

Physical Activity with Youth for a Lifetime

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Objective of Session

- › Creating a mindset of implementing programs that enable youth to develop the skills and knowledge to be physically fit for life.



New USDHHS Physical Activity Guidelines - Youth

- › Preschool-aged children (3-5) (new)
 - Active throughout the day, at least 3 hours of active play
- › Youth 6-17
 - 60 minutes of moderate-to-vigorous activity
 - Must infuse muscle and bone strengthening activities at least 3 days a week



New USDHHS Physical Activity Guidelines - Adults

› Adults

- 150 to 300 minutes of moderate-intensity aerobic activity or
- 75 to 150 minutes of vigorous-intensity aerobic activity or
- Combination of moderate-vigorous aerobic activity
- 2 days a week of muscle-strengthening activity
- Additional health benefits if beyond



New USDHHS Physical Activity Guidelines – Older Adults

› Older Adults

- Same recommendations as adults for aerobic and muscle-strengthening PA
- In addition:
 - › Multicomponent PA that includes balance training along with aerobic and muscle-strengthening
 - › Must evaluate relative intensity and chronic conditions



New USDHHS Physical Activity Guidelines – Bouts of PA

- › Bouts of PA (new)
 - Can be for any amount of time, not just 10 minutes or more
- › Key is to reduce sedentary behavior
 - Not sitting is vital



Reasons for Physical Activity - Youth

› Youth

- Improve cognition, bone health, fitness, and heart health
- Reduce depression and anxiety
- Mental fortitude and confidence



Reasons for Physical Activity - Adults

› Adults

- Helps prevent 8 types of cancer
 - › Bladder, breast, colon, endometrium, esophagus, kidney, stomach, and lung
- Reduces the risk of dementia, all-cause mortality, heart disease, stroke, high blood pressure, type 2 diabetes, and depression
- Improves bone health, physical function, and quality of life
- Helps maintain a healthy weight
- Help manage health conditions
 - › Osteoarthritis, hypertension, type 2 diabetes, anxiety, depression
 - › Improve cognition: dementia, multiple sclerosis, Parkinson's disease

Information leads to Follow-Through?

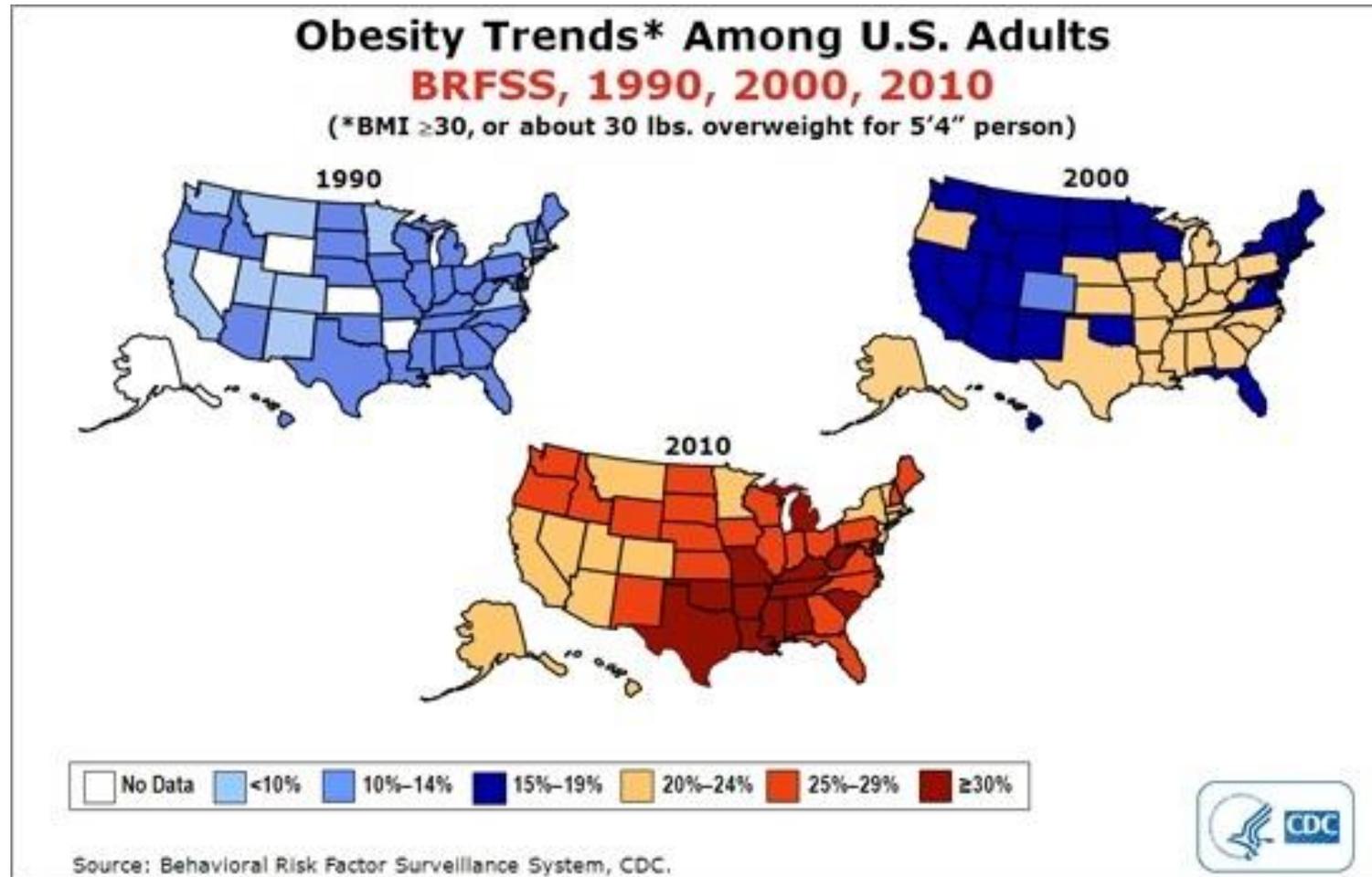
- › Over the last forty years, substantial evidence has accumulated concerning the importance of PA and health outcomes. (Blair & Morris, 2009; Warburton, Nicol, & Bredin, 2006)
- › Informative approaches alone have not been enough to promote lifestyle behavioral changes in much of the population. (Nahas, Goldfine, & Collins, 2003)



The State of Health in the U.S.

- › Only 21.7% of adults meet the PA guidelines (CDC, 2017)
- › Only 16.3% of adolescents meet the PA guidelines (Song, Carroll, & Fulton, 2013)
- › The obesity rate in the United States has increased to epidemic proportions over the last 40 years (CDC, 2018)
 - 15% to 39.8% in adults
 - 5% to 20.6% in adolescents 12-19 years
 - 6.5% to 18.4% in children 6-11 years
- › 71.6% of adults are considered overweight or obese
- › 13.7 million children and adolescents are obese

Obesity Trends in U.S. Adults





The State of Health in the U.S.

- › Chronic disease continues to increase with physical inactivity being a substantial contributor. (Booth, Roberts, & Laye, 2012)
- › The \$320 billion that was spent on prescription drugs in the U.S. in 2015 was primarily allocated to chronic conditions, which can possibly be prevented by behavioral choices concerning PA and nutritional habits. (CDC, 2017)
- › There is a growing relationship between physical inactivity and mental health conditions. (Clow & Edmunds, 2014)

Adherence to Physical Activity and Exercise

- › Substantial research indicates that PA patterns and fitness levels during adolescence are directly related to PA habits and fitness during adulthood. (Craigie, Lake, Kelly, Adamson, & Mathers, 2011; Gordon-Larsen, Nelson, & Popkin, 2004; Högstöm, Nordström, & Nordström, 2015; Telama et al., 2005).
- › Learning lifetime activities (e.g., resistance training, aerobic exercise) during the adolescent years can have a great transfer effect into adulthood. (Fairclough et al., 2002)



Physical Activity Participation Choices

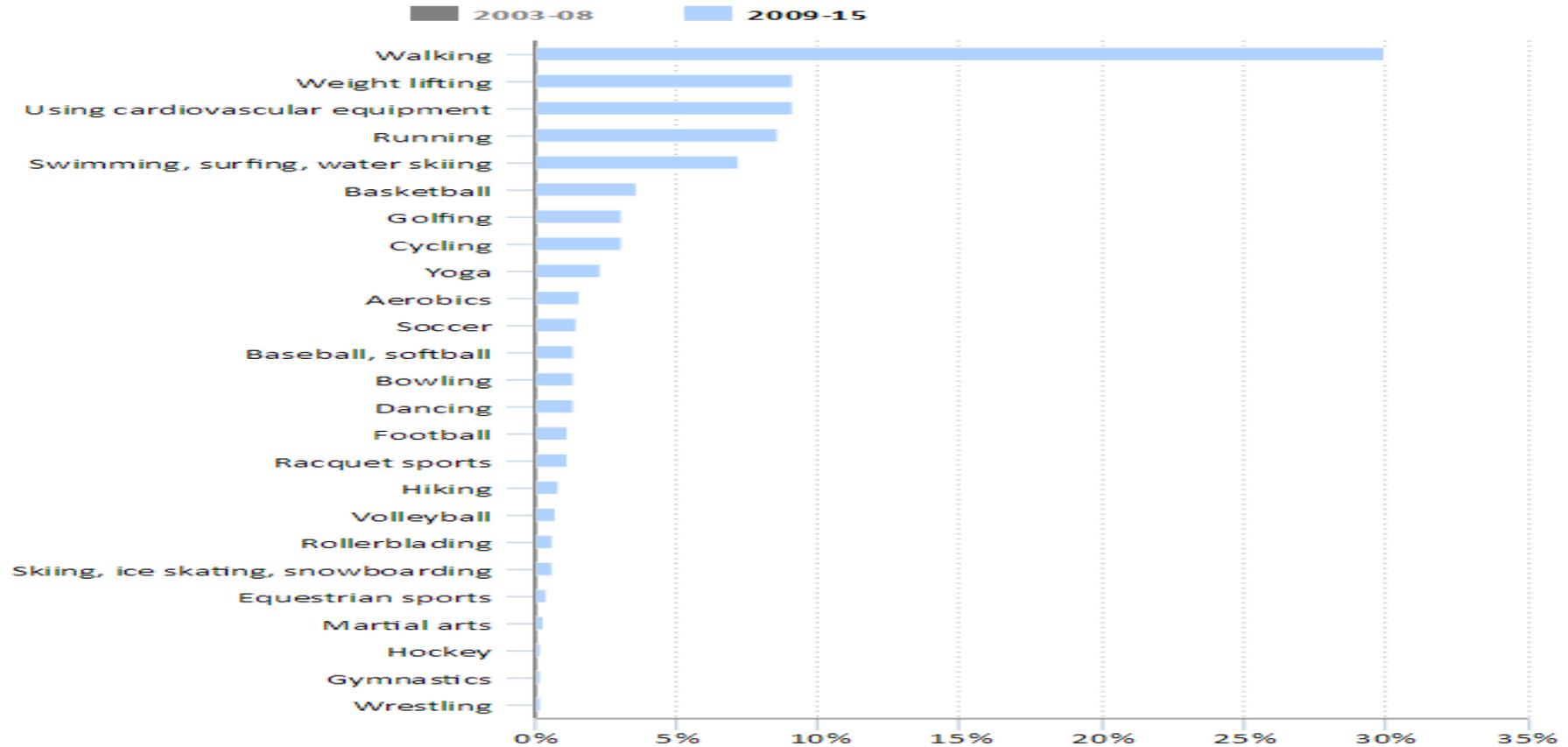
- › The majority of adolescents (60% of youth 13-17 years) do not participate in competitive PA on a weekly basis. (Sports and Fitness Industry Association, 2013)
- › Active adults predominantly participate in individual fitness activities (e.g., walking, weight training, cardiovascular equipment, running, swimming) with limited participation in sport. (Physical Activity Council, 2017; U.S. Bureau of Labor Statistics, 2017; U.S. Census Bureau, 2012)



Health Professions

Participation Rates of Activities

Percentage of people aged 15 and older who engaged in sports and exercise on an average day, by specific activity, 2003–08 and 2009–15



Click legend items to change data display. Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics.



Overcoming the Challenges

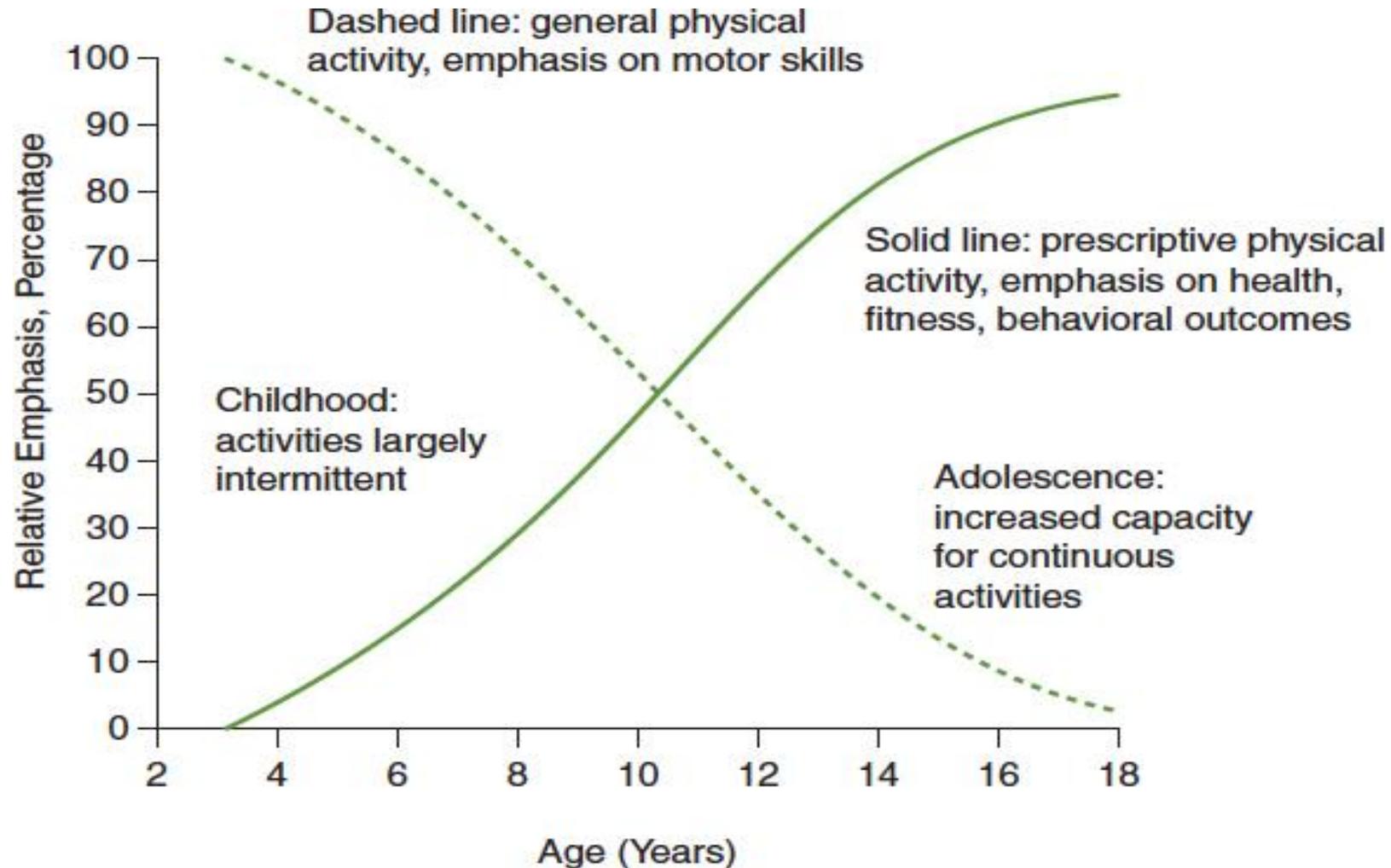
- › We must equip youth with the tools to stay active and fit now and in the future
 - Functional motor competency
 - Health-related fitness knowledge
 - Enhancement of mental fortitude and fitness
 - Appreciation and enjoyment in PA, exercise, and health
- › Induce behavioral change



Developmental Programming Model

- › Functional motor skill competency with youth (3-11)
- › Health-related fitness behaviors application with adolescents (12-18)

Functional Motor Skill Competency to Health-Related Fitness Behaviors



(Malina, 1991)



Functional Motor Skill Competency Importance

- › Very important for kids to develop neuromuscular control for sustainability in movement
- › Fundamental to performance in activities of daily living, physical activity, exercise, and sports
 - Squatting, hip hinging, lunging, overhead pressing
 - Running, jumping, hopping, skipping
 - Throwing, catching, striking

(continued)

Functional Motor Skill Competency Importance

- › Demonstrating high levels of proficiency in these types of skills demands:
 - control & coordination
 - strength
 - power
 - › Strength & power cannot be separated from the development of many gross fundamental motor “skills”
 - › Integrative Neuromuscular Training
- › Continued successful participation in activities requiring these skills demands:
 - muscular fitness
 - cardiorespiratory endurance



Health-Related Fitness Behaviors

- › As youth hit adolescents (e.g., junior high age) needs increase for personal health improvement and creation of health-enhancing fitness habits
- › Tools adolescents need:
 - Developed functional movement patterns (e.g., squat, hip hinge)
 - A wealth of experience with different forms of exercise
 - › e.g., high intensity training, circuit training, cardiovascular training
 - Health-related fitness knowledge
 - › e.g., fitness programming capabilities, time management, goal setting
 - A formed appreciation and enjoyment in PA and exercise to improve health, fitness, and quality of life



Concluding Thought

Give a man a fish, feed him for a day. Teach a man how to fish, feed him for a lifetime.



References

- › Blair, S., Morris, J. (2009). Healthy hearts—and the universal benefits of being physically active: physical activity and health. *Annals of Epidemiology*, 19(4), 253-256.
- › Booth, F. W., Roberts, C. K., & Laye, M. J. (2012). Lack of exercise is a major cause of chronic diseases. *Comprehensive Physiology*, 2(2), 1143–1211.
- › Centers for Disease Control and Prevention (CDC), (2017). *Exercise or physical activity*. Retrieved July 21, 2017, from <https://www.cdc.gov/nchs/fastats/exercise.htm>
- › Centers for Disease Control and Prevention (CDC), (2018). *Childhood obesity facts*. Retrieved March 8, 2019, from <https://www.cdc.gov/obesity/data/childhood.html>
- › Centers for Disease Control and Prevention (CDC), (2018). *Adult obesity facts*. Retrieved March 8, 2019, from <https://www.cdc.gov/obesity/data/adult.html>
- › Clow, A., & Edmunds, S. (2014). *Physical activity and mental health*. Human Kinetics.
- › Craigie, A. M., Lake, A. A., Kelly, S. A., Adamson, A. J., & Mathers, J. C. (2011). Tracking of obesity-related behaviours from childhood to adulthood: A systematic review. *Maturitas*, 70(3), 266-284.
- › Fairclough, S., Stratton, G., & Baldwin, G. (2002). The contribution of secondary school physical education to lifetime physical activity. *European Physical Education Review*, 8(1), 69-84. doi:10.1177/1356336x020081005
- › Gordon-Larsen, P., Nelson, M. C., & Popkin, B. M. (2004). Longitudinal physical activity and sedentary behavior trends: adolescence to adulthood. *American Journal of Preventive Medicine*, 27(4), 277-283.
- › Högström, G., Nordström, A., & Nordström, P. (2015). Aerobic fitness in late adolescence and the risk of early death: A prospective cohort study of 1.3 million Swedish men. *International Journal of Epidemiology*, 45(4), 1159-1168.



References

- › Nahas, M. V., Goldfine, B., Collins, M. A. (2003). Determinates of physical activity in adolescents and young adults: The basis for high school and college physical education to promote active lifestyles. *Physical Educator*, 60(1), 42-56.
- › Physical Activity Council (2019). 2019 Participation report: The physical activity council's annual study tracking sports, fitness, and recreation participation in the US. Retrieved July 21, 2015, from <http://www.physicalactivitycouncil.com/pdfs/current.pdf>
- › Song, M., Carroll, D. D., & Fulton, J. E. (2013). Meeting the 2008 physical activity guidelines for Americans among US youth. *American Journal of Preventive Medicine*, 44(3), 216-222.
- › Sports & Fitness Industry Association [SFIA] (2013). Data provided to the Aspen Institute.
- › Telama, R., Yang, X., Viikari, J., Välimäki, I., Wanne, O., & Raitakari, O. (2005). Physical activity from childhood to adulthood: A 21-year tracking study. *American Journal of Preventive Medicine*, 28(3), 267-273.
- › United States Bureau of Labor Statistics. (2017). Spotlight on statistics: Sports and exercise. Retrieved July 31, 2017, from <https://www.bls.gov/spotlight/2017/sports-and-exercise/home.htm>
- › United States Census Bureau, 2012. Participation in Selected Sports Activities: 2009 Washington, D.C.
- › U.S. Department of Health and Human Services. (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC: U.S. Department of Health and Human Services.
- › Warburton, D., Nicol, C. & Bredin, S. (2006). Health benefits of physical activity: the evidence. *Canadian Medical Association Journal*, 174(6), 801-809.