

# Things That Go Aching in The Night: How to Manage a Scary Knee Joint Managing Osteoarthritis



James C Hwang MD  
Primary Care Sports Medicine  
Dept of Orthopedics and Sports Medicine  
Kaiser Permanente Orange County

*How to take control*

**Overview**  
—

**What is  
OA?**

**The Pain  
Cycle**

**Treat  
The Pain**

**What's  
next**

# Goals of this Discussion

- What are some causes of aching knees?
- How do we diagnose it and how severe is it?
- What are some treatments to manage aching knees in order to continue to enjoy life?

**The New  
Norm**

## The New Norm

- Many patients deal with symptoms of joint pain with the knee joint being one of the most common.
- This may include stiffness after sitting, pain with activity or after a long day.
- Swelling of the knees and that toothache feeling of the joints.
- Most times this can be due to osteoarthritis.

# Things That Go Aching in The Night: How to Manage a Scary Knee Joint Managing Osteoarthritis



James C Hwang MD  
Primary Care Sports Medicine  
Dept of Orthopedics and Sports Medicine  
Kaiser Permanente Orange County

*How to take control*

**Overview**  
—

**What is  
OA?**

**The Pain  
Cycle**

**Treat  
The Pain**

**What's  
next**

# Osteoarthritis

- Osteoarthritis is a chronic degenerative condition which can affect our joints.
- According to the CDC up to 50% of Americans over the age of 65 will be affected
- Osteoarthritis can limit your range of motion, cause pain and affect your lifestyle

What is Arthritis ?

History

Why and How?

How is it Diagnosed?

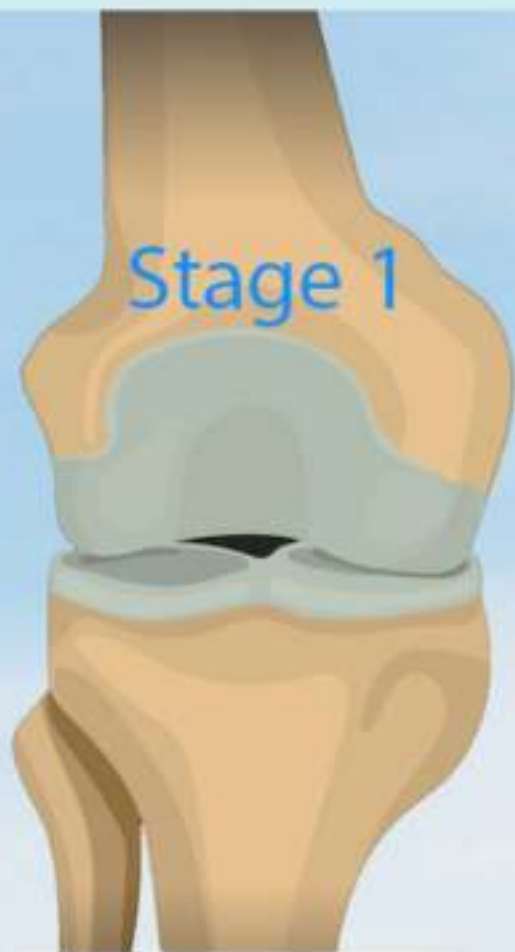
# What is Osteoarthritis?



There are different types of arthritis but the most common is osteoarthritis which is a combination of wearing of the cartilage cushion of the joints and inflammation.

## Stages of Knee Osteoarthritis

Stage 1



Minimum disruption,  
10% cartilage loss

Stage 2



Joint-space narrowing.  
The cartilage beginning  
to break down.  
Occurance of osteophytes.

Stage 3



Moderate joint-space  
reduction. Gaps in the  
cartilage can expand  
until they reach the bone.

Stage 4



Joint-space greatly  
reduced. 60% of the  
cartilage is already  
lost. Large osteophytes.

# Evolution of Arthritis

Arthritis has plagued human kind since ancient times



In Greek Mythology: The Sphinx's Riddle

Q: What walks on four legs in the morning, on two legs at noon and on three legs in the evening?

Arthritis

The Plague of Arthritis



# Arthritis



A: Man: Who crawls on all fours as a baby, walks on two legs as an adult and walks with a cane in old age



## The Plague of Arthritis



Left femur and tibial bones of this elderly man show evidence of arthritis at the knee. From tomb 36, Gabati, Sudan. circa 300 BCE. (The British Museum, London)

## Why and How?

- Arthritis is a general term that means inflammation of the joints.
- Osteoarthritis, commonly known as wear and tear arthritis, is the most common type of arthritis.
- It can occur in any joint but commonly in weight bearing joints like the knee

Symptoms Of  
Osteoarthritis

# Symptoms Of Osteoarthritis

If your mensicus and articular cartilage erode you may experience:



- Joint aching and soreness, especially with excess activity
- Pain after overuse or after long periods of inactivity
- Stiffness after periods of rest
- The knee can become bowed
- Joint swelling
- Grinding sensation with movement

## How is it Diagnosed?

- Your description of symptoms
- The location and pattern of pain
- Physical exam
- X-rays







A lateral X-ray of a knee joint showing severe osteoarthritis. The femur is at the top, and the tibia is below it. The joint space is significantly narrowed, and there are prominent bony spurs (osteophytes) extending from the joint surfaces. The text "The joint space is obliterated and the bones form spurs" is overlaid in yellow on the lower part of the image.

The joint space is  
obliterated and the  
bones form spurs



# Things That Go Aching in The Night: How to Manage a Scary Knee Joint Managing Osteoarthritis



James C Hwang MD  
Primary Care Sports Medicine  
Dept of Orthopedics and Sports Medicine  
Kaiser Permanente Orange County

*How to take control*

**Overview**  
—

**What is  
OA?**

**The Pain  
Cycle**

**Treat  
The Pain**

**What's  
next**

# The Pain Cycle

How do we break out of this pain cycle caused by Osteoarthritis?



The Pain  
Relationship

# The Pain RelationShip

Osteoarthritis Pain can be an unwelcome guest in your life.



It can effect all aspects of your life.  
Take charge to manage it!

# Things That Go Aching in The Night: How to Manage a Scary Knee Joint Managing Osteoarthritis



James C Hwang MD  
Primary Care Sports Medicine  
Dept of Orthopedics and Sports Medicine  
Kaiser Permanente Orange County

*How to take control*

**Overview**  
—

**What is  
OA?**

**The Pain  
Cycle**

**Treat  
The Pain**

**What's  
next**

# How Do We Manage OA?

Take  
Charge



Continued  
Care

Sometimes dealing with the symptoms of osteoarthritis can feel like surfing a wave. Things can change with numerous things like weather, travel, and falls.

# Take Charge

What are some ways to help your pain at home?

- **Movement** and activity can decrease pain and stiffness while improving function
- **End inflammation** with dietary changes (plant based diets) while improving weight
- **Negate pain** (anti-inflammatories which can be oral/injectable/topical, heat, ice, pain modulators like tylenol, tissue manipulation, acupuncture)
- **Decrease stress** and find balance as a sound mind leads to a sound body

Movement  
—

End  
Inflammation

Negate  
Pain

Decrease  
Stress

# Movement is Key

Your joint is made to move. Movement allows you to decrease stiffness and pain. When you move your knee joint, it can naturally trigger the release of anti-inflammatory substances (IL-10) within the joint, which helps to reduce inflammation and pain, particularly in conditions like osteoarthritis. Gentle low impact exercise with muscle strengthening is a key treatment.



# End Inflammation

A plant based diet can help reduce inflammation, improve health, and your weight.

- Every lb lost is roughly 4 lbs on your joints
- Your diet can affect inflammation levels in the body as well as your energy levels
- Dark leafy greens contain natural anti-inflammatories (isothiocyanates and sulforaphanes) which concentrate in the joint.
- Food and exercise are medicine. Why neglect the easiest medication to get?



*Lifestyle plays a key role*



# Decrease Pain

Your personalized medication treatments may include:

## Medications:

- Tylenol
- NSAIDs (Motrin, Advil, etc) / topical NSAIDs
- 

## Supplements:

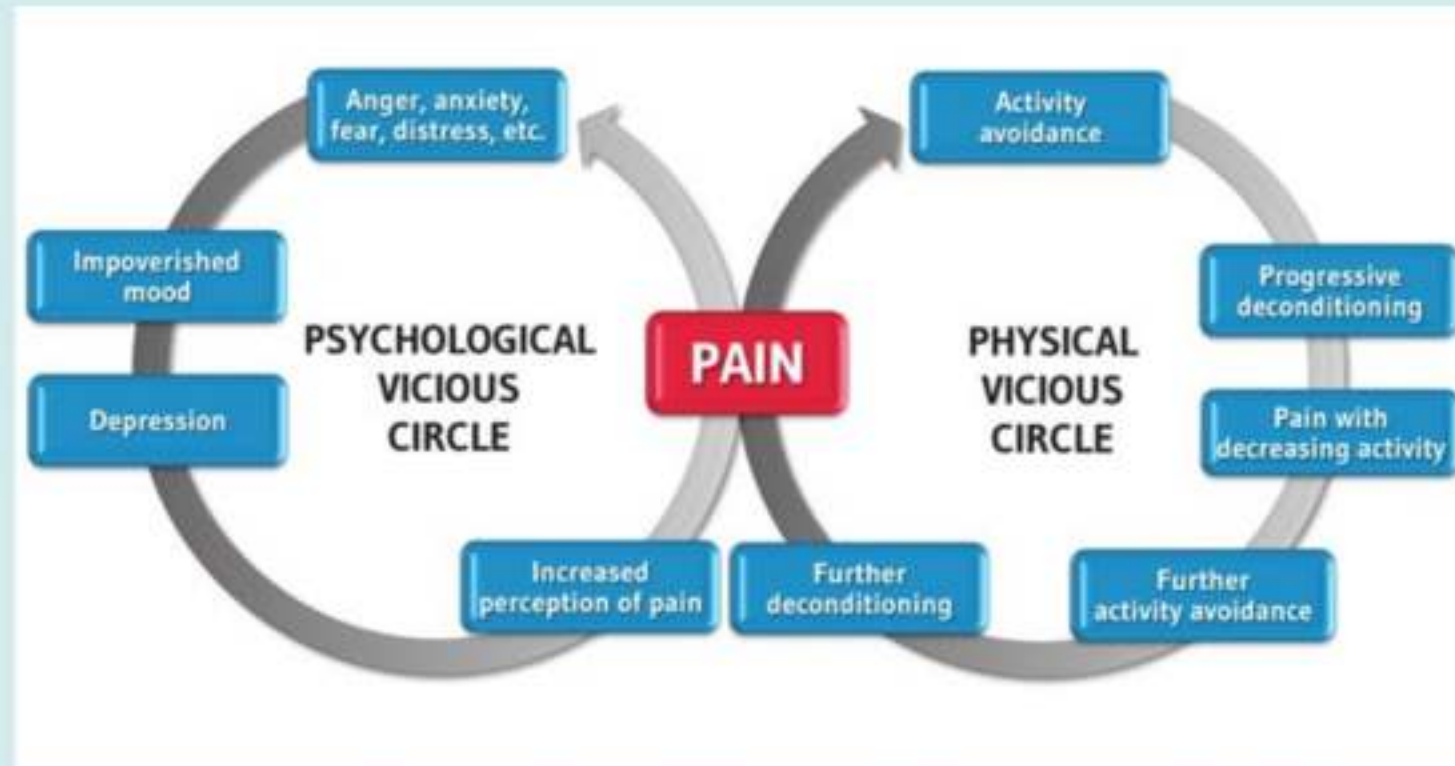
- Glucosamine/Chondroitin
- Turmeric

## Alternative Treatments:

- Acupuncture
- Biofeedback / Mind-Body
- Myofascial release



# Decrease Stress / Mind Body



Pain can create an endless cycle which can affect mood and increase stress. In turn a down mood and increased stress will worsen pain and decrease your motivation to move. This will lead to a sense of a lack of control of your pain

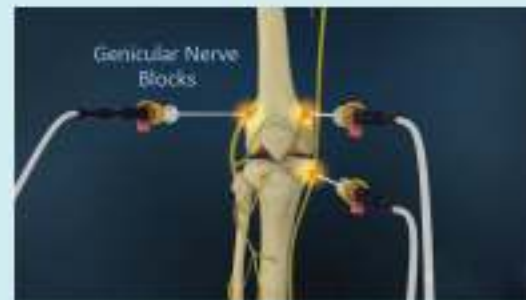
# Medical Treatment

## Osteoarthritis Interventions

### Injections:

- Cortisone
- Hyaluronic Acid
- Platelet Rich Plasma
- Stem Cell
- Prolotherapy

## Genicular Nerve Blocks/Ablations



# Things That Go Aching in The Night: How to Manage a Scary Knee Joint Managing Osteoarthritis



James C Hwang MD  
Primary Care Sports Medicine  
Dept of Orthopedics and Sports Medicine  
Kaiser Permanente Orange County

*How to take control*

**Overview**  
—

**What is  
OA?**

**The Pain  
Cycle**

**Treat  
The Pain**

**What's  
next**

# What's next

## Timeline

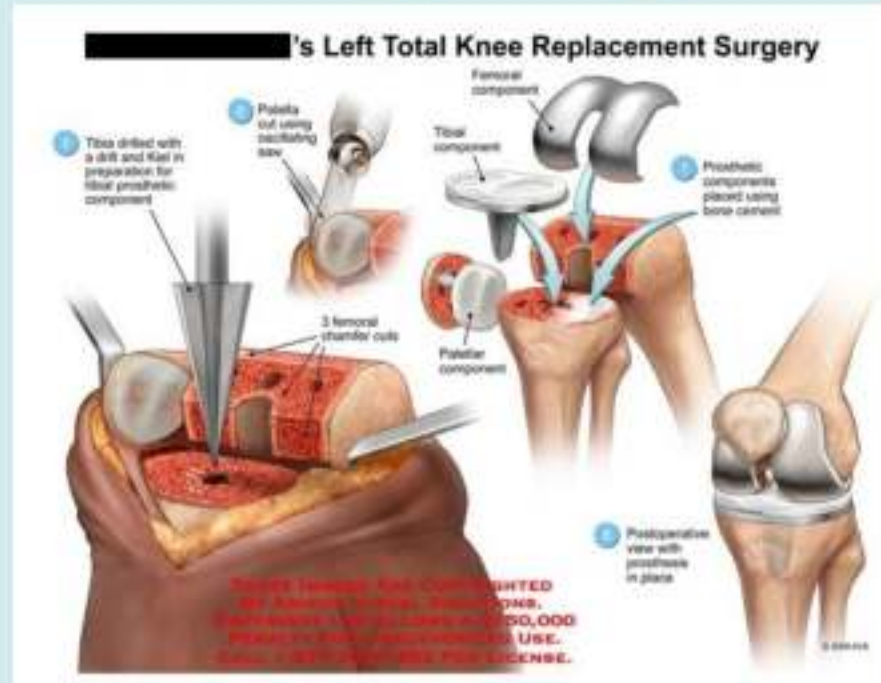


*As we discussed osteoarthritis is a progressive chronic condition. As it continues to progress it may extend to surgery for some patients*

Surgery?

Alternative  
Ttxts

# Surgery?



Why am I candidate for this surgery?  
Why do we wait?

# Future Treatments

- Hyaline Cartilage Regrowth:  
Northwestern bioactive "goo" of two components: a bioactive peptide that binds to beta-1 (TGFB-1) and modified hyaluronic acid
- TG-C study: TG-C is an allogeneic (donor) cell and gene therapy involving primary human chondrocytes (cartilage cells) and human cell transduced to express the therapeutic growth factor TGFB-1.

# Things That Go Aching in The Night: How to Manage a Scary Knee Joint Managing Osteoarthritis



James C Hwang MD  
Primary Care Sports Medicine  
Dept of Orthopedics and Sports Medicine  
Kaiser Permanente Orange County

*How to take control*

**Overview**  
—

**What is  
OA?**

**The Pain  
Cycle**

**Treat  
The Pain**

**What's  
next**