TN Department of Health

Physical Activity Resource Guide for Clinicians

Step into Wellness

Tennessee Department of Health| Office of Primary Prevention

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The Importance of Physical Activity

Positive Health Effects[1, 2]

Children & Adolescents:

- Builds healthy bones and muscles
- Prevents chronic diseases
- Improves mental health

Adults:

- Controls weight
- Reduces the risk of cardiovascular disease, metabolic syndromes, some cancers and diabetes
- Increases longevity

Seniors:

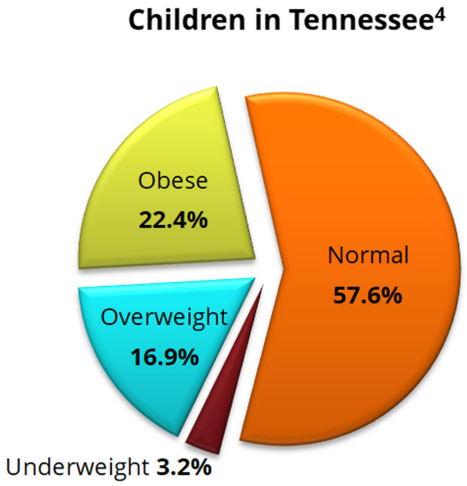
- Increases bone density
- Decreases falling risk
- Improves abilty to perform daily activities
- Helps manage chronic diseases

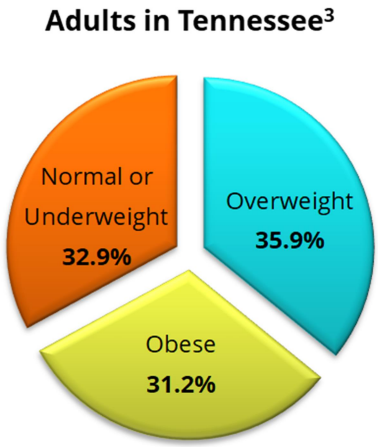
Most Tennesseans Do Not Meet Recommended Guidelines[3]

Only 45% of adults in Tennessee achieve at least **150 minutes** of moderate/vigorous physical activity per week.

Only 26% of Tennessee youth in grades 9-12 get at least 60 minutes of moderate/vigorous physical activity per day.

Obesity and Overweight in Tennessee





In the 2016-2017 school year, **22.4 %** of Tennessee school children were obese (BMI ≥ 95% for age and gender) and **16.9%** were overweight (BMI 85% to 94% for age and gender). Among adults in Tennessee, **35.9%** were overweight (BMI 25-29) and **31.2%** were obese (BMI above 30) in 2015.

Programs & Educational Opportunities

Tennessee Healthy Parks, Healthy Person Program

This initiative utilizes parks and public lands to create a healthier population. People can download the "Healthy parks, Healthy Person" app and earn points for outdoor activity. Points can be redeemed at Tennessee State Parks for gifts and activities. Contact Ryan Jenkins at Ryan.Jenkins@tn.gov, or phone 931-364-7724 for Park Rx pads and other materials. Ryan can come to your site for staff education about the program. You can also watch a TDH webinar "Vitamin N" at
Office of Primary Prevention SharePoint Site or
http://tenndepthealth.adobeconnect.com/p8wwls8jmz47/
http://healthyparkstn.com/
https://www.nps.gov/public_health/hp/hphp.htm

ParksRx

The national and State Parks Rx programs encourage providers to prescribe outdoor activity. In Tennessee, Park Rx pads, brochures, and other materials are available for free from the Healthy Parks Healthy Person Program. The national Park Rx program offers toolkits, reports and training webinars.
http://healthyparkstn.com/park-prescriptions/
http://parkrx.org/

Exercise is Medicine

The American College of Sports Medicine encourages healthcare providers to include physical activity in treatment plans. Providers can download exercise prescription pads, office flyers, and physician action guides. Additionally, Exercise is Medicine also provides resources, including fact sheets, on cost-effectiveness of physical activity and effects of physical inactivity on chronic diseases.
http://exerciseismedicine.org/

Healthier Tennessee

Healthier Tennessee strives for individuals to commit to one simple new habit every day, which leads to healthy behaviors. Create a free online account and choose from over 60 healthy actions. The aim to increase physical activity, reduce tobacco use and increase healthy food choices in Tennessee. Successes can be tracked and shared on social media. Healthier Tennessee provides actions for individuals, families, workplaces and places of worship.
https://healthiertn.com/

Walk with a Doc

Walk with a Doc encourages individuals to join local physicians for a monthly health topic lecture and a walk at the individual's desired pace. This program supports community relationships, raises awareness around health topics and physical activity, and challenges individuals to complete their daily step goals.
https://walkwithadoc.org/

Physical Activity Course – University of Tennessee Chattanooga

Coming in January, 2019, this free web-based course will include benefits of physical activity, exercise physiology, tailoring physical activity to patient needs, and evidence-based physical activity interventions. The course is in partnership with TDH, UTC Health and Human Performance Department and the American College of Sports Medicine, Exercise is Medicine Program. A certificate and continuing education credits will be available. This guide will be updated as soon as the course is available.

American Academy of Pediatrics Webinar

"Promoting Physical Activity for your Patients with Overweight and Obesity". Sandra G. Hassink, MD, FAAP, 2018.
https://paaap.adobeconnect.com/_a1015405584/povridmvcsy3/?launcher=false&fcsContent=true&pbMode=normal

Community Engagement

Health-Promoting Communities

The Tennessee Department of Health's (TDH) Office of Primary Prevention (OPP) helps coordinate, support, and educate our partners on health-promoting community design efforts and opportunities across the state. Research increasingly demonstrates that the way in which our communities are designed (our *built environment*) has an impact on our health. It has been said, with some evidence to support the assertion, that zip code is more important to health than an individual's genetic code. The greatest public health successes come from making the healthy choices easy, obvious and rewarding. We know that when people have healthy places to live, learn, work, play, worship, and age they are better able to make choices that prevent diseases like diabetes and heart disease from occurring or worsening. To that end, the Tennessee Department of Health has been working on more "upstream" primary prevention approaches to preventing disease and injury and promoting a healthier Tennessee.

Examples of health-promoting community design include walkable neighborhoods with sidewalks and paths so people can be active at all ages and abilities, accessible food stores with healthy food options, affordable housing located near employment, and inviting public spaces accessible by all people.

Health care providers can play a role in their communities outside the clinical walls through their clinical expertise, leadership and trusting relationships with community members. Their participation can help with development of health-promoting changes that make the healthy choice default for the people they serve.

TDH clinicians are encouraged to participate in their county health department Primary Prevention initiatives and also Built Environment grants as they are being planned, carried out and evaluated. Other clinicians in TN are also encouraged to be active in these initiatives that are all carried out in concert with the community. The beauty of an interdisciplinary community and clinical team is what each

member brings to the table! It leverages each member's expertise and passion for their work both within and outside clinic walls. Clinical care and Primary Prevention are complimentary. Primary Prevention enhances the value of care by addressing the underlying reasons people seek clinical services.

More information about health promoting communities:

TDH Office of Primary Prevention resources and contact information:
https://www.tn.gov/health/health-program-areas/office-of-primary-prevention.html

Robert Wood Johnson Foundation:
https://www.rwjf.org/en/cultureofhealth.html

National Academy of Medicine:
https://nam.edu/programs/culture-of-health/

Community Activity Suggestions

Running and Walking Clubs

- **Tennessee Department of Health Youth Run Clubs**
  https://www.tn.gov/health/health-program-areas/fhw/run-clubs.html
- **Mach Tenn Running Club**
  http://www.machtenn.org/
- **Walking Group – Action Guide**
  http://www.prevent.org/Topics.aspx?eaID=5&topicID=
- **Tennessee State Parks Run Clubs**
  https://tnstateparks.com/get-involved/youth-running-program

Physical Activity for Children

- **Ways to Enhance Children's Activity & Nutrition (WE CAN!)**
  https://www.nhlbi.nih.gov/health/educational/wecan/
- **Comprehensive School Physical Activity Program –** Best practices for schools for physical activity and physical education
  https://www.cdc.gov/healthyschools/physicalactivity/cspap.htm
- **Tennessee Coordinated School Health** Connects physical, emotional and social health with learning in every TN school district
  https://www.tn.gov/education/health-and-safety/coordinated-school-health.html

- **Gold Sneaker Initiative** - Best practices for licensed child care facilities

https://www.tn.gov/health/goldsneaker.html

- **American Academy of Pediatrics** - Healthy active living tips for young families https://www.healthychildren.org/English/healthy-living/growing-healthy/Pages/default.aspx

Physical Activity for Adults

- **Physical Activity is for Everybody** https://www.cdc.gov/features/physical-activity-disabilities/index.html
- **CDC, Division of Nutrition, Physical Activity & Obesity** https://www.cdc.gov/nccdphp/dnpao/
- **Healthy People 2020 Resources on Physical Activity** https://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity?topicid=33
- **HHS, Office of Disease Prevention and Health Promotion** https://health.gov/paguidelines/

Physical Activity for Seniors

- **National Institute on Aging: Exercise and Physical Activity for Older Adults**
  https://www.nia.nih.gov/health/exercise-physical-activity
- **National Institute on Aging: Go4Life**
  https://go4life.nia.nih.gov/
- **AARP Livable Communities**
  https://www.aarp.org/livable-communities/
- **Silver Sneakers**
  https://www.silversneakers.com/

Evaluating Community-Based Physical Activity Programs

The U.S. Department of Health and Human Services and CDC developed a Physical Activity Evaluation Handbook that focuses on engaging stakeholders, planning programs, evaluation, gathering credible evidence, justifying conclusions and sharing outcomes.
https://www.cdc.gov/nccdphp/dnpa/physical/handbook/pdf/handbook.pdf

Practical Clinical Tools

S	• **Specific** • Define goal(s) using who, what, where, and when
M	• **Measurable** • Track goal progress
A	• **Attainable/Achievable** • Make reasonable and realistic goals
R	• **Relevant/Reward** • Set goals that met needs
T	• **Timely** • Create timelines and deadlines

SMART goals help providers and patients work together on realistic, patient-centered physical activity plans.

Recommend exercises that use as many muscle groups as possible and include a variety of exercises such as aerobic, resistance, stretching and balance.

Moderate to vigorous physical activity is recommended and so intensity needs to be gauged in order to assess a patient's physical activity level. Exercise exertion can be gauged by how a person feels during exercise (such as how easy it is to talk).

The chart below helps determine exertion.

For those who choose, or if heart rate needs to be monitored, You can calculate the maximum heart rate and the desired target heart rate zone – the level at which the heart is being exercised and conditioned, but not overworked.

Heart Rate Zone Calculator: http://www.heartonline.org.au/resources/calculators/target-heart-rate-calculator

Rate of Perceived Exertion (RPE) Chart[6]

1	**Very Light Activity** **Breathing not changed**
2-3	**Light Activity** **Easy to breathe and carry on a conversation**
4-6	**Moderate Activity** **Breathing more heavily – can carry on a conversation but it requires more effort**
7-8	**Vigorous Activity** **On the verge on becoming uncomfortable - conversation requires maximum effort**
9	**Very Hard Activity** **Difficult to maintain exercise or speak**
10	**Maximum Effort Activity** **Full out effort – no conversation possible**

Recommended Physical Activity[7]

Age	Aerobic Activity Recommendation	Muscle Strengthening (MS) Recommendation
6-17	60 minutes of moderate to vigorous physical activity (PA) per day (420 minutes/week)	Include (MS) activities that involve all major muscle groups 3-4 times a week
18-64	150 minutes of moderate PA per week, or 75 minutes of vigorous PA per week	Include (MS) activities that involve all major muscle groups 2 times a week
65+	150 minutes of moderate PA per week, or 75 minutes of vigorous PA per week	Include (MS) activities that involve all major muscle groups 2 times a week

Motivational Interviewing

Motivational interviewing is a patient-centered counseling method that aims to increase intrinsic motivation to change behavior.

The American Academy of Pediatrics (AAP) Institute for Healthy Childhood Weight offers opportunities to learn and practice motivational interviewing through role-play simulation.
The web-based training is available online at:
https://ihcw.aap.org/resources/Pages/default.aspx

Helping Patients Address Physical Activity Barriers[8]

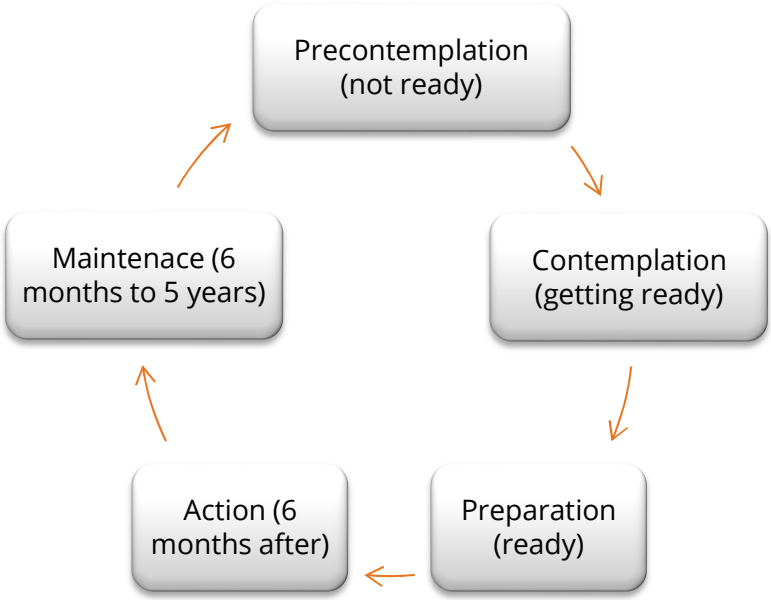
- **Lack of Time**
  - Identify five 30-minute time slots to devote to physical activity in one week.
  - Add exercise to your calendar.
- **Lack of Energy**
  - Schedule workouts for times you feel most energetic.
  - Add physical activity into your daily routine. Park farther away at a destination or ride a bike to the store. Taking the bus usually requires walking to bus stops and increases daily steps.
- **Lack of Skill**
  - Select activities that do not require new skills (walking, climbing stairs).
  - Take classes to acquire new skills and techniques.
- **Lack of Resources**
  - Select activities which require minimal equipment (jumping rope, jogging, gardening, or dancing).
  - Identify free or inexpensive resources in community (trails, community or senior centers).
- **Lack of Social Setting**
  - Identify a workout partner.
  - Join an exercise group.

Theories and Models to Help Understand Adoption of New Health Behaviors[9]

- **The Health Belief Model** can be used with intrapersonal health behaviors such as healthy eating and physical activity. This model focuses on the individual's beliefs, motives and thoughts.

Perceived Susceptibility	One's opinion of developing a health condition or risk
Perceived Severity	One's opinion of how severe the condition is
Perceived Benefits	One's opinion on the benefits of choosing a new action
Perceived Barriers	One's opinion on tangible and psychological costs
Cues to Action	One's readiness to start the new action
Self-Efficacy	One's confidence to take action

The **Transtheoretical Model or Stages of Change Model** can be used to assess a patient's readiness to take action and adopt a new health behavior.



Ask the patient to mark yes or no:
1) I am currently physically active (at least 30 minutes per week)

2) I intend to become more physically active in the next 6 months

3) I currently engage in regular physical activity (150 minutes of moderate or 75 minutes of vigorous physical activity per week, or a combination)

4) I have been **regularly** physically active for the past 6 months

From the American College of Sports Medicine, Exercise is Medicine: Exercise Stages of Change Questionnaire[10]

Scoring Key:

No to 1, 2, 3, 4 – Precontemplation

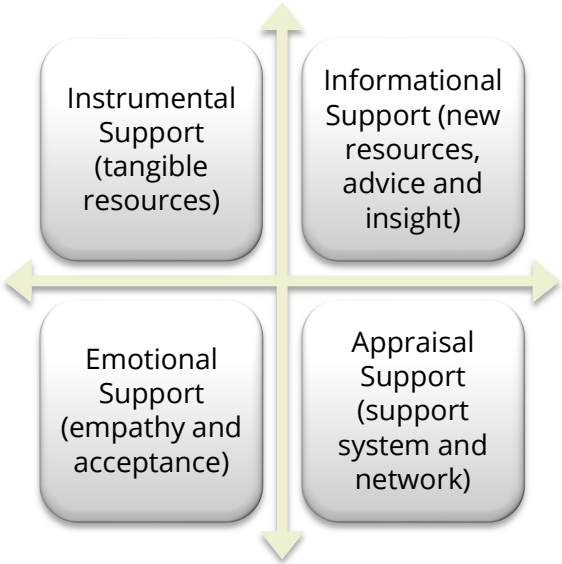
No to 1, 3, 4 & *Yes* to 2 – Contemplation

Yes to 1, 2 & *No* to 3, 4 – Preparation

Yes to 1, 3 & *No* to 4 (either yes/no to 2) – Action

Yes to 1, 3, 4 (either yes/no to 2) - Maintenance

Social Support Theory can be used during physical activity promotion, information sessions and reinforcement.



County Health Department Physical Activity Success Story

Southeast Region- Franklin County

Recognizing the need for accessible physical activity programs in the community, a Zumba class was started by Tonya Garner, former Health Educator at Franklin County Health Department, Jessica May of the Rain Teen Center, and Sofia Leon-Meza, new Health Educator. Sofia posts

"healthy tip of the week" on the Facebook page that class attendees can join, and also brings hand-outs to class on topics such as healthy cooking, the importance of drinking water, the benefits of physical activity, and incentives such as Live Tobacco Free. During each class Sofia measures the participants BMI and waist circumference so that participants can track their progress. Sofia also gives them a chart to track their physical activity, food, and water intake.

One of the participants that Sofia and Jessica helped was a client from Tullahoma. This client was at a total loss with her weight and prayed to be able to lose weight, have the tools she needed to help her lose, put the right people in her life, and give her a mind-set to accomplish this goal. In the Trans-theoretical Model of Change, this client was in the preparation stage. A week later someone invited her to the Zumba class at the Rain Teen Center. At first the classes were tiring and challenging but she persevered. At this point, the client was in the action stage! This motivated client set a goal on January 10th, 2017 to lose 100 pounds and exceeded that goal by losing 106 pounds by January 10th, 2018. This client is now in the maintenance stage. She continues to work on losing weight and has benefited from the activity in her Zumba class as well as the accountability and encouragement she receives from class leaders and fellow classmates!

Sample Exercise Plans

Moderate Aerobic Activity[11, 12]

150 minutes of 60% – 80% intensity

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Example 1	30 minutes of walking	30 minutes of walking	Core or weights	30 minutes of walking	30 minutes of walking	Core or weights	30 minutes of walking
Example 2	30 minutes of walking	15 minutes of intervals	30 minutes of walking	15 minutes of jogging, 30 minutes of walking	15 minutes of intervals	15 minutes of jogging, 30 minutes of walking	Core or weights

* 30 minutes of walking = about 4 miles per hour

Additional moderate activities: dancing, gardening, housework, hunting, walking domestic animals, and biking.

Vigorous Intensity Activity[11, 12]

75 minutes of 80% and above intensity

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Example 1	20 minutes of intervals	Rest day	15 minutes of jogging	20 minutes of intervals	Rest day	20 minutes of jogging	Core or weights
Example 2	20 minutes of intervals	Core or weights	20 minutes of intervals	Rest day	20 minutes of intervals	Core or weights	15 minutes of jogging

* 15 minutes of jogging = about 6 miles per hour

Additional vigorous activities: fast cycling, fast swimming, competitive sports, paddle sports, and climbing.

Moderate Interval Exercise Plan	***Vigorous Interval Exercise Plan***
30 minute activity (30 seconds per activity, 30 seconds rest) **Note: the activity is 30 minutes, but the exercise counts as <u>15 aerobic minutes</u>*	30 minute activity (40 seconds per activity, 20 seconds rest) **Note: the activity is 30 minutes, but the exercise counts as <u>20 aerobic minutes</u>*
• Jumping jacks (warm up) • Plank • Burpees • Crunches • Jumping in place • Squats • Push ups *Repeat until all 30 minutes are completed*	• Jump rope (warm up) • Plank • Squat jumps • Crunches • High knees • Walking lunges • Push ups *Repeat until all 30 minutes are completed*

Sample exercise plans are for patients who have been thoroughly assessed and instructed by the physician, APRN, or exercise professional.

Additional Resources

Websites

- **2018 Physical Activity Guidelines Advisory Committee Scientific Report**
  https://health.gov/paguidelines/second-edition/report/pdf/PAG_Advisory_Committee_Report.pdf
- **American College of Sports Medicine**
  https://www.exerciseismedicine.org/support_page.php/healthcare-providers/
- **Physical Activity for People with Disabilities**
  https://healthfinder.gov/FindServices/SearchContext.aspx?topic=14554

Free Smartphone apps

7 Minute Workout Challenge
•Preloaded quick workouts

Argus
• Meal Planner, Activity Tracker, Sleep Cycle

Cyclemeter
•Road & mountain biking tracker

Eat This Much
•Recipes, meal planner, grocery list generator

Healthier Tennessee
•Small daily goals to achieve overall wellness

MyFitnessPal
•Calorie Counter and diet tracker

PEAR Personal Fitness Coach
•Audio coaching, personalizes workouts

Runtastic
•Run and walking tracker with GPS

Sworkit
•5 - 60 minute prerecorded workouts

Yoga Studio
•Prerecorded yoga videos and meditations

References

1. Physical Activity. Centers for Disease Control and Prevention. https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm. Published February 13, 2018. Accessed July 2, 2018.
2. What Works: Increasing Physical Activity. The Community Guide. https://www.thecommunityguide.org/sites/default/files/assets/What-Works-Factsheet-PhysicalActivity.pdf. Published September 2017. Accessed July 3, 2018.
3. Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity, and Obesity. Data, Trend and Maps [online]. [accessed Aug 06, 2018]. URL: https://www.cdc.gov/nccdphp/dnpao/data-trends-maps/index.html.
4. Tennessee Public Schools: A Summary of Weight Status Data 2016-17. Tennessee Department of Education. https://www.tn.gov/content/dam/tn/education/csh/csh_bmi_school_summary_2016-17.pdf. Published 2017. Accessed July 17, 2018.
5. Division of Nutrition, Physical Activity, and Obesity. Centers for Disease Control and Prevention. https://www.cdc.gov/nccdphp/dnpao/state-local-programs/physicalactivity.html. Published April 26, 2018. Accessed July 5, 2018.
6. The Importance of Physical Activity for Individuals with Arthritis. Intensity during Aerobic Activity. https://www.nchpad.org/1194/5824/The~Importance~of~Physical~Activity~for~Individuals~with~Arthritis. Accessed August 7, 2018.
7. Appendix 1. Physical Activity Guidelines for Americans. Chapter 4 - 2008 Physical Activity Guidelines. https://health.gov/dietaryguidelines/2015/guidelines/appendix-1/. Accessed July 11, 2018.
8. Physical Activity. Centers for Disease Control and Prevention. https://www.cdc.gov/physicalactivity/basics/adding-pa/barriers.html. Published December 20, 2017. Accessed July 2, 2018.
9. Physical Activity and Health: A Report of the Surgeon General. Centers for Disease Control and Prevention. https://www.cdc.gov/nccdphp/sgr/chap6.htm. Accessed July 6, 2018.
10. Exercise is Medicine. Healthcare Providers' Action Guide. Appendix F-Exercise Stages of Change Questionnaire. Page 20. http://www.exerciseismedicine.org/assets/page_documents/Complete%20HCP%20Action%20Guide.pdf. Accessed August 13, 2018.
11. Adding Physical Activity to Your Life. Centers for Disease Control and Prevention. https://www.cdc.gov/physicalactivity/basics/adding-pa/index.htm. Published June 4, 2015. Accessed July 2, 2018.

12. What is Moderate-intensity and Vigorous-intensity Physical Activity? World Health Organization. http://www.who.int/dietphysicalactivity/physical_activity_intensity/en/. Published October 6, 2014. Accessed July 3, 2018.