



# SPORT SPECIALISATION IN YOUNG ATHLETES POSITION STATEMENT

An initiative of the Australian Sports Medicine Collaborative [ASMC].  
The ASMC is a partnership of the Australian Institute of Sport,  
Australian Medical Association, Australasian College of Sport  
and Exercise Physicians and Sports Medicine Australia'

Reviewed and Endorsed by the ACSEP Research Committee  
Approved by the ACSEP Board January  
For review 2022

Working Group:

Dr. Dan Exeter (Chair) - FACSEP  
Dr. Andrew Jowett - FACSEP  
Dr. Carolyn Broderick - FACSEP  
Dr. Ian Murphy - FACSEP  
Dr. Mark Fulcher - FACSEP  
Dr. Stephan Praet - FACSEP

1. The ASMC re-affirms the well-recognised position that for the vast majority of young individuals, regular exercise is not only safe but should be encouraged.
2. Exercise has a beneficial effect on many health outcomes and may also help improve academic performance.
  - a. Regular moderate to vigorous physical activity (MVPA) in the childhood and adolescent years has both short and long-term benefits. These include improved aerobic fitness and strength, more favourable body composition, improved bone density, reduced symptoms of anxiety and depression, improved school performance and reduced cardiometabolic risk.
3. The ASMC supports the WHO, Australian Government Department of Health, and New Zealand Ministry of Health guidelines for physical activity for children and youth aged 5-17.
  - a. Children and youth should accumulate at least 60 minutes of moderate - to vigorous intensity physical activity daily.
  - b. Amounts of physical activity greater than 60 minutes provide additional health benefits.
  - c. Most of the daily physical activity should be aerobic. Vigorous-intensity activities and those that strengthen muscle and bone should be performed at least 3 times per week.
  - d. Sitting time should be broken up and recreational screen time should be limited to no more than two hours per day.
4. However, the ASMC notes that there has been a growing trend toward young athletes specialising at an early age in a single sport. It appears that the major societal driver of this is a perception that early specialisation leads to increased sporting success.
5. In this position statement the following definitions are used. These reflect the most commonly accepted definitions in the relevant literature:
  - a. A 'young athlete' is defined as an athlete 18 years old or younger.
  - b. Sport specialisation is defined as the intensive, year-round training in a single sport at the exclusion of other sports.
  - c. 'Early' specialisation is defined as sport specialisation occurring before the age of 12.
6. A young athlete's degree of specialisation may be ascertained by the use of three questions:
  - a. Does the athlete play or train for more than eight months per year in a given sport?
  - b. Does the athlete choose a main single sport?
  - c. Has the athlete stopped playing other sports to focus on a single sport?
7. The ASMC notes that, with the exception of rhythmic gymnastics, there is no evidence that early specialisation is beneficial in achieving elite status in sports where peak performance is attained in adulthood.
  - a. In fact, there is evidence to the contrary, suggesting that athletes who maintain a broader sporting base till after the age of 12, then specialize, are more likely to be 'successful' in their chosen sport.
  - b. There is one paper that suggests that a combination of organised training and free play based on a single sport may lead to increased sporting success at a junior level. This has not been proven or disproven to lead to success at an adult level.
  - c. Popular concepts that advocate early specialisation [e.g. the 10,000 hours concept], were never intended to be applied to sport and are not relevant in the sporting context.
    - i. The concept of early sports specialisation improving the chances of 'future success' largely came from retrospective studies comparing expert and non-expert musicians.

8. There is evidence to suggest that there are physical harms associated with sport specialisation.
  - a. There is evidence that young athletes with overuse injuries are more likely to be highly specialised than uninjured athletes.
    - i. This risk is independent of age, sex, and total hours of organised sport.
  - b. However, athletes with acute injuries may be less likely to be sport specialised.
  - c. Resistance training among these at-risk populations has been shown to reduce injury risk by up to 68% and improve sport performance and health measures, in addition to accelerating the development of physical literacy.
9. There is an association between early sport specialisation and a number of more general harms. There is evidence that early sport specialisation may lead to:
  - a. Lower overall perception of health,
  - b. Earlier cessation of sporting activity and possible burnout,
  - c. Less fun derived from playing sport,
  - d. 'Psychological needs' dissatisfaction – which is a predictor of mental illness.
10. There are a number of simple rules that can guide appropriate training loads in young athletes. These can be used by those who have a duty of care over young athletes. Therefore, the ASMC recommends that;
  - a. At any available opportunity, parents, coaches, athletes and sporting bodies should be made aware of both the lack of benefits and the increased risks of harms associated with early specialisation.
  - b. Athletes under the age of 12 should be encouraged to partake in a wide range of physical activities, both organised and informal, to maximise their health outcomes.
  - c. Informal physical activity ('free play') should be encouraged as a valid form of physical activity especially in those under 12.
  - d. Those who wish to focus on a single sport should be encouraged to delay specialisation until after the age of 12, or even until late adolescence.
  - e. An athlete's readiness to specialise should not be determined by physical maturity alone. Social, emotional and psychological maturity is also required in order to successfully specialise in one sport.
  - f. Those individuals who have control over the training parameters of young athletes consider the use of simple guidelines in order to minimise the risk of issues relating to early specialisation, sport specialisation and training volume. These include:
    - i. Limiting total sport participation (training and competition) to no more than 16 hours per week, irrespective of the total number of sports played,
    - ii. Ensuring that the ratio of hours spent in organised sport (training and competition) to those spent in 'free play' does not exceed 2:1,
    - iii. Limiting hours spent in organised sport (training and competition) per week such that they do not exceed the athlete's age. E.g. a 10 year old should not train more than 10 hours per week across all sports (this supersedes point 10.f.i above where relevant),
    - iv. Adhering to the evidenced-based load guidelines for a specific sport (e.g. Cricket Australia Youth Pace Bowling Guidelines).

# REFERENCES

1. Bell DR, Post EG, Trigsted SM, Hetzel S, McGuine TA, Brooks MA. Prevalence of Sport Specialization in High School Athletics: A 1-Year Observational Study. *Am J Sports Med* 2016 44:1469-74.
2. Bergeron MF, Mountjoy M, Armstrong N, Chia M, Côté J, Emery CA et al. International Olympic Committee consensus statement on youth athletic development. *Br J Sports Med* 2015;49:843-51.
3. Brenner JS. Overuse injuries, overtraining, and burnout in child and adolescent athletes. *Paediatrics* 2007;119:1242-5.
4. Cricket Australia [Internet]. Jolimont Victoria: Cricket Australia c2019 [cited 2019 Jan 15]. Available from <https://community.cricket.com.au/coach/training-session-ideas/pace-bowling-guidelines>.
5. Department of Health [Internet]. Canberra: Australian Government Department of Health: c2017 [cited 2019 Jan 15]. Available from <http://www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-phys-act-guidelines#apa512>.
6. DiFiori JP, Benjamin HJ, Brenner JS, Gregory A, Jayanthi N, Landry GL et al. Overuse Injuries and Burnout in Youth Sports: A Position Statement from the American Medical Society for Sports Medicine. *Br J Sports Med* 2014;48:287-8.
7. Ericsson KA, Krampe RT, Tesch-Römer C. The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review* 1993;100:363-406.
8. Field T, Diego M, Sanders CE. Exercise is positively related to adolescents' relationships and academics. *Adolescence* 2001;36:105-10.
9. Gould D, Tuffey S, Udry E, Loehr J. Burnout in competitive junior tennis players: II. Qualitative analysis *The Sport Psychologist* 1996;10:322-340.
10. Janssen I, LeBlanc AG. Systematic review of the health benefits of physical activity and fitness in school- aged children and youth. *Int J Behav Nutr Phys Act* 2010;11:7-40.
11. Jayanthi N, Pinkham C, Dugas L, Patrick B, Labella C. Sports Specialization in Young Athletes: Evidence- Based Recommendations. *Sports Health* 2013;5:251-7.
12. Jayanthi NA, LaBella CR, Fischer D, Pasulka J, Dugas LR. Sports-Specialized Intensive Training and the Risk of Injury in Young Athletes. *Am J Sports Med* 2015;43:794-801.
13. LaPrade RF, Agel J, Baker J, Brenner JS, Cordasco FA, Côté J. AOSSM Early Sport Specialization Consensus Statement. *Orthop J Sports Med* 2016;4:2325967116644241.
14. Law MP, Côté J, Ericsson KA. Characteristics of expert development in rhythmic gymnastics: A Retrospective Study. *International Jnl of Sport & Exercise Psychology* 2007;5:82-103.
15. McFadden T, Bean C, Fortier M, Post C. Investigating the influence of youth hockey specialization on psychological needs (dis)satisfaction, mental health, and mental illness. *Cogent Psychology* 2016;3:1157975.
16. McGuine TA, Post EG, Hetzel SJ, Brooks MA, Trigsted S, Bell DR. A Prospective Study on the Effect of Sport Specialization on Lower Extremity Injury Rates in High School Athletes. *Am J Sports Med* 2017;45:2706-2712.
17. Ministry of Health [Internet]. Wellington: Ministry of Health – Manatū Hauora: c2017 [cited 2019 Jan 15]. Available from <https://www.health.govt.nz/our-work/preventative-health-wellness/physical-activity#kids>.

18. Myer GD, Jayanthi N, Difiori JP, Faigenbaum AD, Kiefer AW, Logerstedt D, Micheli LJ. Sport Specialization, Part I: Does Early Sport Specialization Increase Negative Outcomes and Reduce the Opportunity for Success in Young Athletes? *Sports Health* 2015;7:437-42.
19. Pasulka J, Jayanthi N, McCann A, Dugas LR, LaBella C. Specialization patterns across various youth sports and relationship to injury risk. *Phys Sportsmed* 2017;45:344-352.
20. Sieghartsleitner R Zuber C Zibung M Conzelmann A. "The Early Specialised Bird Catches the Worm!" - A Specialised Sampling Model in the Development of Football Talents. *Front Psychol* 2018;9:188.
21. Singh A, Uijtdewilligen L, Twisk JWR, van Mechelen W, Chinapaw MJM. Physical Activity and Performance at School A Systematic Review of the Literature Including a Methodological Quality Assessment. *Arch Pediatr Adolesc Med* 2012;166:49-55.
22. WHO [Internet]. Geneva: World Health Organization: c2019 [cited 2019 Jan 15]. Available from [https://www.who.int/dietphysicalactivity/factsheet\\_young\\_people/en/](https://www.who.int/dietphysicalactivity/factsheet_young_people/en/).
23. Wilhelm A, Choi C, Deitch J. Early Sport Specialization: Effectiveness and Risk of Injury in Professional Baseball Players *Orthop J Sports Med* 2017;5:2325967117728922.
24. Zwolski C, Quatman-Yates C, Paterno MV. Resistance Training in Youth: Laying the Foundation for Injury Prevention and Physical Literacy. *Sports Health* 2017;9:436-443.



[AIS.gov.au](https://ais.gov.au)



@theAIS #theAIS

Leverrier Street Bruce ACT 2617  
PO Box 176 Belconnen ACT 2616  
+61 2 6214 1111