



# WALK KANSAS

**K-STATE**  
Research and Extension

[www.WalkKansas.org](http://www.WalkKansas.org)

2023 WEEK FIVE



## Exercise and Your Knees

Knee pain is quite common and can make it tough to exercise. Arthritis, injury, and overuse are the primary causes of knee pain. If you have knee pain, it is important to keep moving, even if you don't feel like it. Exercise is key to restoring knee function, decreasing pain, and it helps you lose extra pounds and maintain a healthy weight.

Low impact exercises are the best for bad knees. Exercise can help alleviate swelling and stiffness, improve range of motion in the joint, and strengthen muscles around the knees. Strengthening the muscles around the knee will also take pressure off the knee. Research also shows that exercise may reduce the progression of knee osteoarthritis.

Weak quadriceps muscles can lead to knee instability, increasing wear and tear. Quads are the main muscles that support the knees, and strengthening these muscles plays an important role in knee function and pain management. Another muscle group supporting the knees are hamstrings. Low-impact exercises, like these below, will help stretch and strengthen the knee and supporting muscles, and help with weight loss and maintenance.

**Walking** helps lubricate the joints, increases blood flow to tight muscles, and helps strengthen the muscles that surround your knee. A more knee-friendly option is longer, slower walks.

**Biking** is a safe option for people with knee pain and it provides aerobic and strengthening benefits, targets the quadricep muscles, and promotes range of motion. Peddling will also strengthen your hamstrings and glutes.

**Water exercise** can help strengthen knee muscles and the buoyancy of the water allows you to be active without putting pressure on your joints.

**Strength training** is a must to improve knee function. Bodyweight exercises that are good

## In This Issue

Exercise and Your Knees

Importance of Stretching

Benefits of Massage

Improve Your Gut Health

Recipe: Blackberry Smoothie

## Coming Next Week

Exercise and the Heart

Benefits of HITT

Feel Better in 15 Minutes

DASH for Heart Health

Recipe: Spiced Oatmeal Pancakes

exercises for knees include straight leg raises ([www.verywellhealth.com/how-to-the-straight-leg-raise-2696526](http://www.verywellhealth.com/how-to-the-straight-leg-raise-2696526)) and squats or modified squats ([www.walkkansas.org/doc/newsletter/2022/Week7\\_Eng\\_22-1.pdf](http://www.walkkansas.org/doc/newsletter/2022/Week7_Eng_22-1.pdf)).

**Stretching** is something you don't want to skip as tight knee and leg muscles add to pain. Include knee quadriceps stretch ([www.verywellfit.com/quadriceps-stretches-2696366](http://www.verywellfit.com/quadriceps-stretches-2696366)) and standing hamstring stretch ([www.verywellfit.com/hamstring-stretches-2696359](http://www.verywellfit.com/hamstring-stretches-2696359)).

While the types of exercise mentioned can help with knee pain significantly, make sure you start slowly, and gradually build up by increasing weight and repetitions. Gradually increase the amount of time you walk, bike, and exercise. Don't overdo it and stop any exercise that makes your pain worse. Avoid exercises that can overextend or put excessive pressure on your knees, like lunges, deep squats, and running.

## Importance of Stretching

Flexibility tends to diminish as you get older, but you can always regain and maintain flexibility with regular stretching. Flexibility is important so that muscles function properly and for range of motion. Stretching improves circulation, helps you maintain better posture, helps relieve stress from tight muscles, improves coordination and balance, and reduces muscle and joint stiffness.

The American College of Sports Medicine (ACSM) recommends stretching at least 2 to 3 times per week, working your way up to daily stretching. There are two basic types of stretches – dynamic and static.

**Dynamic stretches** are slow controlled movements that help warm the body and prepare muscles for moderate and vigorous activity. These should always be done as part of a warm-up for exercise. Examples of dynamic stretching include arm circles, shoulder rolls, hip rotation, and knee lifts.

The best time to do **static stretching** is just after exercise, when your muscles are warm. Here are tips to perform static stretching safely and comfortably:

**Warm up first**, if you are not doing stretches in combination with cardio or strengthening exercises. Walk for several minutes and gently pump your arms.

**Hold each stretch for 15 to 30 seconds** and repeat the stretch 2 to 4 times. Older adults may benefit from stretches held longer, for 30 to 90 seconds.

## Benefits of Massage

The positive benefits of massage can be achieved in as little as 20 minutes. You can even get similar benefits of a professional massage from a 20-minute self-massage. These benefits include reducing stress, pain, anxiety, and headaches. Massage can also help you sleep better.

An easy way to provide a bit of self-care is with a tennis ball foot massage. Sit in a chair, keeping your back straight, with a tennis ball on the ground in front of you. Place your bare foot on top of the ball. Slowly and gently roll the center of your foot over the tennis ball.

**Move to feel a stretch, but not pain.** You should be able to feel the sensation of the muscle elongating past where it normally is. This might feel uncomfortable, which is okay. If it is painful, back off.

**Don't bounce while you stretch.** This could cause small tears in the muscle, which would leave scar tissue as it heals. Scar tissue tightens the muscle even further, making you less flexible.

**Breathe!** Don't hold your breath while you are stretching. Relax and breathe.

**Stretch both sides** to make sure your joint range of motion is as balanced as possible. Focus on stretching major muscle groups such as the hips, glutes, hamstrings, calves, shoulders, back, and chest.

Check "Resources" in your Walk Kansas portal, Week 5, for a poster with stretching instructions. Here are several additional resources:

*Guide to Stretches* [www.mayoclinic.org/healthy-lifestyle/fitness/multimedia/stretching/sls-20076840?s=1](http://www.mayoclinic.org/healthy-lifestyle/fitness/multimedia/stretching/sls-20076840?s=1)

*Stretch Your Hip Flexor* [www.walkkansas.org/doc/newsletter/2022/Week8\\_Eng\\_22.pdf](http://www.walkkansas.org/doc/newsletter/2022/Week8_Eng_22.pdf)

*Stretching and Exercise Basics* [extension.colostate.edu/topic-areas/nutrition-food-safety-health/gut-microbiome-health-9-390/](http://extension.colostate.edu/topic-areas/nutrition-food-safety-health/gut-microbiome-health-9-390/)

## Improve Your Gut Health

A happy, healthy gut is important to your overall health. The gut is responsible for digesting food, absorbing nutrients, and eliminating waste. It is made up of the gastrointestinal (GI) tract, including your stomach and your small and large intestines.

About 100 trillion bacterial cells, or microbiota, live within your GI tract. Microbiota help you in various ways, and they can:

- » improve your immune system.
- » help you absorb nutrients.
- » form a protective barrier in your intestine to keep harmful bacteria from latching on.
- » produce natural antibiotic compounds that kill foreign microbes.
- » contribute to formation of new cells in the intestine.

It is important to maintain the right diversity of microorganisms in your gut. Diet, inflammation, illness, stress, and antibiotic use can impact the mix of microorganisms. Imbalance in your gut can result in diarrhea, abdominal pains, and cramping.

Healthy, whole, plant-based foods high in fiber support good gut bacteria, so include whole grains, fruits, vegetables, and legumes in your diet. Here

are several more ways to keep your gut in good condition:

- » Eat more prebiotic foods, like oats, barley, wheat, apples, bananas, onions, garlic, broccoli, asparagus, legumes, honey, and nuts. These provide non-digestible dietary fibers and food for the “good” bacteria in the intestine.
- » Eat more probiotic foods that contain live, beneficial microorganisms. Probiotics are naturally found in fermented food products like yogurt, sauerkraut, miso, tempeh, kefir, kimchi, sourdough bread, and fermented vegetables in a water brine.
- » Avoid artificial sweeteners. Studies have shown that artificial sweeteners negatively affect the microbiota and, in turn, work against healthy blood sugar levels.

By eating a diverse range of foods, and maintaining the balance of your gut microbiota, you can realize long-lasting health impacts. Having a healthy gut will improve digestion and absorption of nutrients, boost your immune system, and help protect against chronic diseases like cancer, obesity, and cardiovascular disease.

This recipe combines prebiotic and probiotic foods in a delicious smoothie!

## Blackberry Smoothie

*Makes 1 Serving*

### Ingredients:

- 1 cup frozen blackberries
- ½ medium banana
- ½ cup plain non-fat Greek yogurt
- ¼ cup non-fat milk
- ¼ cup rolled oats
- 1 tablespoon honey
- 1½ teaspoons fresh lemon juice

### Directions:

1. Place all ingredients in a blender and blend until well combined.

**Nutrition Information per 1 cup serving:** 430 calories; 3 g total fat (0.5 g saturated fat, 0 g trans-fat); 89 g carbohydrates; 19 g protein; 13 g fiber; 70 mg sodium; 55 g sugar.



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