Tennis, Health, The Public Good, and the USTA

Brian Hainline
USTA Board of Directors, Vice President
NCAA Chief Medical Officer
Clinical Professor of Neurology
Indiana University School of Medicine
New York University School of Medicine
Kids Love to Move
But May Have 5 Less Years of Moving
Societal Woes

3 out of every 4 high school students do **NOT** engage in the recommended amount of physical activity.

(Healthy People 2010)
Associations of specific types of sports and exercise with all-cause and cardiovascular-disease mortality: a cohort study of 80 306 British adults

Pekka Oja,¹ Paul Kelly,² Zeljko Pedisic,³ Sylvia Titze,⁴ Adrian Bauman,⁵ Charlie Foster,⁶ Mark Hamer,⁷ Melvyn Hillsdon,⁸ Emmanuel Stamatakis⁵

ABSTRACT

Background/ Aim  Evidence for the long-term health effects of specific sport disciplines is scarce. Therefore, we examined the associations of six different types of sport/exercise with all-cause and cardiovascular disease (CVD) mortality risk in a large pooled Scottish and English population-based cohort.
Study Methodology

• Analysis of 80,306 adults, average age 52.
• Physical activity survey:
  – Heavy duty domestic chores; gardening; walking.
  – 6 most popular forms of sport/exercise:
    • Cycling
    • Swimming
    • Aerobics/keep fit
    • Running/jogging
    • Football/rugby
    • Badminton/tennis/squash
Study Methodology (cont)

- Less than \( \frac{1}{2} \) of respondents met recommended weekly physical activity quota.
- Survival of each participant tracked 9 years.
- Analysis (taking into account potentially influential factors) of pooled data indicated varying odds of death according to activity.
Study Results

- Risk of death (all causes):
  - 47% lower among those who played racket sports.
  - 28% lower among swimmers.
  - 27% lower among aerobics/keep fit.
  - 15% lower among cyclists.
  - No beneficial association for football/rugby or jogging.
Study Results (cont)

- Risk of death from heart disease/stroke:
  - 56% lower risk for racket sports.
  - 41% lower risk swimming/36% aerobics/keep fit.
  - No association for cycling, jogging, football/rugby.
Study Conclusions

• “These findings demonstrate that participation in specific sports may have significant benefits for public health.”

• “These new observations with other existing evidence should support the clinicians to consider sports participation as an effective form of health-enhancing physical activity.”
And Wait … There’s More

Various Leisure-Time Physical Activities Associated With Widely Divergent Life Expectancies: The Copenhagen City Heart Study

Peter Schnohr, MD, DMSc; James H. O’Keefe, MD; Andreas Holtermann, PhD; Carl J. Lavie, MD; Peter Lange, MD, DMSc; Gorm Boje Jensen, MD, DMSc; and Jacob Louis Marott, MSc

Abstract

Objective: To evaluate the differential improvements in life expectancy associated with participation in various sports.
Study Details

- Prospective population study of 8,577 participants for 25 years.
- Multi-variant life-expectancy gains for:
  - Tennis: 9.7 years.
  - Badminton: 6.2 years.
  - Soccer: 4.7 years.
  - Cycling: 3.7 years.
  - Swimming: 3.4 years.
  - Jogging: 3.2 years.
  - Calisthenics: 3.1 years.
  - Health club: 1.5 years.
Is Tennis a Healthy Alternative?

Original Article

Age of first exposure to American football and long-term neuropsychiatric and cognitive outcomes

Previous research suggests that age of first exposure (AFE) to football before age 12 may have long-term clinical implications; however, this relationship has only been examined in small samples of former professional football players. We examined the association between AFE to football and behavior, mood and cognition in a large cohort of former amateur and professional football players. The sample included 214 former football players without other contact sport history. Participants completed the Brief Test of Adult Cognition by Telephone (BTACT), and self-reported measures of executive function and behavioral regulation (Behavior Rating Inventory of Executive Function-Adult Version Metacognition Index (MI), Behavioral Regulation Index (BRI)), depression (Center for Epidemiologic Studies Depression Scale (CES-D)) and apathy (Apathy Evaluation Scale (AES)). Outcomes were continuous and dichotomized as clinically impaired. AFE was dichotomized into < 12 and ≥ 12, and examined continuously. Multivariate mixed-effect regressions controlling for age, education and duration of play showed AFE to football before age 12 corresponded with >2× increased odds for clinically impaired scores on all measures but BTACT: (odds ratio (OR), 95% confidence interval (CI): BRI, 2.16, 1.19–3.91; MI, 2.10, 1.17–3.76; CES-D, 3.08, 1.65–5.76; AES, 2.39, 1.32–4.32). Younger AFE predicted increased odds for clinical impairment on the AES (OR, 95% CI: 0.86, 0.76–0.97) and CES-D (OR, 95% CI: 0.85, 0.74–0.97). There was no interaction between AFE and highest level of play. Younger AFE to football, before age 12 in particular, was associated with increased odds for impairment in self-reported neuropsychiatric and executive function in 214 former American football players. Longitudinal studies will inform youth football policy and safety decisions.

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TOP 10 REASONS TO PLAY TENNIS
the sport of a lifetime

YOUR BODY
Get Fit
Lose Weight, Burn Calories—An hour of singles play can burn 580-870 calories*
According to a 2014 Mayo Clinic study

Live Longer
Playing just 3 hours/week will reduce your risk of heart disease 56%*
According to a 2016 Harvard University study

Strong Heart, Muscles and Bones
Compared to other sports, Tennis players have the lowest incidence of cardiovascular disease*
40-year study conducted by John Hopkins University

YOUR BRAIN
Hand Eye Coordination
Playing tennis involves several skills that all contribute to good hand-eye coordination. You can improve your agility, balance, coordination reaction time and more.

YOUR LIFE
Stress Reducer
Tennis involves physical, mental, social and emotional challenges, which increases your capacity to deal with stress.

Brain Power
From alertness to tactical thinking, tennis enhances the neural connections in your brain. Kids who play tennis regularly get better grades*
According to a 2013 USTA study

Family and Friends
Great for the whole family no matter what your age. With minimal equipment needed and plenty of courts nearby, it's easy to bring a friend or find one at the courts.

Develop Teamwork and Sportsmanship
From doubles play to team and league play, tennis develops your ability to communicate and work together.

Improved Social Skills
Tennis outperforms all other sports in developing positive personality characteristics*
According to a study by Dr. Jim Green at Concordia University

Tennis is FUN! Get started TODAY!
Let TENNIS add years to your life—and life to your years! Go to USTA.com or PlayTennis.com to find a place to play!
SHAPING THE FUTURE OF TENNIS
The Challenges

• Tennis is not relevant. And in addition...
• 5 million youth sport decrease over 5 years.
  – Cost.
  – Segregation of physical education from schools.
  – Fear of injury.
  – Early specialization, burnout and injury.
Early Specialization Outcomes

Athletes who specialized at an early age had achieved their best results at junior age level.

These performances were never duplicated when they became adults.

Bompa and Haff
AOSSM Early Sport Specialization
Consensus Statement

Robert F. LaPrade,* MD, PhD, Julie Agel,†† MA, ATC, Joseph Baker,§ PhD,
Joel S. Brenner,¶ MD, MPH, Frank A. Cordasco,## MD, MS, Jean Côté,†† PhD,
Lars Engebretsen,‡‡§§¶¶ MD, PhD, Brian T. Feeley,¶¶ MD, Daniel Gould,## PhD,
Brian Hainline,ab MD, Timothy Hewett,c PhD, Neeru Jayanthi,d MD,
Mininder S. Kocher,ef MD, MPH, Gregory D. Myer,ghi MD, FACSM, CSCS* D,
Carl W. Nissen,klmn MD, Marc J. Philippon,nopq MD, and
Matthew T. Provencher,rstu MD, CDR, MC, USNR

Background: Early sport specialization is not a requirement for success at the highest levels of competition and is believed to be unhealthy physically and mentally for young athletes. It also discourages unstructured free play, which has many benefits.

Purpose: To review the available evidence on early sports specialization and identify areas where scientific data are lacking.

Study Design: Think tank, roundtable discussion.

Results: The primary outcome of this think tank was that there is no evidence that young children will benefit from early sport specialization in the majority of sports. They are subject to overuse injury and burnout from concentrated activity. Early multisport participation will not deter young athletes from long-term competitive athletic success.

Conclusion: Youth advocates, parents, clinicians, and coaches need to work together with the sport governing bodies to ensure healthy environments for play and competition that do not create long-term health issues yet support athletic competition at the highest level desired.

Keywords: early sports specialization; consensus; youth sports
Summary – Youth Sport Experiences of NCAA Student-Athletes

- Many NCAA student-athletes, especially in sports like ice hockey, tennis (DI and DII only) and soccer, began specializing in their sports at what experts consider a very early age (e.g., before age 12).

- Student-athletes in many sports played that sport year-round growing up and participated in the sport on both club and high school teams. Many NCAA athletes think youth in their sport play in too many contests and a number of them (especially men) wish they had spent more time sampling other sports when they were young.

- Many current NCAA student-athletes had high parental/family expectations of playing college and/or professional/Olympic sports that started at a young age. This is especially true among participants in certain DI/DII sports. These family expectations appear to carry over to cases of unrealistic pro expectations among the student-athletes themselves.
Percent of Division I Men Who Specialized in their Sport by Age 12
(GOALS, 2015)
Percent of Division I Women Who Specialized in their Sport by Age 12
(GOALS, 2015)

- Gymnastics: 87%
- Tennis: 72%
- Soccer: 62%
- Basketball: 55%
- Swimming: 55%
- Ice Hockey: 51%
- Softball: 48%
- Golf: 27%
- Volleyball: 25%
- Lacrosse: 17%
- Track: 13%
- Field Hockey: 13%
- Rowing: 1%

NCAA Research
DO WE HAVE THE EVIDENCE?

Ideal tennis training schedule?


1. Minimum 12-year-old junior tournament player.
2. Play less than 12 hours a week of organized tennis.
3. Participate in less than 12 tournaments a year.
4. Possibly consider another sport (soccer) with an off-season for tennis.
5. Participate in 2+ hours a week of injury prevention training.

Figure 1. Qualified education and instruction support the complex programming components for effective implementation of integrative neuromuscular training. Reprinted with permission from Myer et al.35
The primary reason children play sports is to have fun. Having fun entices children to participate and compete.
Competition in youth tennis should focus on providing children with ample opportunities to play, with a focus on the play and not the results. There should be no 10-and-under national rankings. Also, there should be no rankings for 10-and-under youth at any level.
As the national governing body of tennis, the USTA has a moral obligation to address how to roll out 10 and Under Tennis so that it addresses the problems of overuse injuries from early specialization, sport dropout, and America’s health crisis.
Tennis is an early initiation sport and a late-specialization sport.
It is critical to develop the athlete before the player.
A Unified Vision

• American Development Model and Tennis.
• Coaching in the United States.
  – Accreditation by USTA.
  – Certification by Coaching Organizations.
  – Societal standards.
• Connecting all of the dots…
  – NetGeneration.
  – USTA-U.
  – Section harmony.
  – Tennis as THE model sport.
Thank you!