards for height, weight, height velocity, weight velocity, and stages of puberty. *Arch Dis Child*. 1976;51(3):170-179.
14. Ho KY, Evans WS, Blizzard RM, et al. Effects of sex and age on the 24-hour profile of growth hormone secretion in man: importance of endogenous estradiol concentrations. *J Clin Endocrinol Metab* 1987;64(1):51-58.
15. Tanner JW, Davis PWS. Clinical longitudinal standards for height and height velocity for North American children. *J Pediatr*. 1985;107(3):317-329.
16. Emons J, Chagin AS, Säwendahl L, et al. Mechanism of growth plate maturation and epiphyseal fusion. *Horm Res Paediatr*. 2011;75(6):383-391.
17. 2017 Participation Report: The Physical Activity Council's annual study tracking sports, fitness, and recreation participation in the USA. Physical Activity Council Web Site. <http://www.physicalactivitycouncil.com/pdfs/current.pdf>. Accessed December 10, 2017.
18. Sabo D, Veliz P. Go Out and Play: Youth Sports in America Executive Summary. Women's Sports Foundation. [http://www.womenssportsfoundation.org/wp-content/uploads/2016/08/go\\_out\\_and\\_play\\_exec.pdf](http://www.womenssportsfoundation.org/wp-content/uploads/2016/08/go_out_and_play_exec.pdf). Published October, 2008. Accessed December 9, 2017.
19. Title IX of the Education Amendments of 1972. The United States Department of Justice Web Site. <http://www.justice.gov/crt/about/cor/coord/titleix.php>. Updated August 7, 2015. Accessed December 9, 2017.
20. Report on Trends and Participation in Organized Youth Sports. National Council on Youth Sports Web Site. <http://www.ncys.org/pdfs/2008/2008-ncys-market-research-report.pdf>. Published 2008. Accessed December 9, 2017.
21. Straccioloni A, Casciano R, Levey Friedman H, et.al. Pediatric sports injuries: a comparison of males versus females. *Am J Sports Med*. 2014;42(4):965-972.

22. Lykissas MG, Eismann EA, Parikh SN. Trends in pediatric sports-related and recreation-related injuries in the United States in the last decade. *J. Pediatr. Orthop.* 2013; 33(8):803-810.
23. Darrow CJ, Collins CL, Yard EE, et al. Epidemiology of severe injuries among United States high school athletes:2005-2007. *Am J Sports Med.* 2009;37(9):1798-1805.
24. Straccioloni A, Casciano R, Friedma HL, et.al. A closer look at overuse injuries in the pediatric athlete. *Clin J Sports Med* 2015;25(1):30-35.
25. Casey E, Rho M, Press J. *Sex Differences in Sports Medicine.* New York, NY: Demos Medical; 2016.
26. Kliegman R, Nelson WE. *Nelson Textbook of Pediatrics.* 19<sup>th</sup> ed. Philadelphia, PA: Elsevier/Saunders; 2001.
27. Coleman L, Coleman J. The measurement of puberty: a review. *J Adolesc.* 2002;25(5):535-550.
28. McDowell MA, Fryar CD, Ogden CL, Flegal KM. Anthropometric reference data for children and adults: United States, 2003–2006. National health statistics reports; no 10.  
<https://www.cdc.gov/nchs/data/nhsr/nhsr010.pdf>. Published October 22, 2008. Accessed December 9, 2017.
29. Wells JC. Sexual dimorphism of body composition. *Best Pract Res Clin Endocrinol Metab.* 2007;21(3):415-430.
30. Leonard MB, Elmi A, Mostoufi-Moab S, et al. Effects of sex, race, and puberty on cortical bone and the functional muscle bone unit in children, adolescents, and young adults. *J Clin Endocrinol Metab.* 2010;95(4):1681-9.
31. Loomba-Albrecht LA, Styne DM. Effect of puberty on body composition. *Curr Opin Endocrinol Diabetes Obes.*2009;16(1):10-15.
32. Arfai K, Pitukcheewanont PD, Goran MI, et al. Bone, muscle, and fat: sex-related differences in prepubertal children. *Radiology.* 2002;224(2):338-344.
33. Hogler W, Blimke CJ, Cowel CT, et al. Sex-specific developmental changes in muscle size and bone geometry at the femoral shaft. *Bone.* 2008;42(5):982-989.
34. Moore KL, Agur AMR. *Essential Clinical Anatomy.* 3<sup>rd</sup> ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2007.
35. Elminger MW, Kuhel W, Wormstall H, Dollar PC. Reference intervals for testosterone, androstendione, and SHBG levels in healthy females and males from birth until old age. *Clin Lab.* 2005;51(11-12):625-632.
36. Cole TJ, Ahmed ML, Preece MA, et al. The relationship between insulin-like growth factor 1, sex steroids, and timing of the pubertal growth spurt. *Clin Endocrinol.* 2015;82(6):862-9.
37. Mullington J, Hermann D, Holsboer F, Pollmacher T. Age-dependent suppression of nocturnal growth hormone levels during sleep deprivation. *Neuroendocrinology.* 1996;64(3):233-241.
38. Gold EB. The timing of the age at which natural menopause occurs. *Obstet Gynecol Clin North Am.* 2011;38(3):425-440.
39. Elminger MW, Kuhel W, Wormstall H, Dollar PC. Reference intervals for testosterone, androstendione, and SHBG levels in healthy females and males from birth until old age. *Clin Lab.* 2005;51(11-12):625-632.
40. Centers for Disease Control and Prevention (CDC). Vital signs: unintentional injury deaths among persons aged 0-19 years - United States, 2000-2009. *Morbidity and Mortality Weekly Report.* 2012;61:270-6.
41. Kucera K, Yau R, Cox Thomas L, Wolff C, Cantu R. Catastrophic Sports Injury Research. National Center for Catastrophic Sport Injury Research. [https://nccsir.unc.edu/files/2013/10/NCCSIR-33rd-Annual-All-Sport-Report-1982\\_2015.pdf](https://nccsir.unc.edu/files/2013/10/NCCSIR-33rd-Annual-All-Sport-Report-1982_2015.pdf). Published October 3, 2016. Accessed December 10, 2017.
42. Foss KD, Myer GD, Magnussen RA, et al. Diagnostic differences for anterior knee pain between sexes in adolescent basketball players. *J Athl Enhanc* 2014;3(1):1814.
43. Changstrom BJ, Brou L, Khodae M, et al. Epidemiology of stress fracture injuries among U.S. high school athletes 2005-2006 through 2012-2013. *Am J Sports Med.* 2015;43(1):26-33.
44. Colvin AC, Mullen J, et al. The role of concussion history and gender in recovery from soccer-related concussion. *Am J of Sports Med.* 2009;37(9):1699-1704.
45. Valovich McLeod TC, Haley TD. Vestibular and balance issues following sport-related concussion. *Brain Injury.* 2015;29(2):175-184.
46. Guskiewicz KM, Ross SE, et al. Postural stability and neuropsychological deficits after concussion in collegiate athletes. *J Athl Train.* 2001;36(3):263-273.

47. Eckner JT, Oh YK, et al. Effect of neck muscle strength and anticipatory cervical muscle activation on the kinematic response of the head to impulsive loads. *Am J Sports Med* 2014;42(3):566-576.
48. Covassin T, Elbin RJ, et al. The role of age and sex in symptoms, neurocognitive performance, and postural stability in athletes after concussion. *Am J Sports Med*. 2012;40(6):1303-1312.
49. Simon HB. Hyperthermia. *N Engl J Med*. 1993;329:483-487.
50. Yard EE, Gilchrist J, Haileyesus T, et al. Heat illness among high school athletes—U.S., 2005-2009. *J Safety Res*. 2010;41:471-474.
51. Mueller FO, Colgate B. Annual survey of football injury research, 1931–2008. National Center for Catastrophic Sports Injury Research, University of North Carolina at Chapel Hill Web Site. <http://nccsir.unc.edu/files/2014/05/FootballAnnual.pdf>. Published February 2009. Accessed December 9, 2017.
52. Kerr Z, Casa DJ, Marshall S, Comstock D. Epidemiology of exertional heat illness among U.S. high school athletes. *Am J Prev Med*. 2013;44(1):8–14.
53. Committee on Sports Medicine and Fitness. American Academy of Pediatrics. Climatic heat stress and the exercising child and adolescent. *Pediatrics*. 2000;106:158–159.
54. Kazman JB, Purvis DL, Heled Y, et al. Women and exertional heat illness: identification of gender specific risk factors. *US Army Med Dep J*. 2015;Apr-Jun:58-66.
55. 2015 National Health Interview Survey (NHIS) Data. Centers for Disease Control Website. [https://www.cdc.gov/asthma/most\\_recent\\_data.htm](https://www.cdc.gov/asthma/most_recent_data.htm). Updated June 7, 2017. Accessed June 27, 2017.
56. Mandhane PJ, Greene JM, Cowan JO, et al. Sex differences in factors associated with childhood- and adolescent-onset wheeze. *Am J Respir Crit Care Med*. 2005;172(1):45-54.
57. de Marco R, Locatelli F, Sunyer J, et al. Differences in incidence of reported asthma related to age in men and women: a retrospective analysis of the data of the European Respiratory Health Survey. *Am J Respir Crit Care Med*. 2000;162(1):68-74.
58. Tantisira KG, Colvin R, Tonascia J, et al. Airway responsiveness in mild to moderate childhood asthma: gender influences on the natural history. *Am J Respir Crit Care Med*. 2008;178(4):325-331.
59. Tollefsen E, Langhammer A, Romundstad P, et al. Female gender is associated with higher incidence and more stable respiratory symptoms during adolescence. *Respir Med*. 2007;101(5):896-902.
60. Schatz M, Clark S, Camargo CA. Sex differences in the presentation and course of asthma hospitalizations. *Chest*. 2006;129(1):50-55.
61. Sinclair AH, Tolsma DD. Gender differences in asthma experience and disease care in a managed care organization. *J Asthma*. 2006;43(5):363-367.
62. Voy RO. The U.S. Olympic Committee experience with exercise-induced bronchospasm, 1984. *Med Sci Sports Exerc*. 1986;18(3):328–330.
63. Weiler JM, Metzger J, Donnelly AL, et al. Prevalence of bronchial responsiveness in highly trained athletes. *Chest*. 1986;90(1):23–28.
64. Fitch KD. Beta2-agonists at the Olympic Games. *Clin Rev Allergy Immunol*. 2006;31(2-3):259–268.
65. Carlsen KH, Anderson SD, Bjermer L, et al. Exercise-induced asthma, respiratory and allergic disorders in elite athletes: epidemiology, mechanisms and diagnosis: Part I of the report from the Joint Task Force of the European Respiratory Society (ERS) and the European Academy of Allergy and Clinical Immunology (EAACI) in cooperation with GA2LEN. *Allergy*. 2008;63(4):387-403.
66. Wilber RL, Rundell K, Szmedra L. Incidence of exercise-induced bronchospasm in Olympic winter sport athletes. *Med Sci Sports Exerc*. 2000;32(4):732-737.
67. Comstock D, Currie D, Pierpoint L. National High School Sports-Related Injury Surveillance Study:2015-2016. Center for Injury Research and Policy. [http://www.ucdenver.edu/academics/colleges/PublicHealth/research/ResearchProjects/piper/projects/RIO/Documents/Original%20Report\\_Final%202015%2016%2009%2003%2016.pdf](http://www.ucdenver.edu/academics/colleges/PublicHealth/research/ResearchProjects/piper/projects/RIO/Documents/Original%20Report_Final%202015%2016%2009%2003%2016.pdf). Accessed June 27, 2017.
68. Mall NA, Chalmers PN, Moric M, et al. Incidence and trends of anterior cruciate ligament reconstruction in the United States. *Am J Sports Med*. 2014;42(10):2363-2370.

69. Arendt E, Dick R. Knee injury patterns among men and women in collegiate basketball and soccer. NCAA data and review of literature. *Am J Sports Med.* 1995;23(6):694-701.
70. Arendt EA, Agel J, Dick R. Anterior cruciate ligament injury patterns among collegiate men and women. *J Athl Train.* 1999;34(2):86-92.
71. Gwinn DE, Wilckens JH, McDevitt ER, et al. The relative incidence of anterior cruciate ligament injury in men and women at the United States Naval Academy. *Am J Sports Med.* 2000;8(1):98-102.
72. Hootman JM, Dick R, Agel J. Epidemiology of collegiate injuries for 15 sports: summary and recommendations for injury prevention initiatives. *J Athl Train.* 2007;42(2):311-319.
73. Renstrom P, Ljungqvist A, Aerndt E, et al. Noncontact ACL injuries in female athletes: an International Olympic Committee current concepts statement. *Br J Sports Med.* 2008;42(6):394-412.
74. Shelbourne KD, Gray T, Haro, M. Incidence of subsequent injury to either knee within 5 years after anterior cruciate ligament reconstruction with patellar tendon autograft. *Am J Sports Med.* 2009;37(2):246-251.
75. Paterno MV, Rauh MJ, Schmitt LC, et al. Incidence of second ACL injuries 2 years after primary ACL reconstruction and return to sport. *Am J Sports Med.* 2014;42(7):1567-1573.
76. Arendt E, Dick R. Knee injury patterns among men and women in collegiate basketball and soccer. NCAA data and review of literature. *Am J Sports Med.* 1995;23(6):694-701.
77. Arendt EA, Agel J, Dick R. Anterior cruciate ligament injury patterns among collegiate men and women. *J Athl Train.* 1999;34(2):86-92.
78. Collins JE, Katz JN, Donnell-Fink LA, et al. Cumulative incidence of ACL reconstruction after ACL injury in adults: role of age, sex, and race. *Am J Sports Med.* 2013;41(3):544-549.
79. Ardern CL, Webster KE, Taylor NF, et al. Return to the preinjury level of competitive sport after anterior cruciate ligament reconstruction surgery: two-thirds of patients have not returned by 12 months after surgery. *Am J Sports Med.* 2011;39(3):538-542.
80. Brandon ML, Haynes PT, Bonamo JR, et al. The association between posterior-inferior tibial slope and anterior cruciate ligament insufficiency. *Arthroscopy.* 2006;22(8):894-899.
81. Hohmann E, Bryant A, Reaburn P, et al. Is there a correlation between posterior tibial slope and non-contact anterior cruciate ligament injuries? *Knee Surg Sports Traumatol Arthr.* 2011;19 (Suppl1):109-S114.
82. Chandrashekar N, Mansouri H, Slauterbeck J, et al. Sex-based differences in the tensile properties of human anterior cruciate ligament. *J Biomech.* 2006;39(16):2943-2950.
83. Davis TJ, Shelbourne KD, Klootwyk TE. Correlation of the intercondylar notch width of the femur to the width of the anterior and posterior cruciate ligaments. *Knee Surg Sports Traumatol Arthr.* 1999;7(4):209-214.
84. Earl JE, Monteiro SK, Snyder KR. Differences in lower extremity kinematics between a bilateral drop-vertical jump and single-leg step-down. *J Orthop Sports Phys Ther.* 2007;37(5):245-252.
85. Kernozek TW, Torry MR, Van Hoof H, et al. Gender differences in frontal and sagittal plane biomechanics during drop landings. *Med Sci Sports Exerc.* 2005;37(6):1003-1012.
86. Ford KR, Myer GD, Hewett TE. Valgus knee motion during landing in high school female and male basketball players. *Med Sci Sports Exerc.* 2003;35(10):1745-1750.
87. Huston LJ, Vibert B, Aston-Miller JA, et al. Gender differences in knee angle when landing from a drop jump. *Am J Knee Surg.* 2001;14(4):215-219.
88. Hewett TE, Torg JS, Boden BP. Video analysis of trunk and knee motion during noncontact anterior cruciate ligament injury in female athletes: lateral trunk and knee abduction motion are combined components of the injury mechanism. *Br J Sports Med.* 2009;43(6):417-422.
89. Hewett TE, Myer GD, Ford KR, et al. Biomechanical measures of neuromuscular control and valgus loading of the knee predict anterior cruciate ligament injury risk in female athletes: a prospective study. *Am J Sports Med.* 2005;33(4):492-501.
90. Terzidis IP, Christodoulou A, Ploumis A, et al. Meniscal tear characteristics in young athletes with a stable knee: arthroscopic evaluation. *Am J Sports Med.* 2006;34(7):1170-1175.
91. Baker BE, Peckham AC, Puppato F, et al. Review of meniscal injury and associated sports. *Am J Sports Med.* 1985;13(1):1-4.

92. Haviv B, Bronak S, Thein R. Low prevalence of isolated medial meniscal tears in young female with stable knees. *Orthopedics*. 2015;38(3):196-199.
93. Terzidis IP, Christodoulou A, Ploumis A, et al. Meniscal tear characteristics in young athletes with a stable knee: arthroscopic evaluation. *Am J Sports Med*. 2006;34(7):1170-1175.
94. Fithian DC, Paxton EW, Stone ML, et al. Epidemiology and natural history of acute patellar dislocation. *Am J Sports Med*. 2004;32(5):1114-1121.
95. Dickschas J, Harrer J, Bayer T, et al. Correlation of the tibial tuberosity-trochlear groove distance with the Q-angle. *Knee Surg Sports Traumatol Arthrosc*. 2016;24(3):915-920.
96. DeHaven KE, Lintner DM. Athletic injuries: comparison by age, sport, and gender. *Am J Sport Med*. 1986;14(3):218-224.
97. Tauton J, Ryan MB, Clement D, McKenzie D, et al. A retrospective case-control analysis of 2002 running injuries. *Br J Sport Med*. 2002;36(2):95-101.
98. Foss KD, Myer GD, Magnussen RA, Hewett TE. Diagnostic differences for anterior knee pain between sexes in adolescent basketball players. *J Athl Enhanc*. 2014;3(1):1814.
99. Boling M, Padua D, Marshall S, Guskiewicz K, et al. Gender differences in the incidence and prevalence of patellofemoral pain syndrome. *Scan J Med Sci Sports*. 2010;20(5):725-730.
100. Lakstein D, Fridman T, Ziv YB, Kosashvili Y. Prevalence of anterior knee pain and pes planus in Israel defense force recruits. *Mil Med*. 2010;175(11):855-857.
101. Almeida SA, Trone DW, Leone DM, Shaffer RA, et al. Gender differences in musculoskeletal injury rates: a function on symptom reporting? *Med Sci Sports Exerc*. 1999;31(12):807-812.
102. Horton MG, Hall TL. Quadriceps femoris muscle angle: normal values and relationships with gender and selected skeletal measures. *Phys Ther*. 1989;69(4):49-67.
103. Park SK, Stefanyshyn DJ. Greater Q angle may not be a risk factor of patellofemoral pain syndrome. *Clin Biomech*. 2011;26(4):392-396.
104. Thomee R, Augustsson J, Karlsson J. Patellofemoral pain syndrome: a review of current issues. *Sports Med*. 1999;28(4):245-262.
105. Beighton P, Solomon L, Soskolne CL. Articular mobility in an African population. *Ann Rheum Dis*. 1973;32(5):413-418.
106. Forleo LH, Hilario MO, Peixoto AL, Naspitz C, et al. Articular hypermobility in school children in Sao Paula, Brazil. *J Rheumatol*. 1993;20(5):916-917.
107. Powers JA. Characteristic features on injuries in the knee in women. *Clin Orthop Relat Res*. 1979;Sep(143):120-124.
108. Magalhaes E, Silva AP, Sacramento SN, Martin RL, et al. Isometric strength ratios of the hip musculature in females with patellofemoral pain: a comparison to pain-free controls. *J Strength Cond Res*. 2013;27(8):2165-2170.
109. Lankhorst NE, Bierma-Zeinstra SM, van Middlekoop M. Factors associated with patellofemoral pain syndrome: a systematic review. *Br J Sport Med*. 2013;47(4):193-206.
110. Hewett TE, Myer GD, Ford KR. Decrease in neuromuscular control about the knee with maturation in female athletes. *J Bone Joint Surg Am*. 2004;86-A:1601-1608.
111. Nakagawa TH, Moriya ET, Maciel CD, Serao FV. Trunk, pelvis, hip, and knee kinematics, hip strength, and gluteal muscle activation during a single-leg squat in males and females with and without patellofemoral pain syndrome. *J Orthop Sports Phys Ther*. 2012;42(6):491-501.
112. Myer GD, Ford KR, Di Stasi SL, Foss KD, et al. High knee abduction moments are common risk factors for patellofemoral pain (PFP) and anterior cruciate ligament (ACL) injury in girls: Is PFP itself a predictor for subsequent ACL injury? *Br J Sports Med*. 2015;49(2):118-122.
113. Van Tiggelen D, Cowan S, Coorevits P, DuVigneaud N, et al. Delayed vastus medialis obliquus to vastus lateralis onset timing contributes to the development of patellofemoral pain in previously healthy men: a prospective study. *Am J Sports Med*. 2009;37(6):1099-1105.

114. DM, Collins CL, Fields SK, et al. Epidemiology of U.S. high school sports-related ligamentous ankle injuries; 2005/06-2010/11. *Clin J Sport Med*. 2013;23(3):190-196.
115. Doherty C, Delahunt E, Caulfield B, et al. The incidence and prevalence of ankle sprain injury: a systematic review and meta-analysis of prospective epidemiological studies. *Sports Med*. 2014;44(1):123-140.
116. Borowski LA, Yard EE, Fields SK, et al. The epidemiology of U.S. high school basketball injuries:2005-2007. *Am J Sports Med*. 2008;36(12):2328-2335.
117. Frisch A, Seil R, Urhausen A. et al. Analysis of sex-specific injury patterns and risk factors in young high-level athletes. *Scand J Med Sci Sports*. 2009;19(6):834-841.
118. Van Rijn RM, VanOs AG, Bernsen RM, et al. What is the clinical course of acute ankle sprains: A systematic literature review. *Am J Sports Med*. 2008;121(4):324-331.
119. Waterman BR, Belmont PJ Jr, Cameron KL, et al. Risk factors for syndesmotic and medial ankle sprain: role of sex, sport, and level of competition. *Am J Sports Med*. 2011;39(5):992-998.
120. Hosea TM, Carey CC, Harrer MF. The gender issue: epidemiology of ankle injuries in athletes who participate in basketball. *Clin Orthop Relat Res*. 2000;(372):45-49.
121. Nelson AJ, Collins CL, Yard EE, et al. Ankle injuries among United States high school sports athletes; 2005-2006. *J Athl Train*. 2007;42(3):381-387.
122. Tanen L, Docherty CL, Van Der Pol B, et al. Prevalence of chronic ankle instability in high school and division I athletes. *Foot Ankle Spec*. 2014;7(1):37-4.
123. King CM, Hamilton GA, Cobb M, et al. Association between ankle fractures and obesity. *J Foot Ankle Surg*. 2012;51(5):543-547.
124. Thomas JR, French KE. Gender differences across age in motor performance: a meta-analysis. *Psychol Bull*. 1985;98(2):260-282.
125. Dias D, Matos M, Daltro C, et al. Clinical and functional profile of patients with Painful Shoulder Syndrome. *Ortop Traumatol Rehabil*. 2008;10(6):547-553.
126. Darrow CJ, Collins CL, Yard EE, et al. Epidemiology of severe injuries among United States high school athletes:2005-2007. *Am J Sport Med*. 2009;37(9):1798-1805.
127. Rechel JA, Collins CL, Comstock RD. Epidemiology of injuries requiring surgery among high school athletes in the United States, 2005 to 2010. *J Trauma*. 2011;71(4):982-989.
128. Sallis RE, Jones K, Sunshine S, et al. Comparing sports injuries in men and women. *Int J Sports Med*. 2001;22(6):420-423.
129. Mohseni-Bandpei MA, Keshavarz R, Minoonejhad H, et al. Shoulder pain in Iranian elite athletes:the prevalence and risk factors. *J Manipulative Physiol Ther*. 2012;35(7):541-548.
130. Lawton RL, Choudhury S, Mansat P, et al. Pediatric shoulder instability: presentation, findings, treatment, and outcomes. *J Pediatr Orthop*. 2002;22(1):52-61.
131. Porcellini G, Campi F, Pegreff F, et al. Predisposing factors for recurrent shoulder dislocation after arthroscopic treatment. *J Bone Joint Surg Am*. 2009;91(11):2537-2542.
132. Coimbra R, Conroy C, Tominga GT, et al. Causes of scapula fractures differ from other shoulder injuries in occupants seriously injured during motor vehicle crashes. *Injury*. 2010;41(2):151-155.
133. Chun JM, Groh GI, Rockwood CA Jr. Two-part fracture of the proximal humerus. *J Shoulder Elbow Surg*. 1994;3(5):273-287.
134. Hsiao MS, Cameron KL, Huh J, et al. Clavicle fractures in the United States military: incidence and characteristics. *Mil Med*. 201;177(8):970-974.
135. Snyder SJ, Banas MP, Karzel RP. An analysis of 140 injuries to the superior glenoid labrum. *J Shoulder Elbow Surg*. 1995;4(4):243-248.
136. Borsa PA, Sauers EL, Herling DE. Patterns of glenohumeral joint laxity and stiffness in healthy men and women. *Med Sci Sports Exerc*. 2000;32(10):1685-1690.
137. Lawton RL, Choudhury S, Mansat P, et al. Pediatric shoulder instability: presentation, findings, treatment, and outcomes. *J Pediatr Orthop*. 2002;22(1):52-61.



138. White D, Choi H, Peloquin C, et al. Secular trend of adhesive capsulitis. *Arthritis Care Res (Hoboken)*. 2011;63(11):1571-1575.
139. Bron C, Dommerholdt J, Stegenga B, et al. High prevalence of shoulder girdle muscles with myofascial trigger points in patients with shoulder pain. *BMC Musculoskelet Disord*. 2011;12:139.
140. Hutchinson MR, Wynn S. Biomechanics and development of the elbow in the young throwing athlete. *Clin Sports Med*. 2004;23(4):531-544.
141. Fleisig GS, Andrews JR, Dillman CJ, et al. Kinematics of baseball pitching with implications about injury mechanisms. *Am J Sports Med*. 1995;23(2):233-239.
142. Baumbach SF, Lobo CM, Badyine I, et al. Prepatellar and olecranon bursitis: literature review and development of a treatment algorithm. *Arch Orthop Trauma Surg*. 2014;134(3):359-370.
143. Leclerc A, Landre MF, Chastang JF, et al. Upper limb disorders in repetitive work. *Scand J Work Environ Med*. 2001;27(4):268-278.
144. Walker-Bone K, Palmer KT, Reading I, et al. Prevalence and impact of musculoskeletal disorders of the upper limb in the general population. *Arthritis Rheum*. 2004;51(4):642-651.
145. Legato, M. *Principles of Gender-Specific Medicine*. 2<sup>nd</sup> ed. San Diego, CA: Elsevier; 2010.
146. Trappe S. Master athletes. *Int J Sport Nutr Exerc Metab*. 2001;11(suppl):S196-S207.
147. Mather M., Jacobsen L, Pollard K. Population Reference Bureau 2015. Population Bulletin. 70(2). <http://www.prb.org/pdf16/aging-us-population-bulletin.pdf>. Published December 2015. Accessed December 9, 2017.
148. Carroll, J. Regular Exercise: Who's Getting It? *Gallup*. December 6, 2005. <http://news.gallup.com/poll/20314/regular-exercise-whos-getting-it.aspx>
149. [Tayrose](#) G , MD, [Beutel](#) B, [Cardone](#) D, [Sherman](#) O. The masters athlete: a review of current exercise and treatment recommendations. *Sports Health*. 2015;7(3):270–276.
150. National Senior Games Association. 2017 National Senior Games Association Web Site. <http://www.nsga.com>. Accessed June 20<sup>th</sup>, 2017.
151. Jokl P, Sethi PM, Cooper AJ. Master's performance in the New York City Marathon 1983-1999. *Br J Sports Med*. 2004;38(4):408-412.
152. New York City Marathon Results: New York City Marathon Web Site. <http://www.tcsnymarathon.org/about-the-race/results/finisher-demographics>. Accessed June 20<sup>th</sup>, 2017.
153. FastStats-Older Persons Health. Centers for Disease Control and Prevention Web Site. <https://www.cdc.gov/nchs/faststats/older-american-health.htm>. Accessed June 20<sup>th</sup>, 2017.
154. Maron BJ, Araújo CG, Thompson PD, et al. World Heart Federation., International Federation of Sports Medicine., American Heart Association Committee on Exercise, Cardiac Rehabilitation, and Prevention.. Recommendations for preparticipation screening and the assessment of cardiovascular disease in masters athletes: an advisory for healthcare professionals from the working groups of the World Heart Federation, the International Federation of Sports Medicine, and the American Heart Association Committee on Exercise, Cardiac Rehabilitation, and Prevention. *Circulation*. 2001; 103(2):327-334.
155. Fisher LD, Kennedy JW, Davis KB, et al. Association of sex, physical size and operative mortality after coronary artery bypass in the Coronary Artery Surgery Study (CASS). *J Thorac Cardiovasc Surg*. 1982;84(3):334-341.
156. Levy D, Garrison RJ, Savage DD, et al. Prognostic implications of echocardiographically determined left ventricular mass in the Framingham Heart Study. *N Engl J Med*. 1990;322(22):1561-1566.

157. DeSimone G, Devereux RB, Daniels SR, et al. Gender differences in left ventricular growth. *Hypertension*. 1995;26(6 Pt 1):979-983.
158. Olivetti G, Giordano G, Corradi D. Gender differences and aging effects on the human heart. *J Am Coll Cardiol*. 1995;26(4):1067-79.
159. Kucher N, Lipp E, Schwerzmann M, et al: Gender differences in coronary artery size per 100 g of left ventricular mass in a population without cardiac disease. *Swiss Med Wkly*. 2001;131(41-42):610-615.
160. Dodge JT, Brown BG, Bolson EL, et al. Lumen diameter of normal human coronary arteries: influences of age, sex, anatomic variation and left ventricular hypertrophy or dilatation. *Circulation* 1992;86(1):232-246.
161. O'Connor NJ, Morton JR, Birkmeyer JD, et al. Effect of coronary artery diameter in patients undergoing coronary bypass surgery. Northern New England Cardiovascular Disease Study Group. *Circulation*. 1996;93(4):652-655.
162. Madden K, and Savard GK. Effects of mental state on heart rate and blood pressure variability in men and women. *Clin Physiol* 1995;15(6):557-569.
162. Ramaekers D, Ector H, Aubert AE, et al. Heart rate variability and heart rate in healthy volunteers. Is the female autonomic nervous system cardioprotective? *Eur Heart J*. 1998;19(9):1334-1341.
163. Yamasaki Y, Kodama M, Matsuhisa M, et al. Diurnal heart rate variability in healthy subjects: effects of aging and sex difference. *Am J Physiol* 1996;271(1 Pt 2):H303-H310.
164. Ryan SM, Goldberger AL, Picus SM, et al. Gender and age-related differences in heart rate dynamics: are women more complex than men? *J Am Coll Cardiol*. 1994;24(7):1700-1707.
165. Stoney CM, Davis MC, and Matthews KA. Sex differences in physiological responses to stress and in coronary heart disease: a causal link? *Psychophysiology*. 1987;24(2):127-131.
166. Kounis NG, Zavras GM, Papadaki PJ, et al. Pregnancy-induced increase of supraventricular arrhythmias in Wolff-Parkinson-White syndrome. *Clin Cardiol*. 1994;18(3):137-140.
167. Lloyd-Jones D, Adams R, Carnethon M, et al. Heart disease and stroke statistics – 2009 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*. 2009;119(3):480-486.
168. McSweeney JC, Cody M, O'Sullivan P, et al. Women's early warning symptoms of acute myocardial infarction. *Circulation*. 2003;108(21):2619-23.
169. Webner D1, DuPrey KM, Drezner JA, et al. Sudden cardiac arrest and death in United States marathons. [Med Sci Sports Exerc](#). 2012;44(10):1843-1845.
170. Hart L. Marathon-related cardiac arrest. *Clin J Sport Med*. 2013;23(5):409-410.
171. Waite O, Smith A, Madge L, et al. Sudden cardiac death in marathons: a systematic review. [Phys Sportsmed](#). 2016;44(1):79-84.
172. Chugh SS, Weiss JB. Sudden cardiac death in the older athlete. *J Am Coll Cardiol*. 2015;65(5):493-502.
173. Cutler JA, Sorlie PD, Wolz, M, et al. Trends in hypertension prevalence, awareness, treatment and control rates in United States Adults 1988-1994 and 1999-2004. *Hypertension*. 2008;52(5):818-827.
174. Lawes CM, Bennett DA, Lewington S, et al. Blood pressure and coronary heart disease: a review of the evidence. *Semin Vasc Med*. 2002;2(4):355-368.

175. Prospective studies collaboration, age-specific relevance of usual blood pressure to vascular mortality: a meta-analysis of individual data for one million adults in 61 prospective studies. *Lancet*. 2002;360(9349):1903-1913.
176. Martins D, Nelson K, Pan, D, et al. The effect of gender on age-related blood pressure changes and the prevalence of isolated systolic hypertension among older adults: data from NHANES III. *J Genet Spec Med*. 2001;4(3):10-13.
177. Seshadri S, Beiser A, Kelly-Hayes M, et al. The lifetime risk of stroke: estimates for the Framingham study. *Stroke*. 2002;37(2):345-350.
178. Reid JM, Dia D, Gubitz GJ, et al. Gender differences in stroke examined in a 10-year cohort of patients admitted to a Canadian teaching hospital. *Stroke*. 2008;39(4):1090-1095.
179. Egidio J-A, de Lecinana MA. Peculiarities of stroke risk in women. *Cerebrovasc Dis*. 2007;24(Suppl 1):76-83.
180. Wenger, NK. Preventing cardiovascular disease in women: an update. *Clin Cardiol*. 2008;31(3):109-113.
181. Wexler DJ, Grant RW, Meigs JB, et al. Sex disparities in treatment of cardiac risk factors in patients with type II diabetes. *Diabetes Care*. 2005;28(3):514-520.
182. [Gueyffier F](#), [Boutitie F](#), [Boissel JP](#), [Pocock S](#), et al. Effect of antihypertensive drug treatment on cardiovascular outcomes in women and men. A meta-analysis of individual patient data from randomized, controlled trials. The INDANA Investigators. *Ann Intern Med*. 1997;126(10):761-767.
183. Lip G, Watson T, Shantsila E. Anticoagulation for stroke prevention in atrial fibrillation: is gender important? *Eur Heart*. 2006;27(16):1893-1894.
184. Fang MC, Singer DE, Chang Y, et al. Gender differences in risk of ischemic and peripheral embolism in atrial fibrillation: the AnTicoagulation and risk factor in atrial fibrillation (ATRIA) study. *Circulation*. 2005;112(12):1687-1691.
185. Stewart S, Hart CL, Hole DJ, et al. A population-based study of long-term risks associated with atrial fibrillation: 20 year follow-up of the Renfrew/Paisley study. *Am J Med*. 2002;113(5):359-364..
186. Hart RG, Pearce LA, McBride R, et al. Factors associated with ischemic stroke during aspirin therapy in atrial fibrillation: analysis of 2012 participants in the SPAF II-III clinical trials. The Stroke Prevention in Atrial Fibrillation (SPAF) Investigators. *Stroke*. 1999;30(6):1223-1229.
187. Fein-Edelstein JS, Wolf PA, O'Leary DH, et al. Precursors of extracranial carotid atherosclerosis in the Framingham study. *Neurology*. 1994;44(6):1046-1050.
188. O'Leary DH, Polak JF, Kronmal RA, et al. Distribution and correlates of sonographically detected carotid artery disease in the Cardiovascular Health Study. The CHS Collaborative Research Group. *Stroke*. 1992;23(12):1752-1760.
189. Rothwell PM, Eliasziw M, Gutnikov SA, et al. Sex difference in the effect of time from symptoms to surgery on benefit from carotid endarterectomy for transient ischemia attack and nondisabling stroke. *Stroke*. 2004;35(12):2855-2861.
190. Rothwell PM, Eliasziw M, Gutnikov SA, et al. Endarterectomy for symptomatic carotid stenosis in relation to clinical subgroups and the timing of surgery. *Lancet*. 2004;363(9413):915-924.
191. Roquer J, Rodriguez Campello A, Gomis M. Sex differences in first-ever acute stroke. *Stroke*. 2003;34(7):1581-1585.

192. Kent DM, Price LL, Ringleb P, et al. Sex-based differences in response to recombinant tissue plasminogen in acute ischemic stroke: a pool analysis of randomized clinical trials. *Stroke*. 2005;36(1):62-65.
193. Deng YZ, Reeves MJ, Jacobs BS, et al. IV tissue plasminogen activator use in acute stroke: experience from and statewide registry. *Neurology*. 2006;66(3):306-312.
194. Kapral MK, Devon J, Winter A-L, et al. Gender differences in stroke care decision-making. *Med Care*. 2006;44(1):70-80.
195. Touze E, Rothwell PM. Sex differences in heritability of ischemic stroke: a systematic review and meta-analysis. *Stroke*. 2008;39(1):16-23.
196. Hier DB, Yoon WB, Mohr JP, et al. Gender and aphasia in the Stroke Data Bank. *Brain Language*. 1994;47(1):155-167.
197. Gargano JW, Reeves MJ. Sex differences in stroke recovery and stroke-specific quality of life: results from a statewide stroke registry, Paul Coverdale, National Acute Stroke Registry Michigan Prototype Investigators. *Stroke*. 2007;38(9):2541-2548.
198. Paolucci S, Bragoni M, Coiro P, et al. Is sex a prognostic factor in stroke rehabilitation? A matched comparison. *Stroke*. 2006;37(12):2989-2994.
199. Bushnell CD. Stroke and the female brain. *Nature Clin Pract Neuro*. 2008;4(1):22-33.
200. Wassertheil-Smoller S, Hendrix SL, Limacher M, et al. Effects of estrogen plus progestin on stroke in postmenopausal women: the Women's Health Initiative, a randomized trial. *JAMA*. 2003;289(20):2673-2684.
201. Viscoli CM, Brass LM, Kernan wn, et al. A clinical trial of estrogen-replacement therapy after ischemic stroke. *N Engl J Med*. 2001;345:1243-1249.
202. Rutter MK, Meigs JB, Sullivan LM, et al. C-reactive protein, the metabolic syndrome, and prediction of cardiovascular events in the Framingham offspring study. *Circulation*. 2004;110(4):380-385.
203. Mittleman M.A., Maclure M., Tofler G.H., et al. Triggering of acute myocardial infarction by heavy physical exertion. Protection against triggering by regular exertion. Determinants of Myocardial Infarction Onset Study Investigators. *N Engl J Med*. 1993;329(23):1677-1683.
204. Siscovick D.S., Weiss N.S., Fletcher R.H., et al. The incidence of primary cardiac arrest during vigorous exercise. *N Engl J Med*. 1984;311(14):874-877.
205. Mostofsky E, Laier E, Levitan E, et al. Physical activity and onset of acute ischemic stroke: the stroke onset study. *Am J Epidemiol*. 2011;173(3):330-336.
206. Peters SA, Huxley RR, Woodward M. Diabetes as a risk factor for stroke in women compared with men: a systematic review and meta-analysis of 64 cohorts, including 775,385 individuals and 12,539 strokes. *Lancet*. 2014;383(9933):1973-80.
207. Peters SA, Huxley RR, Woodward M. Diabetes as risk factor for incident coronary heart disease in women compared with men: a systematic review and meta-analysis of 64 cohorts including 858,507 individuals and 28,203 coronary events. *Diabetologia*. 2014;57(8):1542-51.
208. Huxley R, Barzi F, Woodward M. Excess risk of fatal coronary heart disease associated with diabetes in men and women: meta-analysis of 37 prospective cohort studies. *BMJ*. 2006;332(7533):73-78.

209. Kip KE, Marroquin OC, Kelley DE, et al. Clinical importance of obesity versus the metabolic syndrome in cardiovascular risk in women: a report from the Women's Ischemia Syndrome Evaluation (WISE) study. *Circulation*. 2004;109(6):706-713.
210. Hutchinson MR. The burden of musculoskeletal disease in the United States: prevalence, societal, and economic costs. *J Am Coll Surg*. 2009;208(1):e5-e6.
211. Yoshimura N, Muraki S, Oka H, et al. Prevalence of knee osteoarthritis, lumbar spondylosis, and osteoporosis in Japanese men and women: the research on osteoarthritic/osteoporosis against disability study. *J Bone Miner Metab*. 2009;27(5):620-628.
212. Cicuttini F, Forbes A, Morris K, et al. Gender differences in knee cartilage volume as measured by magnetic resonance imaging. *Osteoarthritis Cartilage*. 1997;7(3):265-271.
213. Ding C, Cicuttini F, Scott F, et al. Association of prevalent and incident knee cartilage defects with loss of tibial and patellar cartilage: a longitudinal study. *Arthritis Rheuma*. 2005;52(12):3918-3927.
214. Dominick KL, Ahern FM, Gold CH, et al. Gender differences in NSAID use among older adults with osteoarthritis. *Ann Pharmacother*. 2003;37(11):1566-1571.
215. Felson DT. The epidemiology of knee osteoarthritis: results from the Framingham Osteoarthritis study. *Semin Arthritis Rheum*. 1990;20 (3 Suppl 1):42-50.
216. Holiday KL, McWilliams DF, Maciewicz RA, et al. Lifetime body mass index, other anthropometric measurements of obesity and risks of hip or knee osteoarthritis in the GOAL case-control study. *Osteoarthritis Cartilage*. 2011;19(1):37-43.
217. Macdonald SJ, Charron KD, Bourne RD, et al. The John Insall award; genders specific total knee replacement: prospectively collected clinical outcomes. *Clin Orthoped Relat Res*. 2008;466(11):2612-2616.

## Injuries & Emergent Conditions in Athletes with Physical Challenges

1. Willick SE, Lexell J. Paralympic sports medicine and sports science-introduction. *PM & R: Journal of Injury, Function & Rehabilitation*. 2014;6(8):S1-3.
2. Webborn N, Van de Vliet P. Paralympic medicine. *Lancet (London, England)*. 2012;380(9836):65-71.
3. Klenck C, Gebke K. Practical management: common medical problems in disabled athletes. *Clinical Journal of Sport Medicine*. 17(1):55-60.
4. Webborn N, Emery C. Descriptive epidemiology of paralympic sports injuries. *PM & R: Journal of Injury, Function & Rehabilitation*. 2014;6(8):S18-22.
5. Weiler R, Van Mechelen W, Fuller C, Verhagen E. Sport Injuries Sustained by Athletes with Disability: A Systematic Review. *Sports Medicine*. 46(8):1141-1153.
6. Fagher K, Lexell J. Sports-related injuries in athletes with disabilities. *Scandinavian Journal Of Medicine & Science In Sports*. 2014;24(5):e320-e331.
7. Ahmed OH, Hussain AW, Beasley I, Dvorak J, Weiler R. Enhancing performance and sport injury prevention in disability sport: moving forwards in the field of football. *British Journal Of Sports Medicine*. 2015;49(9):566-567.
8. Hawkeswood JP, O'Connor R, Anton H, Finlayson H. The preparticipation evaluation for athletes with disability. *Int J Sports Phys Ther*. 2014;9(1):103-115.
9. Curtis KA, Gailey RS. The Athlete with a Disability. In: Zachazewski JE, Magee DJ, Quillen WS, eds. *Athletic Injuries and Rehabilitation*. Philadelphia, PA: W. B. Saunders Company; 1996:959-980.

## Performance Enhancement Issues in Athletes

1. Who We Are. World Anti-Doping Agency Web Site. Retrieved from <https://www.wada-ama.org/en/who-we-are>. Published 2018. Accessed March 6, 2018
2. About. U.S. Anti-Doping Agency Web Site. <https://www.usada.org/about/>. Accessed March 6, 2018.
3. Prohibited List Q&A. World Anti-Doping Agency Web Site. <https://www.wada-ama.org/en/questions-answers/prohibited-list-qa>. Published 2018. Accessed March 6, 2018
4. Reardon CL, Creado S. Drug abuse in athletes. *Subst Abuse Rehabil*. 2014;5:95-105.
5. Kindermann W, Meyer T. Inhaled beta2 agonists and performance in competitive athletes. *Br J Sports Med*. 2006;40 Suppl 1:i43-47.
6. Avois L, Robinson N, Saudan C, Baume N, Mangin P, Saugy M. Central nervous system stimulants and sport practice. *Br J Sports Med*. 2006;40 Suppl 1:i16-20.
7. Brzezianska E, Domanska D, Jegier A. Gene doping in sport - perspectives and risks. *Biol Sport*. 2014;31(4):251-259.
8. Fischetto G, Bermon S. From gene engineering to gene modulation and manipulation: can we prevent or detect gene doping in sports? *Sports Med*. 2013;43(10):965-977.
9. Fallahi A, Ravasi A, Farhud D. Genetic doping and health damages. *Iran J Public Health*. 2011;40(1):1-14.

## Sport Variations & Rules for Sideline Care

**\*\*Please refer to corresponding course lectures for content.**



## Environmental Considerations

1. Atha WF. Heat-related illness. *Emerg. Med. Clin. N. Am.* 2013;31(4):1097-1108.
2. Pozos RS, Danzl DF. Human physiological responses to cold stress and hypothermia. In: Pandolf KB, Burr RE (Eds.). *Textbooks of Military Medicine: Medical Aspects of Harsh Environments, Volume I*. Falls Church, VA: Office of the Surgeon General, U. S. Army; 2002:351-382.
3. Cramer MN, Jay O. Biophysical aspects of human thermoregulation during heat stress. *Auton. Neurosci.* 2016;196:3-13.
4. Snellen JW. External work in level and grade walking on a motor-driven treadmill. *J. Appl. Physiol.* 1960;15:759-763.
5. Fukunaga T, Matsuo A, Yamamoto K, Asami T. Mechanical efficiency in rowing. *Eur. J. Appl. Physiol.* 1986;55(5):471-475.
6. Moseley L, Acthen J, Martin JC, Jeukendrup AE. No differences in cycling efficiency between world-class and recreational cyclists. *Int. J. Sports Med.* 2004;25(5):374-379.
7. Levine JA, Schleusner SJ, Jensen MD. Energy expenditure of nonexercise activity. *Am. J. Clin. Nutr.* 2000;72(6):1451-1454.
8. Beers EA, Roemmich JN, Epstein LH, Horvath PJ. Increasing passive energy expenditure during clerical work. *Eur. J. Appl. Physiol.* 2008;103(3):353-360. <http://dx.doi.org/10.1007/s00421-008-0714-y>.
9. Levine JA, Miller JM. The energy expenditure of using a “walk-and-work” desk for office workers with obesity. *Br. J. Sports Med.* 2007;41(9):558-561.
10. Pandolf KB, Stroschein LA, Drolet LL, Gonzalez RR, Sawka MN. Prediction modeling of physiological responses and human performance in the heat. *Comput. Biol. Med.* 1986;16(5):319-329.
11. Barnes KR, Kindling AE. Running economy: measurement, norms, and determining factors. *Sports Med. Open.* 2015;1(1):8. <http://dx.doi.org/10.1186/s40798-015-0007-y>.
12. Gaesser GA, Brooks GA. Muscular efficiency during steady-rate exercise: effects of speed and work rate. *J. Appl. Physiol.* 1975;38(6):1132-1139.
13. Luke A, Scholler DA. Basal metabolic rate, fat-free mass, and body cell mass during energy restriction. *Metabolism.* 1992;41(4):450-456.
14. Baracos VE, Whitmore WT, Gale R. The metabolic cost of fever. *Can. J. Physiol. Pharmacol.* 1987;65(6):1248-1254.
15. Goldberg GR, Prentice AM, Coward WA, et al. Longitudinal assessment of energy expenditure in pregnancy by the doubly labeled water method. *Am. J. Clin. Nutr.* 1993;57(4):494-505.
16. Matsukawa T, Sessler DI, Sessler AM, et al. Heat flow and distribution during induction of general anesthesia. *Anesthesiology.* 1995;82(3):662-673.
17. Consolazio CF, Matoush LR, Nelson RA, Torres JB, Issac GJ. Environmental temperature and energy expenditures. *J. Appl. Physiol.* 1963;18:253-259.
18. Guiffre M, Finnie J, Lynam DA, Smith D. Rewarming postoperative patients: lights, blankets, or forced warm air. *J. Post. Anesth. Nurs.* 1991;6(6):387-393.
19. Badjatia NM. Hyperthermia and fever control in brain injury. *Crit. Care Med. Ther. Temp. Manag. State Art Crit. Ill.* 2009;37(7 Suppl):S250. <http://dx.doi.org/10.1097/CCM0b013e3181aa5e8d>.
20. Ross M, Abbiss C, Laursen P, Martin D, Burke L. Precooling methods and their effects on athletic performance: a systematic review and practical applications. *Sports Med. Aukl. NZ.* 2013;43(3):207-225. <http://dx.doi.org/10.1007/s40279-012-0014-9>.
21. Adams WC, Mack GW, Langhans GE, Nadel ER. Effects of varied air velocity on sweating and evaporative rates during exercise. *J. Appl. Physiol.* 1992;73(6):2668-2674.
22. Armstrong LE, Maresh CM. Effects of training, environment and host factors on the sweating response to exercise. *Int. J. Sports Med.* 1998;19(Suppl 2):S103-105.
23. Veicsteinas A, Ferretti G, Rennie DW. Superficial shell insulation in resting and exercising men in cold water. *J. Appl. Physiol.* 1982; 52: 1557-1564.

24. Frank SM, Raja SN, Bulcao CF, Goldstein DS. Age-related thermoregulatory differences during core cooling in humans. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 2000;279(1):R349-R354.
25. van der Lans AA, Hoeks J, Brans B, et al. Cold acclimation recruits human brown fat and increases nonshivering thermogenesis. *J. Clin. Invest.* 2013;123(8):568-579.
26. Yard EE, Gilchrist J, Haileyesus T, et al. Heat illness among high school athletes-U.S., 2005-2009. *J. Safety Res.* 2010;41(6):471-474.
27. Luber GE, Sanchez CA. Heat-related deaths – United States, 1993-2003. *MMWR Weekly.* 2006;55:796-798. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5529a2.htm>.
28. Grundstein AJ, Ramseyer C, Zhao F, et al. A retrospective analysis of American football hyperthermia deaths in the United States. *Int. J. Biometeorol.* 2012;56(1):11-20.
29. Schweltnus MP. Cause of exercise associated muscle cramps (EAMC)—altered neuromuscular control, dehydration or exercise depletion? 2009;43(6):401-408.
30. Carter R, Chevront SN, Vernieuw CR, Sawka MN. Hypohydration and prior heat stress exacerbates decreases in cerebral blood flow velocity during standing. *J Appl. Physiol.* 2006;101(6):1744-1750.
31. Nybo L, Rasmussen P, Sawka MN. Performance in the heat-physiological factors of importance for hyperthermia-induced fatigue. *Compr. Physiol.* 2014;4(2):657-689.
32. Kenefick RW, Sawka MN. Heat exhaustion and dehydration as causes of marathon collapse. *Sports Med.* 2007;37(4-5):378-381.
33. Armstrong LE, Casa DJ, Millard-Stafford M, Moran DS, Pyne SW, Roberts WO. American College of Sports Medicine position stand: exertional heat illness during training and competition. *Med Sci Sports Exerc.* 2007;39(3):556-572.
34. Casa DJ, Armstrong LE, Ganio MS, Yeargin S. Exertional heat stroke in competitive athletes. *Curr. Sports Med. Rep.* 2005;4(6):309-317.
35. Adams WM, Hosokawa Y, Casa DJ. The timing of exertional heat stroke survival stats prior to collapse. *Med. Sci. Sports Exerc.* 2015;14(4):273-274.
36. Update: Heat Illness, Active Component, U.S. Armed Forces, 2016. *MSMR.* 2016;24(3):9-13.
37. Cooper ER, Ferrara MS, Casa DJ, et al. Exertional heat illness in American football players: when is risk the greatest? *J. Athl. Train.* 2016; 51(8):593-600.
38. Ariens GAM, van Mechelen W, Kemper HCG, Twisk JWR. The longitudinal development of running economy in males and females aged between 13 and 27 years: the Amsterdam Growth and Health Study. *Eur. J. Appl. Physiol.* 1997;76:214-220.
39. Montoye HJ, Ayen T, Nagle F, Howley ET. The oxygen requirement for horizontal and grade walking on a motor-driven treadmill. *Med. Sci. Sports Exerc.* 1985;17:640-645.
40. Rowland TW, Auchinachie JA, Keenam TJ, Green GM. Physiologic responses to treadmill running in adult and pre-pubertal males. *Int. J. Sports Med.* 1987;8:292-297.
41. Stephenson LA, Kolka MA. Esophageal temperature threshold for sweating decreases before ovulation in premenopausal women. *J. Appl. Physiol.* 1999;86:22-28.
42. Brooks EM, Morgan AL, Pierzga JM, et al. Chronic hormone replacement therapy alters thermoregulatory and vasomotor function in postmenopausal women. *J. Appl. Physiol.* 1997;83:477-484.
43. Chevront SN, Haymes EM. Ad libitum fluid intakes and thermoregulatory responses of female distance runners in three environments. *J. Sports Sci.* 2001;19:845-854.
44. Epstein Y. Heat intolerance: predisposing factor or residual injury. *Med. Sci. Sports Exerc.* 1990;22(1):29-35.
45. Moran DS, Erlich T, Epstein Y. The heat tolerance test: an efficient screening tool for evaluating susceptibility to heat. *J. Sport Rehabil.* 2007;16:215-221.
46. Shibasaki M, Kondo N, Crandall CG. Non-thermoregulatory modulation of sweating in humans. *Exerc. Sport Sci. Rev.* 2003;34:34-39.
47. Sawka NM, Young AJ, Francesconi RP, Muza SR, Pandolf KB. Thermoregulatory and blood responses during exercise at graded hypohydration levels. *J. Appl. Physiol.* 1985;59:1394-1401.
48. Montain SJ, Latzka WA, Sawka NM. Control of thermoregulatory sweating is altered by hydration level and exercise intensity. *J. Appl. Physiol.* 1995;79:1434-1439.
49. Casa DJ, Armstrong LE, Hillman SK, et al. National Athletic Trainers' Association position statement: fluid replacement for athletes. *J. Athl. Train.* 2000;35(2):212-224.

50. Casa DJ, DeMartini JK, Bergeron MF, et al. National Athletic Trainers' Association position statement: exertional heat illness. *J Athl. Train.* 2015;50(9):986-1000.
51. Ciccone CD. *Pharmacology in rehabilitation*. Philadelphia, PA: F. A. Davis Company; 2016.
52. National Institute on Drug Abuse (NINDA). Drug-related hospital emergency room visits. 2011. <https://www.drugabuse.gov/publications/drugfacts/drug-related-hospital-emergency-room-visits>.
53. Matsumoto RR, Seminerio MJ, Turner RC, et al. Methamphetamine-induced toxicity: an updated review on issues related to hyperthermia. *Pharmacol. Ther.* 2014;144:28-40.
54. Williamson CM, Nickerson BS, Bechke EE, McLester CN, Kliszczewicz BM. Influence of acute consumption of caffeine vs. placebo over Bia-derived measurements of body composition: a randomized double-blind, crossover design. *J. Int. Soc. Sport Nutr.* 2018;15:7. <https://doi.org/10.1186/s12970-018-0211-5>.
55. Sallis R, Chassay MC. Recognizing and treating common cold-induced injury in outdoor sports. *Med. Sci. Sports Exerc.* 1999;31:1367-1373.
56. Gilbert M, Busund R, Skagseth A, Milsen PA, Solbo JP. Resuscitation from accidental hypothermia of 13.7 degrees C with circulatory arrest. *Lancet.* 2000;355:375-376.
57. Jurkovich GJ. Environmental cold-induced injury. *Surg. Clin. N. Am.* 2007;87:247-267.
58. Wilson O, Goldman RF, Molnar GW. Freezing temperature of finger skin. *J. Appl. Physiol.* 1976;41:551-558.
59. Molnar GW, Hughes AL, Wilson O, Goldman RF. Effect of skin wetting on finger cooling and freezing. *J. Appl. Physiol.* 1973;35:205-207.
60. Mills WJ. Clinical aspects of freezing cold injury. In: Pandolf KB, Burr RE (Eds.). *Textbooks of Military Medicine: Medical Aspects of Harsh Environments, Volume I*. Falls Church, VA: Office of the Surgeon General, U. S. Army; 2002:429-466.
61. Brajkovic D, Ducharme MB, Frim J. Relationship between body heat content and finger temperature during cold exposure. *J. Appl. Physiol.* 2001;90:2445-2452.
62. Hamlet MP. Nonfreezing cold injuries. In: Auerbach PS (Ed.). *Textbook of Wilderness Medicine*. St. Louis, MO: Mosby; 2001:129-134.
63. Castellani JW, Young AJ, Ducharme MB, et al. American College of Sports Medicine position stand: prevention of cold injuries during exercise. *Med. Sci. Sports Exerc.* 2006;38(11):2012-2029.
64. Gagge AP, Gonzalez RR. Mechanisms of heat exchange: biophysics and physiology. In: Fregly MJ, Blatteis CM (Eds.). *Handbook of Physiology: Environmental Physiology*. Bethesda, MD: American Physiological Society; 1996:45-84.
65. Toner MM, McArdle WD. Human thermoregulatory responses to acute cold stress with special reference to water immersion. In: Fregly MJ and Blatteis CM (Eds.). *Handbook of Physiology: Environmental Physiology*. Bethesda, MD: American Physiological Society; 1996:379-418
66. Ducharme MB, Tikuisis P. In vivo thermal conductivity of the human forearm tissue. *J. Appl. Physiol.* 1991;70:2682-2690.
67. Sloan REG, Keatinge WR. Cooling rates of young people swimming in cold water. *J. Appl. Physiol.* 1973;35:371-375.
68. Smolander J. Effect of cold exposure on older humans. *Int. J. Sports Med.* 1973;23:86-92.
69. Taylor NA, Allsopp NK, Parkes DG. Preferred room temperature of young vs. aged males: the influence of thermal sensation, thermal comfort, and affect. *J. Gerontol. A Biol. Sci. Med. Sci.* 1995;50:216-221.
70. Passias TC, Meneilly GS, Mekjavic IB. Effect of hypoglycemia on thermoregulatory responses. *J. Appl. Physiol.* 1996;80:1021-1032.
71. Pitsiladis YP, Maughan RJ. The effects of exercise and diet manipulation on the capacity to perform prolonged exercise in the heat and in the cold in trained humans. *J. Physiol. (Lond.)*. 1999;517:919-930.
72. Falk B, Bar-Or O, Smolander J, Frost G. Response to rest and exercise in the cold: effects of age and aerobic fitness. *J. Appl. Physiol.* 1994;76:72-78.
73. Lounsbury DS, Ducharme MB. Self-rescue strategies during accidental cold water immersion: performance and thermal considerations. In: *Proceedings fo the 11<sup>th</sup> International Conference on Environmental Ergonomics*. Ystad, Sweden: Lund University; 2005:553-556
74. Freund BJ, Sawka MN. Influence of cold stress on human fluid balance. In: Marriott BM, Carlson SJ (Eds.). *Nutritional Needs in Cold and in High-Altitude Environments*. Washington, DC: National Academy Press; 1996:161-179

75. Cheshire WP. Thermoregulatory disorders and illness related to heat and cold stress. *Auton. Neurosci.* 2016; 196:91-104.
76. Buskirk ER, Kollias J, Picon-Reategui E, et al. Physiology and performance of track athletes at various altitudes in the United States and Peru. In: Goddard RF (ed.). *The effects of altitude on physical performance*. Albuquerque, NM: The Athletic Institute; 1967:65-72.
77. Peacock AJ. ABC of oxygen: oxygen at high altitude. *Brit. Med. J.* 1998;317:1063-1066.
78. Sawka MN, Convertino VA, Eichner ER, Schnieder SM, Young AJ. Blood volume: importance and adaptations to exercise training, environmental stresses, and trauma/sickness. *Med. Sci. Sports Exerc.* 2000;32:332-348. **doi:10.1097/00005768-200002000-0012.**
79. Sawka MN, Young AJ, Rock PB, et al. Altitude acclimatization and blood volume: effects of exogenous erythrocyte volume expansion. *J. Appl. Physiol.* 1996;81:636-642.
80. Beidleman BA, Staab JE, Muza SR, Sawka MN. Quantitative model of hematologic and plasma volume responses after ascent and acclimation to moderate to high altitudes. *Am. J. Physiol. Regul. Inter. Comp. Physiol.* 2017;312:R265-R272. **doi:10.1152/ajpregu.00225.2016.**
81. Favier FB, Britto FA, Freyssenet DG, Bigard XA, Benoit H. HIF-1-driven skeletal muscle adaptations to chronic hypoxia: molecular insights into muscle physiology. *Cell. Mol. Life Sci.* 2015;72:46814696. **doi:10.1007/s00018-015-2025-9.**
82. Wilson MH, Newman S, Imray CH. The cerebral effects of ascent to high altitudes. *Lancet Neurol.* 2009;8:1759-191.
83. Moraga FA, Pedreros CP, Rodriguez CE. Acute mountain sickness in children and their parents after rapid ascent to 3500 m (Putre, Chile). *Wild. Environ. Med.* 2008;19(4):287-292. **https://doi.org/10.1580/06-WEME-BR-084.1.**
84. Marmura MJ, Hernandez PB. High-altitude headache. *Curr. Pain Headache Rep.* 2015;19:9. **doi:10.1007/s11916-015-0483-2.**
85. Hackett PH, Roach RC. High-altitude illness. *N. Engl. J. Med.* 2001;345(2):107-114.
86. Hupper T, Gieseler U, Angelini C, Hillebrandt D, Milledge J. Emergency field management of acute mountain sickness, high altitude pulmonary oedema, and high altitude cerebral oedema. In: UIAA Medical Commission (ed.). *Consensus Statement*. Bern, Switzerland: UIAA; 2008.
87. Smedley T, Grocott MPW. Acute high-altitude illness: a clinically orientated review. *Brit. J. Pain.* 2013;7(2):85-94.
88. Headquarters, Department of the Army. (2000). *Mountain Operations* (FM 3-97.6). Retrieved from [https://archive.org/stream/milmanual-fm-3-97.6-mountain-operations/fm\\_3-97.6\\_mountain\\_operations#page/n1/mode/2up](https://archive.org/stream/milmanual-fm-3-97.6-mountain-operations/fm_3-97.6_mountain_operations#page/n1/mode/2up).
89. Buller DB, Andersen PA, Walkosz BJ, et al. Compliance with sunscreen advice in a survey of adults engaged in outdoor winter recreation at high-elevation ski areas. *J. Am. Acad. Dermatol.* 2012;66(1):63-70.
90. Ellerton JA, Zuljan I, Agazzi G, Boyd JJ. Eye problems in mountain and remote areas: prevention and onsite treatment—official recommendations of the International Commission for Mountain Emergency Medicine ICAR MEDCOM. *Wild. Environ. Med.* 2009;20(2):169-175.

## Part II: Anaphylaxis

1. Arnold JJ, Williams PM. Anaphylaxis: recognition and management. *Am Fam Physician.* 2011; 84(10):1111-1118.
2. Tang AW. A practical guide to anaphylaxis. *Am Fam Physician.* 2003;68(7):1325-1332.
3. American Red Cross. *Emergency Medical Response* textbook. San Francisco, CA: Staywell; 2011:397-399.
4. University of Georgia Sports Medicine. Epi-Pen Policies and Procedures. [www.nata.org/sites/default/files/epi-pen-policies-procedures.pdf](http://www.nata.org/sites/default/files/epi-pen-policies-procedures.pdf). Accessed July 1, 2017.

## Part III: Asthma

1. Miller MG, Weiler JM, Baker R, Collins J, D'Alonzo G. National Athletic Trainers' Association position statement: management of asthma in athletes. *J Athl Train*. 2005;40(3):224-245.
2. DeWitt J. Medical conditions. In: Manske R, Tyler T, eds. *SPTS Sports Certified Specialist Examination Preparatory Course*. Sports Physical Therapy Section:211-214
3. American Red Cross. *Emergency Medical Response* textbook. San Francisco, CA: Staywell; 2011:246-249.

#### **Part IV: Dermatologic Conditions**

1. American Red Cross. *Emergency Medical Response* textbook. San Francisco, CA: Staywell; 2011:452-453.
2. Schmitt B, Jurabe I. Dermatologic considerations in the athletic population. In: Manske R, Tyler T, eds. *SPTS Sports Certified Specialist Examination Preparatory Course*. Sports Physical Therapy Section:201-204.
3. Avoid the burn while enjoying the outdoors. National Athletic Trainers' Association Web site. [www.nata.org/sites/default/files/sun-safety.pdf](http://www.nata.org/sites/default/files/sun-safety.pdf). Accessed July 7, 2017
4. Why do mosquito bites itch? Healthline Web site. <https://www.healthline.com/health/why-mosquito-bites-itch>. Accessed July 7, 2017
5. Spider Bites: What You Need to Know. WebMD Web site. [www.webmd.com/skin-problems-and-treatments/ss/slideshow-spider-bites](http://www.webmd.com/skin-problems-and-treatments/ss/slideshow-spider-bites). Accessed July 9, 2017
6. What is Contact Dermatitis? Healthline Web site. [www.healthline.com/health/contact-dermatitis#symptoms2](http://www.healthline.com/health/contact-dermatitis#symptoms2). Accessed August 23, 2017.

#### **Part V: Lightning Safety**

1. American Red Cross. *Emergency Medical Response* textbook. San Francisco, CA: Staywell; 2011:400-401.
2. Walsh KM, Bennett B, Cooper MA, Holle RL, Kithil R, Lopez RE. National Athletic Trainers' Association position statement: lightning safety for athletics and recreation. *J Athl Train*. 2000;35(4):471-477.

## Legal & Ethical Concerns for the Athletic Venue

1. *Changes in Healthcare Professionals' Scope of Practice: Legislative Considerations*. National Council State Board of Nursing Web site. [https://www.ncsbn.org/ScopeofPractice\\_09.pdf](https://www.ncsbn.org/ScopeofPractice_09.pdf) Revised October, 2009. Accessed October 27, 2017.
2. Kane S, White R. Medical malpractice and the sports medicine clinician. *Clin Orthop Relat Res*. 2009;467(2):412-419
3. Personal Scope of Physical Therapist Practice. Retrieved from the American Physical Therapy Association Web site. <http://www.apta.org/ScopeOfPractice/Personal/> Accessed September 16, 2017.
4. Mitten MJ. Emerging legal issues in sports medicine. a synthesis, summary, and analysis. *St John's Law Review*. 2012;76(1):7-86.
5. Quandt EF, Mitten MJ, Black JS. Legal liability in covering athletic events. *Sports Health*. 2009;1(1):84-90.
6. American Red Cross. *Emergency Medical Response* textbook. San Francisco, CA: Staywell; 2011:41-57.
7. Howie WO, Howie BA, McMullen PC. To assist or not assist: Good Samaritan considerations for nurse practitioners. *Journal of Nurse Practitioners*. 2012;8(9):688-692.
8. Johnston LJ. Your malpractice advisor: avoid pitfalls when being a Good Samaritan. *Medscape*. November 2, 2010. <https://www.medscape.com/viewarticle/731219>. Accessed October 27, 2017.
9. EMS Needs Online EMT Refresher CE Courses for Recertification – EMS Needs. *Emsneeds.com Web site*. <http://EMSneeds.com>. Accessed September 16, 2017.
10. Committee on Pediatric Emergency Medicine and Committee on Bioethics. Consent for emergency medical services for children and adolescents. *Pediatrics*. 2011;128(2):427-433.
11. McNary A. Consent to treatment of minors. *Innov Clin Neurosci*. 2014;11(3-4):43-45.
12. Smith FH, Kirkhope E. Should you stop to assist in an emergency when off duty? *Student BMJ*. 2016;23.
13. Ross DS, Ferguson A, Herbert DL. Action in the event tent! Medical-legal issues facing the volunteer event physician. *Sports Health*. 2013;5(4):340-345.
14. Binkley HM, Beckett J, Casa DJ, Kleiner DM, Plummer PE. National Athletic Trainers' Association position statement: exertional Heat Illnesses. *J Athl Train*. 2002;37(3):329-343.
15. Casa DJ, Guskiewicz KM, Anderson SA, et al. National Athletic Trainers' Association position statement: preventing sudden death in sports. *J Athl Train*. 2012;47(1):96-118.
16. Mountjoy M, Brackenridge C, Arrington M, et al. International Olympic Committee Consensus Statement: harassment and abuse (non-accidental violence) in sport. *Br J Sports Med*. 2016;50(17):1019-1029.
17. Mandatory Reporters of Child Abuse and Neglect. Child Welfare Information Gateway: US Department of Health and Human Services Web Site. <https://www.childwelfare.gov/pubpdfs/manda.pdf>. Updated August 2015. Accessed March 25, 2018.
18. Addressing Sexual Assault and Interpersonal Violence: Athletics' Role in Support of Healthy and Safe Campuses. National Collegiate Athletic Association Web Site. <https://www.ncaa.org/sites/default/files/Sexual-Violence-Prevention.pdf>. Published September 13, 2014. Accessed March 25, 2018.