

**UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION**

JESSE HARVEY,

Plaintiff,

v.

DR. PARTHASARATHI GHOSH,

Defendant.

No. 11 C 6716

Judge Thomas M. Durkin

**MEMORANDUM OPINION AND ORDER**

Jesse Harvey is an inmate in the custody of the Illinois Department of Corrections at Menard Correctional Center. He alleges that while he was incarcerated at Stateville Correctional Center from 2005 through 2012, Dr. Parthasarathi Ghosh was deliberately indifferent to an ankle injury Harvey suffered in 2005 such that Harvey suffered an injury to his heel in 2010. R. 61. Dr. Ghosh has moved for summary judgment. R. 100. For the following reasons, Dr. Ghosh's motion is granted.

**Legal Standard**

A motion for summary judgment shall be granted "if the movant shows that there is no genuine dispute as to any material fact." Fed. R. Civ. P. 56(a). If the moving party satisfies their initial burden, the nonmovant must "set forth specific facts showing that there is a genuine [material] issue for trial." *Outlaw v. Newkirk*, 259 F.3d 833, 837 (7th Cir. 2001). "In ruling on a motion for summary judgment, the judge's role is not to evaluate the weight of the evidence or to determine the truth of

the matter, but instead to determine whether there is a genuine issue of triable fact.” *Id.* In doing so, the Court will “view all facts and draw all inferences in the light most favorable to the non-moving party.” *Ball v. Kotter*, 723 F.3d 813, 821 (7th Cir. 2013). “Only disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). Summary judgment is appropriate when, “on the evidence provided, no reasonable juror could return a verdict in favor” of the plaintiff. *Id.*

## **Background**

### **I. 2005 Injury**

On October 5, 2005, Harvey injured his “left foot/ankle” while playing basketball. R. 129 ¶ 3. He was seen that day by Dr. Ngu, who ordered an x-ray, R. 126 ¶ 11, but no x-ray was taken at that time.

Harvey again saw doctors at Stateville about pain in his ankle on December 7, 2005, and March 11, 2006. According to Harvey, an x-ray was recommended on both dates, but no x-ray was taken. R. 129 ¶¶ 7-8. The medical record Harvey relies on as evidence that an x-ray was recommended on March 11, 2006 does not reference an x-ray. *See* R. 128-1 at 3.

Harvey again complained to a Stateville doctor about his ankle pain on March 14, 2006. *See* R. 128-1 at 3. The record of this visit states that an x-ray for Harvey was “pending.” *Id.* Dr. Ghosh initialed this record. R. 129 ¶ 9. Harvey

continued to complain about pain in his ankle, specifically on April 12, April 26, May 2, and May 7, 2006. *See* R. 128-1 at 4-6.

Dr. Ghosh requested an x-ray for Harvey's ankle on May 2, 2006. R. 128-1 at 7 (P-00033). Dr. Ghosh noted that the reason for the x-ray was a possible "avulsion/cortical fracture"<sup>1</sup> of the "medial malleolus" or ankle bone.<sup>2</sup> *Id.* at 8 (P-00035). The x-ray was taken at UIC on May 11. *Id.* at 9 (P-00332). The x-ray report states:

Two views of the left ankle demonstrate the ankle joint space to be intact. There is cortical irregularity over the medial aspect of the medial malleolus that may represent cortical fracture if there is history of trauma. Also there is lucency in the tip of the medial malleolus with a bony density, possibly avulsion fracture. Lateral view demonstrates anterior fusion. No deformity seen of the calcaneus.

*Id.* The consulting doctor at UIC who reviewed the x-ray found that there was "no instability" in Harvey's ankle, but that he suffered from a "chronic ankle sprain," and recommended physical therapy. *Id.* at 8 (P-00035). Dr Ghosh reviewed this report and approved the recommendation on June 5, 2006. *Id.*

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<sup>1</sup> "An avulsion fracture occurs when a small chunk of bone attached to a tendon or ligament gets pulled away from the main part of the bone." *See* Mayo Clinic Website, <http://www.mayoclinic.org/avulsion-fracture/expert-answers/faq-20058520> (last visited Dec. 8, 2015). "Cortical bone is dense and compact. It forms the outer layer of the bone." *See* PubMed Health, U.S. National Library of Medicine, <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMHT0022810/> (last visited Dec. 8, 2015).

<sup>2</sup> The "medial malleolus" is a bone in the ankle that is the "inside part of the [lower end] of the tibia." *See* American Academy of Orthopaedic Surgeons Website, <http://orthoinfo.aaos.org/topic.cfm?topic=a00391> (last visited Dec. 8, 2015).

Harvey next complained about “severe pain” in his ankle on January 8, 2007 when he saw a physician’s assistant. R. 128-1 at 11 (P-00038). The physician’s assistant’s notes from that day, however, also state that Harvey told him that Harvey played basketball twice a week. *Id.* The physician’s assistant noted that he should discuss the possibility of physical therapy with Dr. Ghosh. *Id.*

Harvey saw physician’s assistants at Stateville at least ten times through 2007 and 2008 to complain about his “continued” left ankle pain, variously describing it as “off and on,” R. 128-1 at 15 (P-00045); “excruciating at times,” *id.* at 13 (P-00042); and sometimes “unbearable,” *id.* at 17 (P-00049). *See also id.* at 12 (P-00040), 14 (P-00044), 16 (P-00047), 18 (P-00055). Harvey also complained that he never received physical therapy as prescribed by the doctors at UIC. *Id.* at 16 (P-00047). Harvey eventually received physical therapy on January 8, 2008. R. 129 ¶ 27.

Harvey’s medical records from April 22, 2008 show that his “pain [had] moved to [his] heel,” *see* R. 142-1 at 2 (P-00053), and on May 13, 2008 that “palpation of medial tubicle of calcaneus reproduces patient’s pain.” R. 142-1 at 4 (P-00054).<sup>3</sup> On October 28, 2008, Harvey saw a physician’s assistant who recommended another x-ray. *See* R. 128-1 at 18 (P-00055). A doctor ordered the x-ray, noting that the x-ray was necessary because of “pain” in Harvey’s “[left] ankle” due to a “sprain [in] 2005.” *Id.* at 19 (P-00057). The x-ray was taken on October 30,

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<sup>3</sup> “Calcaneus” is another word for “heel bone.” *See* American Academy of Orthopaedic Surgeons Website, <http://orthoinfo.aaos.org/topic.cfm?topic=A00524> (last visited Dec. 7, 2015).

and it showed “no new pathology,” but “slight post traumatic DJD.” *Id.* Harvey states that “DJD” stands for “degenerative joint disease,” and Dr. Ghosh does not dispute this interpretation. *See* R. 129 ¶ 28.<sup>4</sup> Dr. Ghosh reviewed the x-ray report containing these findings. *Id.*

## II. 2010 Injury

There is no other evidence in the record regarding Harvey’s left ankle or foot until April 17, 2010 when Harvey injured his left heel and ankle while getting out of a top bunk. R. 129 ¶ 29. Dr. Ghosh ordered an x-ray two days later. *Id.* ¶ 30. The x-ray was taken on April 26, 2010, which revealed a “severely fractured” calcaneus, or heel bone. R. 128-1 at 22 (P-00078). Dr. Ghosh reviewed this report on April 29, 2010, *see id.*, and ordered an orthopedic consult. R. 126 ¶ 19.

Through the remainder of 2010 and into 2011 when Dr. Ghosh retired, Dr. Ghosh ensured that Harvey saw specialists at Rezin Orthopedics and Sport’s Medicine, R. 129 ¶ 34; the University of Illinois Medical Center, *id.* ¶ 41; and UIC, *id.* ¶ 42; R. 126 ¶¶ 34-35. The record reflects that Harvey had suffered a fracture of his calcaneus bone and that there was a “cyst” or “mass” associated with the fracture. Harvey continued to experience pain, and although later x-rays revealed that the fracture had healed, one doctor opined that Harvey’s pain was likely due to a “left calcaneal fracture that had since malunited.” R. 126 ¶ 35. A scan performed

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<sup>4</sup> *See also* MedlinePlus website, U.S. National Library of Medicine, <https://www.nlm.nih.gov/medlineplus/ency/article/000423.htm> (“DJD” and “degenerative joint disease” are “alternative names” for “osteoarthritis,” which is “pain, swelling, and stiffness” that occurs “[w]hen the cartilage breaks down and wears away [and] the bones rub together”) (last visited Dec. 8, 2015).

at UIC on January 4, 2011, showed a “slow growing tumor or [osteonecrosis] from previous trauma.”<sup>5</sup> R. 126 ¶ 38. Dr. Ghosh was directly involved in reviewing the results of Harvey’s medical procedures and approving his continued treatment. The record does not reflect the ultimate resolution or current condition of Harvey’s foot.

### **Analysis**

Harvey argues that Dr. Ghosh was deliberately indifferent to Harvey’s 2005 injury, and that this failure to provide adequate care in 2005 caused Harvey’s 2010 injury. Dr. Ghosh argues that (1) Harvey’s claim is barred by the statute of limitations, (2) there is no evidence that Harvey’s 2005 and 2010 injuries are related, and (3) he was not deliberately indifferent to Harvey’s 2005 injury.

#### **I. Statute of Limitations**

Dr. Ghosh argues that Harvey’s claim is barred by the two-year statute of limitations for personal injury actions that applies to claims made pursuant to Section 1983, because Harvey’s injury “occurred in April 2005, and [he] did not file suit until 2011.” R. 102 at 9. But of course Harvey argues that Dr. Ghosh’s lack of care for Harvey’s 2005 injury caused Harvey’s 2010 injury. Harvey could not have “discovered” his 2010 injury until it occurred in April of 2010. *See Smith v. Union Pac. R.R. Co.*, 474 Fed. App’x 478, 480 (7th Cir. 2012) (“The discovery rule postpones the beginning of the limitations period to the date when the plaintiff

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<sup>5</sup> “Osteonecrosis is a disease caused by reduced blood flow to the bones in the joints.” *See* National Institutes of Health: National Institute of Arthritis and Musculoskeletal and Skin Disease, [http://www.niams.nih.gov/health\\_info/Osteonecrosis/osteonecrosis\\_ff.asp](http://www.niams.nih.gov/health_info/Osteonecrosis/osteonecrosis_ff.asp) (last visited Dec. 8, 2015). The Court has attached a PDF version of this webpage as an appendix to this opinion and order.

discovers or should have discovered that he has been injured.”). Thus, Harvey’s claim is not barred by the statute of limitations simply because Dr. Ghosh’s actions occurred in 2005 and 2006.

Dr. Ghosh contends, however, that the discovery rule cannot save Harvey’s claim because “there is [in]sufficient evidence to show” that Harvey’s 2005 injury “led to his 2010 inju[r]y.” R. 130 at 2. Dr. Ghosh argues that the two injuries were to different parts of Harvey’s ankle and that there is no evidence in the record suggesting that the two injuries are related. *See id.* at 2-3. So Dr. Ghosh concludes that any deficiency in his care for Harvey’s 2005 injury could not have caused Harvey’s 2010 injury.

Harvey spends a great deal of time arguing that various statements in his medical records authored by medical professionals indicate that they thought there was a causal connection between Harvey’s 2005 and 2010 injuries. Harvey strains to interpret historical accounts of his 2005 injury authored by medical professionals in 2010 as conclusions by those professionals that the treatment Harvey received for the 2005 injury caused his 2010 injury. *See* R. 128-1 at 23 (P-00082); R. 142-1 at 8 (P-00084).<sup>6</sup> The Court, however, finds unreasonable Harvey’s interpretations of patient history recitations in his medical records.

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<sup>6</sup> Specifically, on April 29, 2010, Dr. Ghosh signed a medical record with the note that Harvey “sustained severe left calcaneus fracture playing basketball.” R. 128-1 at 23 (P-00082). Harvey contends that this reference to basketball, even though the 2010 injury occurred getting down from a top bunk, means that Dr. Ghosh believed there was a connection between the 2005 and 2010 injuries. However, the previous page of Dr. Ghosh’s notes explain that the note about basketball being the cause of the 2010 injury was information Dr. Ghosh received from Harvey. *See* R. 141-3 at 2

Additionally, the record consistently describes the 2005 injury as an injury to Harvey's medial malleolus, or ankle, and the 2010 injury as an injury to Harvey's calcaneus, or heel. Harvey contends that certain references in his medical records to his 2005 medial malleolus injury indicate that the authors of the references thought there was a causal connection to his 2010 injury. *See* R. 142 at 3 (citing P-00114-15, P-00195, P-00205-06). But these references merely note that Harvey suffered a prior injury to his medial malleolus. The Court disagrees that mere mention of prior injuries to a neighboring part of Harvey's body is evidence that the speaker believed a causal connection existed between the two injuries.

Nevertheless, there is evidence in the record indicating that both of Harvey's injuries are a result of an underlying bone condition. A scan performed at UIC on January 4, 2011, showed a possible slow growing tumor or osteonecrosis from previous trauma. R. 126 ¶ 38. "In osteonecrosis, bone breaks down faster than the body can make enough strong, new bone." *See* National Institutes of Health: National Institute of Arthritis and Musculoskeletal and Skin Disease, [http://www.niams.nih.gov/health\\_info/Osteonecrosis/osteonecrosis\\_ff.asp](http://www.niams.nih.gov/health_info/Osteonecrosis/osteonecrosis_ff.asp) (last visited Dec. 8,

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(P-00081). Thus, it is not evidence that Dr. Ghosh suspected or concluded that the 2005 injury led to the 2010 injury.

Similarly, Harvey points to the record of the orthopedic consultation Dr. Ghosh ordered in response to Harvey's April 2010 injury. The orthopedist found that Harvey had a "pathologic calcaneal fracture," and noted that he had a "5 year [history of] chronic heel pain." R. 142-1 at 8 (P-00084). There is no evidence that the orthopedist who examined Harvey in April 2010 had any personal knowledge of Harvey's medical history. There is no indication that the orthopedist was personally aware of Harvey's previous injury to his medial malleolus in 2005. This note cannot reasonably be taken as evidence that the orthopedist thought there was a causal connection between Harvey's 2005 injury to his medial malleolus and his 2010 injury to his calcaneus.



2015). Untreated osteonacosis, can cause “severe pain” and inhibit a sufferer’s ability “to use the joint.” *Id.*

Although this diagnosis of possible osteonecrosis does not appear in the record until eight months after Harvey’s 2010 injury, Harvey began experiencing pain (diagnosed as degenerative joint disease or osteoarthritis) in his heel (the part of his foot he fractured in April 2010) as early as April 2008. *See* R. 142-1 at 2 (P-00053). This evidence, in combination with the evidence that Harvey suffers from a degenerative bone condition, is evidence that both his 2005 and 2010 injuries were the result of the same underlying condition. Despite this apparent connection between the two injuries, it is also true that Harvey had an x-ray five months after experiencing heel pain that did not reveal any “new pathology” beyond that caused by his 2005 injury. R. 128-1 at 19 (P-00057). Nevertheless, Harvey’s experience of heel pain as early as April 2008, and Harvey later being diagnosed with an underlying degenerative bone condition, is a sufficient basis for a reasonable jury to find that both Harvey’s 2005 and 2010 injuries resulted from that condition, which went undiagnosed until January 2011. Therefore, there is sufficient evidence in the record for a reasonable juror to conclude that a failure to adequately treat Harvey’s 2005 injury could have caused his 2010 injury, such that Harvey’s claim is not barred by the statute of limitations.

## **II. Deliberate Indifference**

Harvey, however, cannot show that there is basis for a reasonable jury to find that Dr. Ghosh was deliberately indifferent to Harvey’s condition subsequent to his

2005 injury. Harvey injured his foot on October 5, 2005. Despite the treating doctor's immediate indication that an x-ray should be taken, Harvey did not receive an x-ray until May 11, 2006—218 days later. This is an extraordinary delay, but there is no evidence in the record that Dr. Ghosh was responsible for the delay or was aware of it. *See Townsend v. Cooper*, 759 F.3d 678, 689 (7th Cir. 2014) (“The officials must know of and disregard an excessive risk to inmate health; indeed they must both be aware of facts from which the inference could be drawn that a substantial risk of serious harm exists and must also draw that inference.”) (internal quotations marks and citation omitted).

Harvey argues that Dr. Ghosh must have or should have known about the delay since he was Stateville's medical director at the time. Such an allegation can be sufficient to state a claim and survive a motion to dismiss. *See Hardy v. Wexford Health Sources, Inc.*, 2015 WL 1593597, at \*8 (N.D. Ill. Apr. 2, 2015). But it is insufficient to survive a motion for summary judgment. Rather, to defeat a summary judgment motion, Harvey needs to produce some evidence that Dr. Ghosh was “personally responsible” for the 218-day delay, “which means that he must [have known] about the conduct and facilitate[d] it, approve[d] it, condone[d] it, or turn[ed] a blind eye” to it. *See Newell v. Ngu*, 589 Fed. App'x 782, 786 (7th Cir. 2014). The evidence in the record, however, indicates that Dr. Ghosh was not personally aware of Harvey's condition until March 14, 2006, when he approved an x-ray.

Harvey points to Dr. Ghosh's testimony that he supervised the doctors who worked at Stateville as evidence that Dr. Ghosh must have known about Harvey's condition. But mere respondeat superior liability is not available under Section 1983. *See Arnett v. Webster*, 658 F.3d 742, 757 (7th Cir. 2011). Dr. Ghosh's title alone is not evidence of *his* state of mind. And even if it was, mere "proof of knowledge is not evidence of inaction, or worse, interference." *Newell*, 589 Fed. App'x at 786. Since Harvey has not produced evidence that Dr. Ghosh had anything but a supervisory role between the time Harvey was injured in October 2005 and the time he received his x-ray in May 2006, no reasonable juror could conclude that Dr. Ghosh was deliberately indifferent to Harvey's medical condition.

Harvey also argues the fact that he did not receive physical therapy until January 2008 is a sufficient basis for a reasonable jury to find that Dr. Ghosh was deliberately indifferent. But Harvey's 2005 injury was diagnosed as a sprained ankle, and during 2006 and 2007 he was diagnosed with chronic ankle pain resulting from that injury. The record reflects that Harvey was able to continue playing basketball despite this condition. Such a condition is not an objectively serious injury that constituted a "substantial risk of serious harm" to Harvey. *See Farmer v. Brennan*, 511 U.S. 825, 842 (1998). "[N]ot 'every ache or pain' is sufficient to constitute a serious medical need." *Slate v. Lemens*, 400 Fed. App'x 109, 112 (7th Cir. 2010) (quoting *Gutierrez v. Peters*, 11 F.3d 1364, 1372 (7th Cir. 1997)).

Furthermore, even if a reasonable jury could find that the condition of Harvey's ankle leading up to January 2008 when he finally received physical

therapy was serious, “medical professionals . . . are entitled to deference in treatment decisions unless no minimally competent medical professional would have so responded under the circumstances at issue.” *McGee v. Adams*, 721 F.3d 474, 481 (7th Cir. 2013). Although Harvey was prescribed physical therapy for what was then thought to be a mere sprained ankle, Dr. Ghosh’s failure to ensure that he received that treatment was negligent at worst and does not rise to the level of deliberate indifference. Moreover, when Harvey’s pain increased through 2007 into 2008, he did receive physical therapy and additional diagnostic treatment.<sup>7</sup> Since the record reflects that Dr. Ghosh provided at least minimally competent treatment to Harvey when Dr. Ghosh was aware of Harvey’s injuries, the Court must grant summary judgment in Dr. Ghosh’s favor.

It may be that Harvey means to argue that Dr. Ghosh knew or should have known that Harvey’s condition leading up to his 2010 injury was more serious than a mere sprained ankle, and that Dr. Ghosh’s course of treatment was deliberately indifferent to that more serious condition. But there is insufficient evidence for a reasonable jury to reach such a conclusion. The only evidence Harvey cites that addresses the issue of whether Dr. Ghosh and Harvey’s other doctors might have known that Harvey’s condition beginning with his 2005 injury was more serious than a sprained ankle is a doctor’s finding based on an x-ray Harvey received on July 29, 2010. The doctor found as follows: “(Old fracture) Deformed post portion of

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<sup>7</sup> Harvey also argues that Dr. Ghosh was deliberately indifferent because he failed to ensure that Harvey received proper pain medication, but Harvey presents no evidence supporting this argument.

calcaneus due to old trauma. No new pathology.” R. 128-1 at 31 (P-00107). Since the finding that the calcaneus “fracture” or “deformity” was “due to old trauma” was made several months after the 2010 injury, the author’s reference to “old trauma” is ambiguous—i.e., it could reference either the 2010 or 2005 injury. Maybe the doctor meant to say that Harvey’s condition as of July 29, 2010 was due to “old” trauma that occurred in April 2010, or maybe the doctor meant to say that Harvey’s condition in 2010 was due to “old” trauma that occurred in October 2005.<sup>8</sup>

Based on all the other evidence in the record, however, no reasonable juror could find that this comment referred to the 2005 injury. The doctor’s subsequent comment in his findings states that there is “no new pathology.” This indicates that the doctor was comparing the condition of Harvey’s foot in July 2010 to his condition in April 2010. If the doctor was comparing the current condition of Harvey’s foot in July 2010 (or in 2010 in general) to its condition in October 2005, it is undisputed that there was “new pathology,” since Harvey had suffered a fractured heel in April 2010, which, obviously, was new since 2005. Thus, it would be unreasonable for a jury to conclude that the doctor who authored the findings based on the July 29, 2010 x-ray thought there was a basis to conclude that Harvey suffered from anything other than a sprained ankle prior to his 2010 injury.

This reasoning is not contrary to the Court’s conclusion with respect to the potential connection between the 2005 and 2010 injuries for the purposes of

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<sup>8</sup> The Court gave Harvey the opportunity to depose the author of this note to determine its meaning. Harvey’s counsel contacted the author who said that he had no memory of the note and could not shed light on its meaning, so Harvey decided not to take the author’s deposition. *See* R. 147.

applying the statute of limitations. That analysis asked whether there is sufficient evidence to find that the 2010 injury could have been *caused* by an underlying condition that was present in as far back at 2005. By contrast, the deliberate indifference analysis asks whether there is sufficient evidence for a reasonable jury to find that Dr. Ghosh *knew* about that underlying condition prior to Harvey’s 2010 injury. Harvey does not make such an argument. Instead, Harvey’s arguments (discussed above) focus on Dr. Ghosh’s actions from 2005 through 2007.

The Court notes, however, that the record reflects that Harvey was diagnosed with “slight” osteoarthritis in October 2008. And osteoarthritis can be “associated with” osteonecrosis. *See* National Institutes of Health: National Institute of Arthritis and Musculoskeletal and Skin Disease, [http://www.niams.nih.gov/health\\_info/Osteonecrosis/osteonecrosis\\_ff.asp](http://www.niams.nih.gov/health_info/Osteonecrosis/osteonecrosis_ff.asp) (“Osteonecrosis is . . . associated with a number of medical conditions, including . . . osteoarthritis . . . .”) (last visited Dec. 8, 2015). But Harvey does not argue, and there is no evidence in the record, that Harvey’s condition in October 2008 was such that an *osteoarthritis* diagnosis indicates that Dr. Ghosh should also have been alerted to the risk of *osteonecrosis* and further injury such as the heel fracture Harvey eventually suffered in April 2010. Moreover, not only is there insufficient evidence in the record to conclude that Dr. Ghosh should have reached such a conclusion in October 2008, there is also no evidence in the record—and Harvey does not argue—that, even if Dr. Ghosh had determined that Harvey was at risk for osteonecrosis or injuries like a broken heel, there was anything Dr. Ghosh could have done to eliminate or minimize such risks,

beyond the physical therapy Harvey was already receiving at the time. Harvey admits that he began receiving physical therapy in January 2008, and he received the x-ray leading to the osteoarthritis diagnosis in October 2008. Harvey does not argue—or even allege—that there were any treatments he should have received that he was denied between October 2008 and April 2010, when he broke his heel. Neither is there any evidence in the record that Harvey sought any treatment at all during that time period. Thus, despite the evidence of a possible common underlying cause of both Harvey’s 2005 and 2010 injuries, there is insufficient evidence to support Harvey’s claim that Dr. Ghosh was deliberately indifference to Harvey’s condition.

### **Conclusion**

For the foregoing reasons, Dr. Ghosh’s motion for summary judgment, R. 100, is granted.

ENTERED



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Honorable Thomas M. Durkin  
United States District Judge

Dated: December 9, 2015

# What Is Osteonecrosis?

*Fast Facts: An Easy-to-Read Series of Publications for the Public*

Osteonecrosis is a disease caused by reduced blood flow to bones in the joints. With too little blood, the bone starts to die and may break down.

Osteonecrosis is also known as:

- Avascular necrosis
- Aseptic necrosis
- Ischemic necrosis.

Osteonecrosis is most often found in the hips, knees, shoulders, and ankles. You may have osteonecrosis in one or more bones.

In people with healthy bones, new bone is always replacing old bone. This process keeps bones strong and also happens when children grow or if a bone is injured. In osteonecrosis, bone breaks down faster than the body can make enough strong, new bone. If you do not get treatment, the disease worsens and the bones in the joints break down. You may not be able to bend or move the affected joint very well, and you may have pain in the joint.

## Who Gets Osteonecrosis?

Osteonecrosis can occur in people of any age, but it is most common in people in their thirties, forties, and fifties.

## What Causes Osteonecrosis?

Osteonecrosis is caused when the blood flow to the bone decreases, but why this happens is not always clear. Some known causes of osteonecrosis are:

- Steroid medications
- Alcohol use
- Injury
- Increased pressure inside the bone.

Risk factors for osteonecrosis are:

- Radiation treatment
- Chemotherapy
- Kidney and other organ transplants.

U.S. Department of Health  
and Human Services  
Public Health Service

National Institute of  
Arthritis and  
Musculoskeletal and  
Skin Diseases  
National Institutes of Health  
1 AMS Circle  
Bethesda, MD 20892-3675

Phone: 301-495-4484  
Toll free: 877-22-NIAMS  
TTY: 301-565-2966  
Fax: 301-718-6366  
Email:  
NIAMSinfo@mail.nih.gov  
Website:  
www.niams.nih.gov



National Institute of  
Arthritis and Musculoskeletal  
and Skin Diseases



Osteonecrosis is more common in people with illnesses such as:

- Cancer
- Lupus
- HIV
- Gaucher's disease
- Caisson disease
- Gout
- Vasculitis
- Osteoarthritis
- Osteoporosis
- Blood disorders such as sickle cell disease.

Osteonecrosis can also affect people for no known reason, even if they have no other health problems.

### **What Are the Symptoms of Osteonecrosis?**

When osteonecrosis first begins, you may not have any symptoms. You may start to feel pain when you put weight on a joint with osteonecrosis. As the disease gets worse, you may have more pain and the joint may hurt even when you rest. Pain may be mild or severe.

If the bone and joint start to break down, you may have severe pain and not be able to use the joint. For instance, if you have osteonecrosis in the hip, you may not be able to walk. The time from the start of symptoms to losing use of the joint can range from months to more than a year.

### **How Is Osteonecrosis Diagnosed?**

To diagnose osteonecrosis, your doctor will take your medical history and do a physical exam. Your doctor may then order one or more tests to see which bones are affected:

- X ray
- Magnetic resonance imaging (MRI)
- Computed tomography (CT) scan
- Bone scan
- Bone biopsy
- Measure of the pressure inside the bone.

Treatment helps more if the disease is diagnosed early.

### **How is Osteonecrosis Treated?**

Treatment helps to keep bone in joints from breaking down. Without treatment, most people with the disease will have severe pain and limited movement within 2 years. To decide on the best

treatment, your doctor will find out:

- Your age
- The stage of the disease
- Where and how much bone has osteonecrosis
- The cause, if known. If the cause is steroid or alcohol use, treatment may not work unless you stop using those substances.

The goals in treating osteonecrosis are:

- To improve use of the joint
- To stop further damage
- To protect bones and joints.

For early stage disease, doctors may first order nonsurgical treatments. If they do not help, surgery may be needed.

### **Nonsurgical Treatments**

Nonsurgical treatments may relieve pain in the short term, but they do not cure the disease. One or more of these treatments may be used at the same time.

- Medications. Nonsteroidal anti-inflammatory drugs (NSAIDs) are used to reduce pain and swelling. For people with blood clotting problems, blood thinners may be used to prevent clots that block the blood supply to the bone. If you take steroid medications, cholesterol-lowering drugs may be used to reduce fat in the blood.
- Taking weight off the joint. Your doctor may suggest that you limit your activity or use crutches to take weight off the affected joint. This may slow bone damage and allow some healing. If combined with NSAIDs, it may help you avoid or delay surgery.
- Range-of-motion exercises. Exercise of the joints with osteonecrosis may help increase their range of motion.
- Electrical stimulation. Research has shown that this can prompt bone growth.

### **Surgery**

In time, most people with osteonecrosis need surgery. There are four main types of surgery used for osteonecrosis. Your doctor will decide if you need surgery and what type is best for you.

- Core decompression surgery. Lowers pressure inside the bone to increase blood flow to the bone.
- Osteotomy. Reshapes the bone to reduce stress on the damaged joint.
- Bone graft. Takes healthy bone from one part of the body and uses it to replace diseased bone.
- Total joint replacement. Replaces the joint with a manmade one.

### **What Research Is Being Done to Help People With Osteonecrosis?**

Some goals of research are to learn more about:

- How many people have osteonecrosis

- Risk factors for osteonecrosis
- Why steroids cause osteonecrosis
- The role of genes
- How to diagnose the disease early
- Better treatments for osteonecrosis
- Ways to improve hip replacement
- How mechanical factors—such as the alignment of hips, knees, and ankles—affect treatment success.

### **For More Information About Osteonecrosis and Other Related Conditions:**

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)  
Information Clearinghouse  
National Institutes of Health  
1 AMS Circle  
Bethesda, MD 20892–3675  
Phone: 301–495–4484  
Toll free: 877–22–NIAMS (226–4267)  
TTY: 301–565–2966  
Fax: 301–718–6366  
Email: [NIAMSinfo@mail.nih.gov](mailto:NIAMSinfo@mail.nih.gov)  
Website: [www.niams.nih.gov](http://www.niams.nih.gov)

The information in this fact sheet was summarized in easy-to-read format from information in a more detailed NIAMS publication. To order the Osteonecrosis Q&A full-text version, please contact the NIAMS using the contact information above. To view the complete text or to order online, visit [www.niams.nih.gov](http://www.niams.nih.gov).

### **For Your Information**

This publication may contain information about medications used to treat the health condition discussed here. When this publication was printed, we included the most up-to-date (accurate) information available. Occasionally, new information on medication is released.

For updates and for any questions about any medications you are taking, please contact the U.S. Food and Drug Administration (FDA) toll free at 888–INFO–FDA (888–463–6332) or visit its website at [www.fda.gov](http://www.fda.gov). For additional information on specific medications, visit [Drugs@FDA](mailto:Drugs@FDA) at [www.accessdata.fda.gov/scripts/cder/drugsatfda](http://www.accessdata.fda.gov/scripts/cder/drugsatfda). [Drugs@FDA](mailto:Drugs@FDA) is a searchable catalog of FDA-approved drug products.