

# UVM ScholarWorks

## Weight Management and Knee Osteoarthritis: A Practical Approach for Primary Care Patients

Item Type	Presentation;Presentation
Authors	Thompson, Adam B
Download date	2026-06-12 08:42:29
Item License	<a href="http://creativecommons.org/licenses/by/4.0/">http://creativecommons.org/licenses/by/4.0/</a>
Link to Item	<a href="https://hdl.handle.net/20.500.14849/1754">https://hdl.handle.net/20.500.14849/1754</a>

# Weight Management and Knee Osteoarthritis: A Practical Approach for Primary Care Patients

Adam B. Thompson, BS

New Canaan Family Medicine

Rotation 7, 2025

Dr. Alexandra Schieber



Larner College of Medicine

# Problem Identification

- The greatest modifiable risk factor for development and progression of knee osteoarthritis is obesity. One pound reduction in body weight is 4 pounds of weight off the knee.<sup>1</sup>
- Knee pain often significantly restricts participation in physical activity; however, regular physical activity is recommended to prevent knee pain and osteoarthritis,<sup>2</sup> creating a challenging cycle.
- Among Connecticut adults, 21.3% have arthritis<sup>3</sup>, and the obesity rate stands at 30%, a number that has risen in the past decade.<sup>4</sup>

# Public Health Cost

- Knee osteoarthritis contributes to \$27 billion in annual healthcare costs, with expenditures related to knee replacement exceeding \$11 billion a year.<sup>5</sup>
- The average lifetime costs for someone diagnosed with knee osteoarthritis is about \$140,000.<sup>6</sup>
- In Connecticut, the cost of knee replacement surgery is among the highest in the nation, with an average outpatient hospital cash price being \$20,218 and an average surgery center cash price of \$15,933.<sup>7</sup>
- While many patients have insurance coverage, these high costs in CT highlight the need for further intervention and preventative measures that not only alleviate the burden on patients with knee pain but also the financial burden on both patients and the healthcare system.

# Community Perspective

- Physical therapist Desiree Elliott with Nuvance Health said,
  - “Arthritis is a double edge sword, it hurts to move, but you need to move in order to lose weight and improve knee function”.
  - “Physical therapy is a great option for patients with knee pain and osteoarthritis looking to maintain or increase their activity level”.

Agata Aspinwall with the Lapham Community Center in New Canaan said,

- “We have seen many of our community members with arthritis struggle to stay active due to pain”.
- “We have fitness classes that are a great option for individuals with arthritis who are looking to stay active”.

# Intervention and Methodology

- Recent recommendations for weight management in current clinical practice guidelines were reviewed in detail.
- A one-page pamphlet was created to effectively deliver information regarding weight loss recommendations for patients with knee osteoarthritic pain, with resources to our local community services.
- The pamphlet was printed and given to the primary care office in New Canaan Connecticut.

# Results and Response Data

- The pamphlet (as depicted on the right) was well received in the clinic and made readily available to all patients seeking more information on these resources.
- Clinical staff were made aware of its contents to help direct patients to appropriate resources.
- Direct patient feedback was limited.

## Weight Management & Exercise for Knee Pain/Osteoarthritis

We all want to be our healthiest selves, but it can be challenging to stay active when pain gets in the way. Excess weight puts added pressure on your knees, causing pain and worsening osteoarthritis. Each pound of body weight is 4 pounds of force on the knee, so even a small amount of weight loss can help reduce pain! Studies have shown even losing 5% of body weight is sufficient to reduce disability and knee pain!



### BEST EXERCISES FOR KNEE PAIN/OSTEOARTHRITIS:

Low-impact exercises help strengthen muscles and improve joint function without putting excessive strain on your knees. Try these options:

- **Water Aerobics & Swimming** – An excellent full-body aerobic activity that reduces joint stress while getting your heart rate up
- **Cycling (Stationary or Outdoor)** – Another great aerobic activity that builds knee strength while minimizing impact
- **Chair Yoga & Tai Chi** – Improves flexibility and balance
- **Walking** – Helps mobility without excessive strain

### PHYSICAL THERAPY EXERCISES

A structured exercise program can improve mobility and reduce pain. Speak to your doctor about the benefit of a formal physical therapy referral. Recommended progression:

- **Early Phase:**
  - Open chain non-weightbearing-exercises (e.g., straight leg raises) & stretching.
  - Balance exercises (e.g., standing on one leg with support)
- **Strengthening Phase Progression:**
  - Body weight isotonic strengthening exercises (e.g., squats, lunges)
  - Resistance band exercises for controlled muscle engagement
  - Isotonic strengthening exercises with resistance (e.g., weighted squats/lunges, leg press)



### FOR WHEN PAIN DOES OCCUR: Over the Counter (OTC) Pain Medications Guidelines

- **Acetaminophen (Tylenol)** – Often recommended for mild to moderate pain; talk to your doctor if exceeding 3,000 mg per day.
- **Nonsteroidal anti-inflammatories (NSAIDs)** (e.g., Ibuprofen, Naproxen) – Effective for reducing pain and inflammation; long-term use should be discussed with your doctor due to potential risks like stomach irritation.
- **Topical NSAIDs** (e.g., Voltaren Gel) – A safer option for localized pain relief with fewer systemic side effects. Apply directly onto the knee.

### LOCAL RESOURCES

**LAPHAM COMMUNITY CENTER:** Offers various fitness classes suitable for those with knee pain. More information is available in their Spring 2025 Newsletter.

- "Moving with Arthritis" – Mondays, March 3 – May 19 at 11 AM
- "Chair Fitness" – Thursdays, March 6 – May 29 at 12PM

### NEW CANAAN LIBRARY

- Fitness Courses – Includes "Chair Yoga" for gentle movement
- Cooking Courses – Learn principles of healthy cooking

### PHYSICAL THERAPY AT NUVANCE HEALTH

- Personalized therapy plans for knee pain and osteoarthritis
- Pain management strategies to keep you active and functional



# Evaluation of Intervention and Limitations

- The intervention provided beneficial information for community members struggling with weight management in the setting of knee pain and osteoarthritis.
- The pamphlet presents evidence-based information from peer-reviewed journal articles on knee pain and weight management, including recommended guidelines from the American Academy of Family Physicians regarding pharmacologic management.
- Notable limitations of the intervention include the absence of patient feedback and follow-up, which are essential for assessing its effectiveness and impact. The limited timeframe for distribution and evaluation is significant as well.

# Future Interventions

- **Implement a Follow-Up Strategy:** Conduct brief patient surveys or informal feedback collection to assess the pamphlet's usefulness and whether it influenced patient health decisions.
- **Extend the Distribution Period:** Allow more time for the pamphlet to be available in the clinic, ensuring greater patient exposure.
- **Enhance Engagement with Additional Clinic Locations:** Provide the pamphlet to other local clinics, in addition to community resources such as the public library.

# References

1. Messier SP, Legault C, Loeser RF, et al. Does high weight loss in older adults with knee osteoarthritis affect bone-on-bone joint loads and muscle forces during walking? *Osteoarthritis Cartilage*. Mar 2011;19(3):272-80. doi:10.1016/j.joca.2010.11.010
2. Yang L, Wang P, McGill B. The relationship between experience of knee pain and physical activity participation: A scoping review of quantitative studies. *Int J Nurs Sci*. 2023;10(2):258-267. Published 2023 Mar 21. doi:10.1016/j.ijnss.2023.03.010
3. Arthritis. Connecticut Official State Website. [www.portal.ct.gov/DPH/AIDS--Chronic-Diseases/Chronic-Disease/Arthritis#:~:text=One%20in%20five%20Connecticut%20adults,Risk%20Factor%20Surveillance%20System%202%2C000](http://www.portal.ct.gov/DPH/AIDS--Chronic-Diseases/Chronic-Disease/Arthritis#:~:text=One%20in%20five%20Connecticut%20adults,Risk%20Factor%20Surveillance%20System%202%2C000). Accessed 3/1/25
4. Obesity in Connecticut; value and rank based data from 2023. America's Health Rankings United Health Foundation. [www.americashealthrankings.org/explore/measures/Obesity/CT](http://www.americashealthrankings.org/explore/measures/Obesity/CT). Accessed 3/1/25
5. Messier SP, Legault C, Loeser RF, et al. Does high weight loss in older adults with knee osteoarthritis affect bone-on-bone joint loads and muscle forces during walking? *Osteoarthritis Cartilage*. Mar 2011;19(3):272-80. doi:10.1016/j.joca.2010.11.010
6. Losina E, Paltiel AD, Weinstein AM, et al. Lifetime medical costs of knee osteoarthritis management in the United States: impact of extending indications for total knee arthroplasty. *Arthritis Care Res (Hoboken)*. 2015;67(2):203-215. doi:10.1002/acr.22412
7. Cost of knee replacement surgery in Connecticut. Sidecar Health. <https://cost.sidecarhealth.com/s/knee-replacement-surgery-cost-in-connecticut>. Accessed 3/1/25