

# In Touch with Extension



## Physical Inactivity More Risky than Overweight

Submitted by Jean Day

Steven Blair, Director of Research at the Cooper Institute in Dallas, recently came to the University of Missouri to present a talk titled "Physical Inactivity: Our Biggest Public Health Problem." His bottom line message is that being physically inactive is more of a health risk than being overweight. His research shows that thin, but inactive people are more likely to develop chronic diseases like heart disease and diabetes and to die than people who are overweight but physically active.

At the Cooper Institute, Dr. Blair and his colleagues have studied more than 75,000 men and women for an average of 6 years. Their dramatic findings have been published in such prestigious journals as the Journal of the American Medical Association, the American Journal of Clinical Nutrition, and the American Journal of Cardiology.

In his research, Dr. Blair has looked at people who he groups as low (as in not) fit, moderately fit, and highly fit. The greatest benefit in terms of health was seen between the low or unfit and the moderately fit groups. Or, as Dr. Blair likes to point out, you don't have to be a marathon runner or anything like it to be moderately fit. He believes the current recommendations to get 30 minutes of activity a day will get most people close to being moderately fit. Blair plans to do additional research on the amount of activity needed by most people to be moderately fit.

Steven Blair's research affirms what many health professionals have been saying about activity - that just 30 minutes a day is all it takes to be healthy. And, it is likely that 30 minutes does not have to be taken all at once. Instead, it is cumulative; so three 10 minute sessions will do as well as 30 minutes taken all at one time.

What can you do to put yourself into that moderately fit category? Here are some suggestions.

- Take a moment to brainstorm a list of activities you could do for just 10 minutes at a time. Go ahead - do it now! Your list might include things like:
  - walk once around the block;
  - hop on a stationary bicycle;
  - park at the far end of the parking lot and walk around the building before going in;
  - do two sets of eight repetitions of one strengthening exercise
  - walk up and down the stairs in your home or at your place of work
  - get the vacuum cleaner and make one pass along the main traffic areas in your home
  - take the baby out for a ride in the stroller
  - put on your favorite music and be the leader of the band
  - challenge your kids or grandkids to a game of tag
  - during TV commercials, get up and walk around the house

### INSIDE THIS ISSUE:

Physical Inactivity More Risky than Overweight	1
Autumn Colors	2
Healthier in 2030	3
Fall colors for common native Missouri deciduous trees	4
Extension Council	4

### STAFF SERVING THE PHELPS COUNTY EXTENSION OFFICE:

- *Rachel Buenemann—Community Engagement Specialist and Health & Nutrition*
- *Jean Day—Family Nutrition Education*
- *Laura Faherty—Office Support*
- *Sarah Havens—Natural Resources*
- *Vacant—Human Development*
- *Cathy Galland—4-H Youth Development*

Like us on [Facebook](#)

Continued on page 4

## Autumn Colors Submitted by Sarah Havens

The spectacular parade of colors associated with the Indian summer days of autumn is created by a complicated series of interactions involving pigments, sunlight, moisture, chemicals, hormones, temperature, length of daylight, growing location and genetic traits. A precise clockwork within the leaf cells sets the forests of Missouri ablaze when early fall days are bright and cool, and nights are chilly but not freezing.

Several central Missouri highways have reputations for being particularly beautiful autumn drives:

- Highway 19 between I-70 and Hermann
- Highway 94 north of the Missouri River between Jefferson City and Hermann,
- Highway 100 south of the Missouri River between Hermann and Washington.

A favorite route for fall foliage watching in eastern Missouri is Highway 79 along the Mississippi River between Winfield and Hannibal.

Good colors can also be found on the bluffs along the Missouri River Trail in the central part of the state around Columbia and the Piedmont area around Ironton.

The leaves of the growing season are green because of the formation of chlorophyll, a pigment found in minute leaf structures called plastids. Chlorophyll is the change agent for food making in green plants. These green pigments use energy from sunlight, carbon dioxide from air, and water from the tree itself to produce simple sugars that feed the tree in a delicate process known as photosynthesis.

Yellow and orange pigments called carotenoids are also present in the leaves during the warm weather of the growing season, but are "masked" by the greater amounts of the green pigments (Figure 2). Autumn's dropping temperatures and decreasing day length stop the production of new green pigments and cause existing chlorophyll to degrade at an accelerated rate. The yellow pigments are then "unmasked" as the green pigments disappear, accounting for the brilliant coloration of Missouri hardwood species such as hickories, birches, cottonwood, sassafras, poplars and hackberry.

These autumn environmental stimuli also cause the leaves to form a hormone called abscisic acid. The

abscisic acid induces the plant to form weak layers of new cells at the base of the leaf stem. These abscission zones eventually break apart from wind or other physical disturbances, often causing the leaf to fall before the yellow and red pigments have deteriorated.



The pigments responsible for the vivid red and purple autumn colors of persimmons, dogwoods, maples, sumacs, sweetgums and ashes come from another group of cell pigments called anthocyanins. Anthocyanins develop in the sap of leaf cells in late summer and are stimulated by lowering temperatures and high light levels. If the tree's sap is acidic, the leaves become red; alkaline sap causes purple coloration. Anthocyanin formation in the leaf depends on a simultaneous increase of sugars in the presence of bright light and a decreasing level of phosphate caused by the chemical moving out of the leaf into the stem. Mild drought conditions also stimulate production of the red pigments.

Carotenoids and anthocyanins often combine in leaves to give the deep oranges, fiery reds, and bronzes typical of many hardwood species. Brown autumn leaf color of oaks and beech is due to the presence of the brownish tannin compounds in combination with the carotenoids.

Several environmental factors can diminish the fall foliage colors. Very warm weather conditions encourage late season chlorophyll production and vegetative growth, which discourages initiation of autumn colors. An early frost before abscission kills the leaf before the pigments reach their maximum development, causing it to simply shrivel and fall to the ground. Long periods of wet, cloudy weather in fall produce a drab coloration because of low light intensity.

To summarize, cool but not freezing temperatures, mild late-season drought and sunny days are necessary ingredients for creating the brightest fall colors of the Missouri woodlands.

## Healthier in 2030

Written by Rachel Buenemann MS, RD, LD, Nutrition and Health Specialist

Where will you be 10 years from now? Will you live in the same house? Will you work at the same job? Do you have a specific vision of what you hope to accomplish for your health before 2030?

If not, don't worry you can choose from the 355 goals provided by the US Department of Health and Human Services (US DHHS) in the Healthy People 2030 report. Each decade the US DHHS publishes a Healthy People report establishing objectives to improve the nation's health. The report sets strategic priorities for efforts in preventing health conditions like diabetes, modifying health behaviors like healthy eating, targeting high risk populations like older adults, and addressing social determinants of health like health care access.

The objectives are written to be accomplishable by the report's end year of 2030, and are generally achievable with minor adjustments to environment or behavior.

This article presents advice for meeting five of the Healthy People 2030 objectives in 'Healthy Eating'.

**Objective 1.** Increase the consumption of dark green vegetables, red and orange vegetables and beans and peas, from 0.31 cups to 0.33 cups.

Meet the goal 1. Replace one snack a week with an additional green or orange vegetable like snap peas.

**Objective 2.** Increase the consumption of whole grains, from 0.46 oz equivalents to 0.62 oz equivalents.

Meet the goal 2. Each day switch  $\frac{1}{2}$  of a refined grain serving to a whole grain. Try  $\frac{1}{2}$  cup whole grain cereal or  $\frac{1}{2}$  cup brown rice, or 1.5 cup of popcorn.

**Objective 3.** Reduce the consumption of saturated fat, from 11.4% to 8.4% of daily calories.

Meet the goal 3. Each day switch one high saturated fat serving for a low saturated fat serving. Try switching 8 oz. 2% milk for skim, or 4 oz. of 70% lean ground beef for 85% lean ground beef, or 1 Tbsp. butter for 1 Tbsp. olive oil.

**Objective 4.** Reduce consumption of added sugars, from 13.5% to 11.5% of daily calories.

Meet the goal 4. Each day switch one high sugar product for a reduced sugar product. Try switching three chocolate sandwich cookies for a baked apple, or a vanilla sweetened yogurt for a plain yogurt, or eliminating 2.5 packets of sweetener from your daily coffee/tea.

**Objective 5.** Increase daily potassium consumption, from 1,000mg to 1,200mg.



Meet the goal 5. Include potassium rich foods in your meals. Try an additional serving of low fat dairy or  $\frac{1}{2}$  cup beans, or replacing a soda with a plant juice (prune, pomegranate, orange, carrot).

These were 5 of 315 goals our communities will be trying to meet in the next ten years. To see the rest of the US DHHS Healthy People 2030 objectives visit their website at <https://health.gov/healthypeople>. To discuss more opportunities to meet the health and diet changes recommended by the report call your local Extension Center Nutrition and Health Specialist.

Continued from page 1

- Post your list where you are likely to see it several times every day - by the bathroom mirror, on the refrigerator, on the car dashboard.
- Set up reminders on your computer to take an activity break during your work or computing day.
- Use a kitchen timer when exercising to help you keep track of ten minutes. That way, you can concentrate on the activity and not the minutes.
- Keep a spare pair of walking shoes in your car so you'll be ready to take advantage of a few spare minutes to walk.
- Use some of your lunch or break time for activity. If you like to spend this time catching up on the latest office news, invite others to come along.
- Develop your own 10-minute workouts that address your fitness weaknesses like poor balance or flabby muscles.

## Fall colors for common native Missouri deciduous trees

Continued from page 2

- **Ash, green** *Fraxinus pennsylvanica*, yellow
- **Ash, white** *Fraxinus Americana*, orange/purple
- **Basswood, American** *Tilia Americana*, brown/yellow
- **Birch, river** *Betula nigra*, yellow
- **Bladdernut, American** *Staphylea trifolice*, yellow
- **Buckeye, Ohio** *Aesculus glabra*, yellow
- **Cherry, black** *Prunus serotina*, yellow
- **Dogwood** *Cornus florida*, red/purple
- **Elm, American** *Ulmus Americana*, yellow
- **Hackberry** *Celtis occidentalis*, yellow
- **Hawthorn, downy** *Crataegus mollis*, red
- **Hazelnut** *Corylus Americana*, yellow
- **Hickory, bitternut** *Carya cordiformis*, yellow
- **Hickory, shagbark** *Carya ovata*, orange/yellow
- **Honeylocust** *Gleditsia triacanthas*, yellow
- **Ironwood** *Ostrya virginiana*, yellow/red
- **Maple, black** *Acer nigrum*, yellow/orange
- **Maple, red** *Acer rubrum*, yellow/orange/red
- **Maple, silver** *Acer saccharinum*, yellow
- **Maple, sugar** *Acer saccharum*, yellow/orange/red
- **Musclewood** *Carpinus caroliniana*, yellow/orange/red
- **Oak, post** *Quercus stellate*, brown/red
- **Oak, northern red** *Quercus rubra*, red
- **Oak, white** *Quercus alba*, brown/red
- **Persimmon** *Diospyros virginiana*, orange/yellow/red
- **Poplar** *Populus deltoides*, yellow
- **Redbud, eastern** *Cercis canadensis*, yellow
- **Sassafras** *Sassafras albidum*, orange/yellow/red/purple
- **Serviceberry, downy** *Amelanchier arborea*, yellow/orange/red
- **Sumac, smooth** *Rhus glabra*, red
- **Sycamore, American** *Platanus occidentalis*, brown/yellow
- **Walnut, black** *Juglans nigra*, yellow

Website:  
<http://extension2.missouri.edu/phelps/>

University of Missouri  
 Phelps County

Phelps County Courthouse  
 200 North Main  
 Rolla, MO 65401

Phone: 573-458-6260  
 Fax: 573-458-6264

E-mail: [phelpsco@missouri.edu](mailto:phelpsco@missouri.edu)


**Extension**  
 University of Missouri  
 Phelps County

"equal opportunity/ADA institution"

## What to know what is happening with MU Extension?

Don't miss out on another program hosted by MU Extension. Sign up for our Friends of Phelps County weekly updates newsletter.

Visit <https://extension2.missouri.edu/counties/phelps>

and sign up today.

### PHELPS COUNTY EXTENSION COUNCIL:

- Chris Beaugard
- Theresa Davidson
- Maretta Diestelkamp
- Robin Higley
- Gary O'Day
- Paul Long
- Sarah Oerther
- Josh Ratliff
- Patty Reynolds
- Rosalie Spencer
- Larry Stratman
- Suzan Van De Mark
- Linda Wischow