Preventing Knee Pain in the Workplace

Take the time to perform these strength training and flexibility movements to stabilize your joints and aid in addressing knee pain

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Aching knees can make both work tasks and daily living activities miserable. You’re not alone if you experience this type of discomfort, as at least 25% of all adults suffer from frequent impeding knee pain.¹

The physical requirements of the occupation—such as repetitive kneeling, crouching, lifting, and continuous standing—put veterinary nurses at risk for musculoskeletal injuries and fatigue, including those associated with the lower extremities.² However, strength training and flexibility movements can work to stabilize the joints and aid in addressing knee pain.

WHY DO MY KNEES HURT?
Unfortunately, knee discomfort can result from numerous injuries involving ligaments, tendons, bursa, cartilage, and bone, as well as metabolic or autoimmune disorders. In the workplace, any abrupt lateral movement or fall can lead to damage, but very commonly, chronic stress from repetitive movement could be the source of aching knee discomfort as well.

In fact, the leading form of knee pain is patellofemoral pain syndrome (PFPS), more commonly referred to as “runner’s knee.”⁵ This condition is characterized by anterior knee pain. Runner’s knee is often the result of overuse and can affect anyone, regardless of whether you run. However, due to anatomical alignment, individuals assigned female at birth are at higher risk for PFPS.⁶ Muscle imbalance can also be a contributing factor for runner’s knee. In individuals with PFPS, weak hip musculature can cause internal rotation of the femur, leading to improper patellofemoral tracking.⁷ Strengthening the hip and thigh muscles can work to prevent PFPS and even reduce pain in those with the condition.⁸

Repetitive stress on the knees also increases your risk of developing osteoarthritis (OA) in those joints. In the veterinary setting, this could be repetitive rising and sitting, kneeling, carrying heavy loads, or being on your feet continuously. Intentionally strengthening the supporting muscles can improve joint function and minimize OA pain.⁹ Low-impact exercises are very effective in building muscular strength without contributing to knee overuse or overload. Additionally, movement can help you maintain a healthy weight, as excess weight is a risk factor for knee arthritis.¹⁰

Benefits of Intentional Movement
The “Movement Is Medicine” series will focus on common areas of discomfort for veterinary nurses in the workplace. Although this series will primarily discuss how intentional movement can protect your body on the job, it’s important to note that physical activity can also boost mood, elevate confidence, improve focus, increase energy, reduce stress, and improve quality of life.²

Adults should engage in at least 150 minutes of moderate-intensity aerobic activity plus 2 days of strength training each week.⁴ This might feel like an inconvenience—the last thing on your mind after a long shift—but think of it as an exercise prescription. You would want your clients to comply with prescribed recommendations, so aim to hold yourself accountable for 30- to 45-minute sessions 5 times each week. The key to adding fitness to your routine is to discover a modality of movement that you enjoy.
STRENGTH TRAINING EXERCISES

Weight-bearing exercises designed to strengthen the entire lower body, including the thighs and hip muscles, are important for overall joint and bone health. Aim to perform muscle-strengthening movements at least 2 days a week. Always consult a healthcare professional before adding new exercises to your routine and discontinue any movement if you experience pain while executing them.

Side-Lying Hip Abduction

- Lay on your side in a comfortable position. Maintain a neutral pelvis and ensure your hips are stacked.
- Bend the leg in contact with the ground and bring the knee forward slightly to create a supportive base. Keep the top leg straight with your toe pointing forward.
- Engaging the gluteus medius, raise the top leg directly upward, lifting no more than 6 inches. Avoid arching your back or rotating the top leg.
- Pause at the top of the movement, then gently release to the starting position.
- Complete up to 3 sets of 10 repetitions on each side.

Regression: Complete in a standing position.
Progression: Add a resistance band or weight.

High Squat Forward–Backward Walk

- Begin in a standing position with your feet about shoulder-width apart.
- Keep weight in your heels as you direct your rear backward, sitting into a high squat; knees should stay behind your toes.
- Shift your weight to one foot, then slowly lift your opposite leg and replace the foot about 6 inches in front of its original placement.
- Shift your weight to the other side and slowly lift the back leg, replacing it in front.
- Continue this walk for 5 steps forward, then repeat the process walking backward for 5 slow steps.
- Complete 5 rounds of this forward–backward cycle.

Regression: Limit the range of motion or duration.
Progression: Increase the range of motion by sitting deeper into the squat or add a resistance band or weight.

STRETCHING MOVEMENTS

Friction of the iliotibial (IT) band, the thick band of connective tissue that runs down the leg from the pelvis to the tibia, as a result of excessive tension, can also contribute to knee pain. Therefore, stretching the muscles where the IT band originates may provide relief or prevent IT band–associated pain.

Supine Glute Stretch

- Begin in a supine position. Lift one leg off the ground and guide the knee toward your chest.
- Grasp the back of your thigh, keeping your hips and shoulders in contact with the ground as you gently guide the leg toward your body.
- Hold for 20 to 30 seconds then repeat on the other side. Complete 2 to 4 repetitions.

SIDE-LYING HIP ABDUCTION (A) Be sure to keep your hips stacked during the exercise and engage your gluteus medius as you raise your leg. HIGH SQUAT FORWARD–BACKWARD WALK (B) Keep your knees behind your toes when in the squat position.
**Regression**: Bend the opposite leg.

**IT Band Stretch**
- Begin in a standing position and cross your right foot in front of the left, so your ankles are crossed.
- Keep your left leg (the leg that is behind) straight.
- Bring your hands together over your head and reach up and over toward the right side, feeling a deep stretch in your left hip.
- Hold for 20 to 30 seconds, then slowly release.
- Repeat with the other leg crossed. Complete 2 to 4 repetitions.

**Regression**: Remove the overhead reach.

**SPECIAL CONSIDERATIONS IN THE VETERINARY PRACTICE**
In addition to appropriate strengthening and stretching movements, there are a few ways you can help protect your knees in the veterinary workplace.

- **Shoe choice**: The type of shoes you wear in the veterinary clinic can impact knee pain symptoms. Studies suggest that shoes that offer stability and support can improve knee pain compared to more flexible varieties. Adequate support helps keep the knees in proper alignment while reducing shock to the joints with each foot strike or while standing. Look for a shoe with solid arch support rather than a flat sole. If you’re not ready to invest in a new pair of shoes, cushioned orthotic shoe inserts may help and are available for under $20.

- **Protective knee pads**: Kneeling on hard surfaces, for example, while restraining patients on the floor, can put you at an increased risk for knee injury. Because tasks of this nature can be unavoidable, it’s important to cushion your kneecaps. Individual gel knee pads are a great solution. Management can also provide veterinary team members with thick kneeling pads designed for cleaning, gardening, or fitness. In a pinch, place a rolled towel under your knees to absorb some pressure.

**YOU KNEE-D TO PROTECT YOUR KNEES**
Knee pain isn’t just uncomfortable—it can significantly limit your career and quality of life. While the amount of stress you put on these joints during work hours may be unavoidable, you can take action to protect your knees. Practice intentional movement and use appropriate protective equipment when possible. TVN

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Since entering the veterinary field in 2009, Saleema has held a variety of roles and positions. This diverse experience led to the discovery of her true passions for patient care, education, and mentoring. Saleema is currently part of the Boehringer Ingelheim Tech Champion team, delivering continuing education presentations to veterinary nurses, and practices in a high-caseload small animal practice. Saleema lives out her passion for fitness as a certified personal fitness trainer and group fitness instructor.