Circuit Court for Baltimore County
Case No. 03-C-16-004811

UNREPORTED

IN THE COURT OF SPECIAL APPEALS

OF MARYLAND

No. 319

September Term, 2017

BALTIMORE COUNTY

v.

MICHAEL QUINLAN

Leahy,
Reed,
Shaw Geter,

JJ.

Opinion by Leahy, J.

Filed: July 20, 2018

In the trial underlying this appeal, a jury in the Circuit Court for Baltimore County found that Mr. Michael Quinlan ("Appellee") suffered an occupational disease in the form of degenerative tears in the medial and lateral menisci in his right knee arising out of and in the course of his employment as a paramedic/firefighter for Baltimore County ("Appellant" or the "County"). The County appeals that decision, presenting a single issue for our review: "Whether right knee degenerative tears of the medial and lateral menisci and their underlying cause, osteoarthritis, constitute[] an occupational disease as defined by the Maryland's Workers' Compensation Act?"

The Workers' Compensation Act (the "Act"), provides that a covered employee may recover for an occupational disease that "is due to the nature of an employment in which hazards of the occupational disease exist and the covered employee was employed before the date of disablement." Maryland Code (1991, 2016 Repl. Vol.), Labor & Employment Article ("LE"), § 9-502(d)(1)(i). We hold that Mr. Quinlan adduced sufficient evidence at trial to establish that the degenerative tears in his menisci constituted an occupational disease through testimony that showed (1) repetitive kneeling and squatting was part of a regular part of a paramedic's job and (2) repeated kneeling and squatting is a risk factor for developing menisci tears and, in turn, osteoarthritis in the knees.

BACKGROUND

A. Mr. Quinlan's Workers' Compensation Claim

Mr. Quinlan filed an employee's claim with the Workers' Compensation Commission ("Commission") on October 19, 2015, asserting that he developed meniscal

tears in his right knee due to his job duties as a paramedic/firefighter. The Commission held a hearing on March 31, 2016, on the following issues regarding Mr. Quinlan's claim:

1. Did the employee sustain an occupational disease arising out of and in the course of employment?

2. Temporary Total Disability

3. Average Weekly Wage

On April 5, 2016, the Commission found that Mr. Quinlan "did not sustain an occupational disease of Right Knee degenerative tears arising out and in the course of employment as alleged to have occurred on February 11, 2015," and issued an order disallowing Mr. Quinlan's claim. The Commission noted that the second issue (temporary total disability) was raised but not litigated and found Mr. Quinlan's average weekly wage to be $2,082.16. Later that month, on April 29, he petitioned the Circuit Court of Baltimore County for review of the Commission's decision and requested a jury trial.

B. Trial in Circuit Court

The circuit court held a jury trial on April 19-20, 2017. Mr. Quinlan testified first. At the time of trial, he was 51 years old, 5'9" tall, and weighed between 230-240 lbs. He explained that he has worked for Baltimore County Fire Department as a paramedic since September 1994. The job requires him to work four days on followed by four days off; the first two days on are ten-hour shifts and the second two are fourteen-hour shifts. Over those four days, he responds to about 26 to 30 calls that last an average of 60-90 minutes each. According to Mr. Quinlan, calls for paramedics range from "anything from patient assist, meaning like just helping somebody off the floor, to cardiac arrest to rescues to chest

pain[.]" Because many of the calls are in response to people who are in a heightened state of anxiety or pain and the patients may be on the floor, a couch, or a bed, and may be unconscious, Mr. Quinlan would have to "kneel down to their level while [] talking to them instead of hovering over top of them." When he would kneel, he'd often do so on his right knee. In some situations, for example, if a patient is in cardiac arrest, he would "be on the floor for a little while, either doing compressions, airway managements," or "doing an I.V." While working, he also had to carry patients and equipment up and down steps.

Aside from work, Mr. Quinlan testified that he golfs recreationally, lifts upper body weights, and occasionally rides a bike or goes sailing with friends. The County established on cross-examination that he has also posed for a picture squatting next to a dog and that he sometimes carries groceries or a laundry basket up the 10-20 stairs at his house.

In 2005, Mr. Quinlan hurt his right knee on the job while assisting a patient down a set of stairs and saw a doctor for the pain a few times at an officer's suggestion. Then, around 2014, Mr. Quinlan saw a doctor again for more problems associated with his right knee. He testified that after a shift, he was experiencing pain and "thought it was something that might just go away on its own" but the next day he noticed clicking when he walked. When he tried to pop his knee, in an attempt to alleviate the pain, "it just hurt more." Although he felt knee soreness and stiffness throughout his career, he indicated that this time felt more severe and consistent, and that the clicking was a new development. His personal physician told him to get an MRI and referred him to an orthopedic surgeon. In February 2015, Mr. Quinlan underwent a partial meniscectomy on his right knee. After surgery, he returned to work.

1. Dr. Cochran's Testimony

Following Mr. Quinlan's testimony, he presented a video deposition of Dr. Barbara Cochran, who specializes in internal medicine, occupational medicine, psychiatry, and pulmonary medicine. Dr. Cochran testified that she evaluated Mr. Quinlan to determine whether his right knee issue was related to his occupation as a paramedic. She explained that her evaluation procedure includes reviewing a patient's medical records and any medications he or she may be on, speaking to the patient, and looking at the patient's occupational history and job functions. She then reviews peer-reviewed medical literature to incorporate into her report. Dr. Cochran said that understanding the patient's job functions, shift work, and whether he or she takes breaks is vital to forming a reliable opinion relating to osteoarthritis.

Dr. Cochran highlighted the functions of EMT/paramedic work that required Mr. Quinlan to transport heavy patients, get them on stretchers or into the ambulance, and bend down to take vital signs, talk to, or triage patients. Regarding lifting patients onto stretchers, she stated, "they're low to the ground. So you're in [a] squatting position, which puts a great deal of stress on the knee, because you know you're going to lift with your knees, you don't lift with your back."

Mr. Quinlan had tears in his medial and lateral menisci when surgery was performed on his right knee. Dr. Cochran explained that tears of the menisci are "part of the continuum of osteoarthritis." She stated that "any type of motion or repetitive trauma" will cause "inflammation [of the] synovium, which is the covering over the bone and then that progresses and so then you can get abnormal bone formation or you can get, again, changes

in the meniscus."

As for risk factors, Dr. Cochran opined that age played a role in Mr. Quinlan's osteoarthritis in the sense that

> as you age you have that many more moments . . . where you can [] injure your knee[.] . . . [I]t's a risk factor in terms of how many times you were walking or how many times you were kneeling or bending. But his particular case, he developed this at a much earlier age than one would expect to see it.

Gender was not a risk factor for him because osteoarthritis occurs more frequently in women and Mr. Quinlan was diagnosed in only one of his knees, and no genetic factors have yet been identified as risk factors. Joint injuries were another risk factor, according to Dr. Cochran, but Mr. Quinlan did not appear to have any. Having reviewed Mr. Quinlan's medical records from 2005, Dr. Cochran testified that Mr. Quinlan's injury back then was not the type of joint injury contemplated as a potential risk factor: "He had a totally normal examination of his knee, there wasn't any infusion, there wasn't any swelling, there wasn't any laxity, there's nothing there that indicated he had any significant injury to his knee."

Dr. Cochran explained that overuse or repetitive trauma is another risk factor. She then outlined the stress that squatting can put on the knees and explained that "as you come up and unbend you're exerting tremendous forces downward on the structures and they're going to again protect the ligaments and protect the joint integrity, but they're going to put pressure on the meniscus." She continued:

> When you do repetitive motions, . . . what happens is that you have an inflammation and it doesn't have to be big inflammation, it can be a small inflammation. But what happens is you get, the body will repair itself as long as there is enough time for the reparative molecules, which are called . . .

> cytokines, but there's pro-inflammatory and they're healing and there's a number of different structures, or things that do that but, again, when you do this on a repetitive basis, the body does not have time to compensate and repair. So, you have inflammation, partial healing, inflammation, so it builds up.

She then discussed one study that showed "repetitive kneeling and repetitive squatting" can "markedly increase[] risk" for osteoarthritis, which "is a cumulative injury," and another that showed fire fighters have a "significant" relative risk of osteoarthritis. Specific to Mr. Quinlan, Dr. Cochran opined that, based on two different types of causation analysis, including a six-step occupational-practice guideline documented in the American College of Occupational and Environmental Medicine, Mr. Quinlan's "essential job functions, which include considerable repetitive kneeling, bending, stress on the knee, [are] the cause of his knee osteoarthritis." She testified that the medical literature she reviewed supported her conclusion.

On cross-examination, the County elicited from Dr. Cochran that she never observed Mr. Quinlan physically and only spoke to him on the phone for around 30 minutes. She also testified that weight was a risk factor for osteoarthritis and would be a factor independent of Mr. Quinlan's employment. One study showed that patients over 197 pounds are more likely to suffer from osteoarthritis. Aside from weight posing a risk, Dr. Cochran did not consider Mr. Quinlan's weightlifting to factor in because he lifts weights with mostly upper extremities and not his legs. Dr. Cochran also testified that she would not be surprised to learn that Mr. Quinlan experienced some soreness in his left knee because "he has an anatomically altered right knee, so that's going to create more stress on the contralateral knee."

The County then spent a large part of its cross-examination parsing the findings of the studies on which Dr. Cochran relied. For instance, in one study, the Framington Heart Study that has observed multiple cohorts of subjects over several decades, the County contended that the sample size of male subjects was too small to sufficiently demonstrate a link between a person's occupation and being symptomatic for osteoarthritis. Dr. Cochran responded by explaining that she did not think this impacted what the study was trying to show with respect to the physical demands of knee bending. Another study noted that meniscal damage and osteoarthritis occur frequently in the general population. Dr. Cochran, in response to the County's questioning, clarified that job stress is not the only cause of osteoarthritis in the knee.

On re-direct, Dr. Cochran testified that the small sample size of the study he considered

> ha[d] nothing to do with the causation analysis or what occupational risk factors there are that put stress in the knee that leads to the development of chronic inflammation that exceeds the reparative capacity of the body leading to the degradation of the knee structure, starting with synovium, extending to the [] menisci, extending to the bones, I mean, again, along a continuum.

Additionally, she testified that none of the non-occupational risk factors or studies explain why Mr. Quinlan would have osteoarthritis in only his right knee if was not caused by his work. Finally, she testified that having reviewed Dr. Hinton's report, she "did not see any causation analysis at all."

2. Dr. Hinton's Testimony

Trial resumed on April 20 with the video deposition of Dr. Richard Hinton, an

orthopedic surgeon who was qualified as an expert to testify on behalf of the County. Dr. Hinton performed an independent medical exam on Mr. Quinlan on December 18, 2015. During that exam he observed that Mr. Quinlan "walked with a reciprocal gait without an obvious limp[,]" and "had a mild varus alignment or a mild bowing to both legs bilaterally." This bowing, he explained, could be the cause or the result of an injury to the knee. Dr. Hinton recalled that Mr. Quinlan's ranges of motion with his knee and hip were within the normal limits, but he did "have reproducible tenderness to palpation or pushing in the medial side of his knee on both the left and right knee." Dr. Hinton found him to have "had a gradual onset of medial knee pain." Mr. Quinlan's MRI, clinical exams, x-rays, and Dr. Hinton's exam were all "consistent with previous partial meniscectomy, lateral meniscectomy, early arthritis in the medial side of the knee and some mild arthritis behind the knee cap[.]" Although Mr. Quinlan had improved after his surgery, his medial knee pain had increased over the few months leading up to his exam, which Dr. Hinton found to be "most consistent with early arthritis in the medial compartment."

When asked to define Mr. Quinlan's condition, Dr. Hinton explained:

> [A]t the time of his [exam], I thought his primary complaints were related to arthritis on the inside of his knees and he had a history of a meniscus tear and meniscectomy, which is a risk factor for that. I thought his symptoms were most consistent when I saw him with arthritic complaints.

Dr. Hinton then responded as follows when the County asked whether Mr. Quinlan's work as an EMT paramedic caused his injury:

> I was asked whether I thought . . . his work was a primary or direct cause of his meniscus issues, which I think contributed to his arthritis. He didn't give me a history of specific injury or specific incidents or cumulative symptomatic episodes on the job. So, I cannot relate the meniscus tears

> directly to his duties as a firefighter and EMT. Certainly, there is literature that suggests that people who are in firefighter/EMT positions have higher rates of both meniscus tears and of arthritis, as do people in many physically demanding job descriptions. I would say that there is a debate about why that is and I think there's literature to support different ways of approaching that literature. My view of looking at it is that physically demanding workers . . . have higher rates of injury and those injuries are recognizable, they are cumulative in nature but they're recognizable reportable injuries that then put them at risk for problems over the long term. I'm not convinced that asymptomatic use in this situation leads to a definable process later in life.

The County then asked the causation question more directly and Dr. Hinton responded, "I do not think it is the primary cause of his problem or definably the primary cause of his problem, given mostly his history." Dr. Hinton also explained that Mr. Quinlan's weight was between overweight and obese and that, as well as his age, were risk factors for arthritis and menisci tears.

On cross-examination, Dr. Hinton agreed that the medical literature showed that, as a population, people in more physically demanding jobs and people who do more squatting and kneeling—such as firefighters, farmers, warehouse workers, or EMTs—have a greater risk for osteoarthritis and problems in their knees. In Dr. Hinton's opinion, however, the medical research did not yet explain why that portion of the population was more at risk, but speculated that it could be linked to more "definable injuries, . . . less access to health care, . . . they smoke more, . . . [or] they're overweight, we don't know." Dr. Hinton did acknowledge that the CDC considered occupations involving repetitive knee bending and squatting to be a risk factor for osteoarthritis, along with "age, genetics, weight, injuries, [and] infections[.]"

Dr. Hinton then stated that he would consider Mr. Quinlan's 2005 injury one

instance that could be considered a relevant symptom for cumulative trauma, which sparked the following exchange:

> [MR. QUINLAN'S COUNSEL]: Okay and so in, in the sense that he had other episodes of, or tripping or, you know, banging his knee or, you know, lifting a heavy patient and saying oh, I have pain, those would be things that would sway you to the conclusion in part, at least, or move you closer to the conclusion that his occupation did have a primary role in the, in the development of his osteoarthritis, right?
>
> DR. HINTON: The fact that he had an episode, it was definable and required treatment, makes me, I have to bring into the equation that injury on the job as potentially a risk factor for some of his knee complaints.
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> * * *
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> DR. HINTON: And again, it's one episode but it is [one] more episode than I had when I did my [exam] on him.
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> * * *
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> DR. HINTON: So, it, it does [sic] into the equation a little bit more than it did when I saw him for my [exam]. I think he also has, again, other risk factors that are just as significant as that, but I didn't have that when I did my –
>
> [MR. QUINLAN'S COUNSEL]: Okay. So, that, that episode, if I understand you correctly, moves you closer to supporting the, the idea that the occupation had a more than indirect role in [the] development of his knee osteoarthritis, correct, if I understand you correctly?
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> * * *
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> DR. HINTON: . . . [I]t's important, the fact is he had an occupational injury that I think could contribute to long term knee problems.
>
> [MR. QUINLAN'S COUNSEL]: All right.
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> DR. HINTON: I'm not convinced that his occupation as an EMT/firefighter is any more injurious or risky for his knee th[a]n a bunch of other jobs out there. But he did have an on the job injury, which I have to put into the equation.

Dr. Hinton then testified that he believed weight was the biggest risk factor, followed by age, and "a history of definable injury on the job is next[,]" followed by body alignment and gender. Although he would not consider an occupational injury as the primary cause, he described it as a "potential cause" or "arguable cause."

3. The Verdict

The jury returned a verdict finding that Mr. Quinlan "sustain[ed] an occupational disease of right knee degenerative tears of the medial and lateral menisci of the right knee, arising out of and in the course of his employment." Four days later, on April 24, 2017, the court entered judgment to that effect and vacated the Commission's order. The court remanded the case to the Commission so that it could enter an order consistent with the jury's verdict.

The County noted its timely appeal to this Court on April 28, 2017.

DISCUSSION

I.

The County argues on appeal that "[t]here is absolutely no evidence that right knee degenerative tears of the medial and lateral menisci is an occupational disease." It asserts that to be compensable, "the disease must be an inherent risk of employment." According to the County, the testimony of Doctors Hinton and Cochran make clear that osteoarthritis and degenerative knee tears are "not [] disease[s] inherent in Mr. Quinlan's employment[.]" It explains: "Osteoarthritis is not a disease caused by employment, but is rather a disease of life. . . . [T]he mere happening of pain or discomfort while at work does not render these

conditions work related, caused by work, or is [sic] an occupational disease." The County also challenges Dr. Cochran's reliance on the Framington Heart Study, "in which the authors agree they do not have enough subjects to reach a definitive opinion regarding the relationship between occupational stress and O/E/degenerative meniscus tears." Finally, after reiterating that Mr. Quinlan is overweight and lives in a house with stairs, the County asserts: "A disease cannot be occupational if it [sic] wide spread in the population and is not inherent to the occupation."

In response, Mr. Quinlan contends that "the proper analysis is not whether a disease is labeled occupational or not, . . . but rather whether the basic job responsibilities exposed an individual to conditions that could lead to the disease." He asserts that he "provided the jury with more than enough evidence for them to find that his responsibilities as a paramedic led to his occupational disease of right knee degenerative tears." In addition to his own testimony about his job requirements and the aches and pains he felt regularly, Mr. Quinlan points to Dr. Cochran's testimony about the stresses his job responsibilities placed on his right knee and Dr. Hinton's acknowledgment that his job could have played a role in his degenerative tears. Mr. Quinlan then argues that his occupational responsibilities need only contribute in part to his diagnosis. He says he does not, nor has he ever "dispute[d] that there were potentially other causes *in addition* to his work that could have led to the diagnosis because by law there can be more than one cause for the degenerative tears as long as his work as a paramedic contributed in part, which there is ample evidence that it did."

A claimant appealing the Commission's denial of a claim retains the burden of proof

before the circuit court. *Keystone Masonry Corp. v. Hernandez*, 156 Md. App. 496, 505 (2004) (citations omitted). On an appeal of a jury verdict to this Court, we treat the jury's decision as conclusive on all issues of fact. *Id.* at 506 (citation omitted). We will not reweigh the evidence; we must determine simply whether the evidence presented at trial was legally sufficient to support the jury's decision. *Id.* Any issues of law, we review *de novo*. *See Reger v. Wash. Cty. Bd. of Ed.*, 455 Md. 68, 95 (2017).

Under the Maryland Workers' Compensation Act, an occupational disease is "a disease contracted by a covered employee: (1) as the result of and in the course of employment; and (2) that causes the covered employee to become temporarily or permanently, partially or totally incapacitated." LE § 9-101(g). As far back as 1939, the Court of Appeals has described an occupational disease as "some ailment, disorder, or illness which is the expectable result of working under conditions naturally inherent in the employment and inseparable therefrom, and is ordinarily slow and insidious in its approach." *Foble v. Knefely*, 176 Md. 474, 486 (1939) (citations omitted). For an illness to be compensable as an occupational disease, it must also satisfy the limitations of LE § 9-502, which provides in relevant part:

> (d) *Limitation on liability.* – An employer and insurer are liable to provide compensation under subsection (c) of this subsection only if:
>
> (1) the occupational disease that caused the death or disability:
>
> (i) **is due to the nature of an employment in which hazards of the occupational disease exist and the covered employee was employed before the date of disablement**; or
>
> (ii) has manifestations that are consistent with those known to result from exposure to a biological, chemical, or physical agent that is attributable to the type of employment in which the covered employee was employed before the date of disablement; and
>
> (2) on the weight of the evidence, it reasonably may be concluded that

> the occupational disease was incurred as a result of the employment of the covered employee.

(Emphasis added).

A trio of decisions in the mid-to-late-90s help to define the contours of an occupational disease within the meaning of the Act. The first of these cases was *Davis v. Dynacorp*, 336 Md. 226 (1994). Davis was a computer operator who claimed to have suffered an occupational disease based on "'continual harassment' by both management and fellow employees at Dynacorp[,]" including bullying, racial abuse, phone calls at home, the defacement of his vehicle, and coworkers following him outside of work. *Id.* at 228. "As a result of these and other similar incidents, Davis alleged that he experienced restlessness, sleeping problems, headaches, and developed post-traumatic stress syndrome, which prevented him from returning to work." *Id.* The Commission disallowed his claim and the circuit court affirmed. *Id.* at 229-30.

While the appeal was pending before this Court, the Court of Appeals granted certiorari to consider, *inter alia*, whether LE § 9-502(d)(1) "requires the employer to provide occupational disease compensation for 'job harassment which causes mental injury.'" *Id.* at 230. The Court of Appeals observed that "[i]n the instant case, there simply is not the requisite relationship between the nature of Davis's work and the 'disease' that he allegedly sustained." *Id.* at 238. Although the Court was "not willing to rule out the possibility that some gradually resulting, purely mental diseases could be compensable occupational diseases or that there may be circumstances where work-induced stress may result in a compensable occupational disease[,]" it rejected Davis's claim. *Id.* at 238-39.

The Court held "that the mental disease resulting from the harassment encountered by Davis was not due to the nature of his employment." *Id.*

Three years later, the Court of Appeals revisited the issue in *Means v. Baltimore County*, 344 Md. 661 (1997). There, the Court held that post-traumatic stress ("PTSD") could, in fact, be compensable as an occupational disease. *Id.* at 662. Means was a paramedic who alleged that "'working a medic unit'" with the County caused her PTSD. *Id.* Specifically, Means alleged that her work at two gruesome motor vehicle accidents caused her PTSD—one in which five teenagers died and one in which a motorcyclist crashed without wearing a helmet. *Id.* at 662-63. The Commission found that Means had not suffered an occupational disease; she appealed, and the circuit court granted summary judgment in favor of the County on the ground that "PTSD may not form the basis as an occupational disease claim" as a matter of law, despite Means' proffer that a therapist would testify that her employment as a paramedic caused her PTSD. *Id.* at 664. Again, the Court of Appeals granted certiorari before this Court considered the claimant's appeal. *Id.*

After distinguishing the occupation of a paramedic from that of a computer operator, the Court of Appeals held that "PTSD may be compensable as an occupational disease under the Workers' Compensation Act if the claimant can present sufficient evidence to meet the statutory requirements." *Id.* at 670. The Court reasoned: "Unlike the computer operator in *Davis* who divided his time between programming computers and reading manuals, Means's employment as a paramedic exposed her to events that could potentially cause PTSD." *Id.* at 671. Grappling with the difficulty of proof, the Court likened the

standard of proof to that of a physical injury and opined that PTSD could still be compensable so long as the claimant proves the statutory requirements. *Id.* at 673. Specifically, the Court observed that "[w]orkers who suffer back pain or soft tissue injury as a result of accidents or diseases arising in the course of employment are not denied compensation due to the difficulty of verification." *Id.* (internal quotation marks omitted). The Court concluded by ruling that, on remand, Means "must prove that the mental illness she suffers is due to the nature of a paramedic's job and that employment as a paramedic entails the hazard of developing PTSD." *Id.* at 674-75 (citing LE § 9-502(d)(1)(i)).

In the final act of its trilogy of cases on mental illness as an occupational disease, the Court of Appeals considered whether an extremely overworked transportation assistant could recover for mental illness caused by work-induced stress. *King v. Bd. of Ed. of Prince George's Cty.*, 354 Md. 369 (1999). While working as a transportation assistant, King became responsible for the job duties of three separate positions: "transportation technician, transportation assistant, and transportation management analyst." *Id.* at 371. King filed a claim with the Commission, alleging that she suffered from an occupational disease in the form of a nervous breakdown due to working three jobs at one time. *Id.* at 372. The Commission disallowed her claim, the circuit court granted summary judgment in the county's favor, and this Court affirmed. *Id.* at 372-74.

After granting certiorari, the Court of Appeals also affirmed. *Id.* at 382. The Court explained that "[e]very occupational disease claim, whether mental or physical, must satisfy the statutory standard of [LE] § 9-502(d)(1)(i), *i.e.*, the alleged disease must be 'due to the nature of an employment in which hazards of the occupational disease exist.'" *Id.* at

381. Because King's evidence "indicate[d] that she was an overworked employee in a mismanaged position" and not that her illness was "somehow inherent in the nature of the position of transportation assistant[,]" the Court held that King could not satisfy the requirements of LE § 9-502(d)(1)(i). *Id.* Nor did King present evidence that her illness would occur any more frequently in her occupation than "in any other occupation in which employees were overworked and/or mismanaged." *Id.* The Court ruled that the term "'[e]mployment' in the context of [LE] § 9-502(d)(1)(i) does not mean the specific job in which the person is working; it means the profession or general occupation in which the person is engaged." *Id.* at 381-82 (citations omitted).

In 2009, this Court decided *Black & Decker Corp. v. Humbert*, 189 Md. App. 171 (2009), the facts of which are sufficiently similar to those presented in this appeal to dictate the outcome. Black and Decker employed Humbert as a licensed electrician and occasionally required him to work as a vehicle mechanic, plumber, carpenter, and operate a front-end loader to remove snow. *Id.* at 174-76. Humbert's employment required him to stand on a ladder and reach up to the ceiling to replace lights, take down and put up ceilings, and replace and install wires. *Id.* at 175. While performing mechanic work, he frequently had to lay on his back under vehicles to reach his arm up into the engine compartment. *Id.* at 176. While removing snow, he used his arm to push and pull the levers on a front-end loader. *Id.* After a decade on the job and 25 total years as an electrician, Humbert sought medical attention for fatigue and soreness in his right shoulder. *Id.* His doctor first diagnosed him with "'moderate tendonitis in the lateral supraspinatus tendon'" and eventually "discovered that his problem was 'possibly work related.'" *Id.* at

176-77. Diagnostic studies revealed that a bone spur in Humber's right shoulder contributed to the development of shoulder impingement syndrome, also known as tendonitis. *Id.* at 177. His doctor testified that the syndrome had two causes: "1) activities such as continuous reaching overhead that results in inflammation and 2) the presence of a spur." *Id.* His doctor further explained that the mere presence of a spur, however, "which is often a congenital condition, does not mean that a person will develop impingement syndrome. But with the spur present, people often develop impingement syndrome by years of repetitive activities such as reaching overhead." *Id.* His doctor testified further that Humbert's job seemed to be "'the type of occupation that would . . . cause these problems to develop.'" *Id.* He reiterated, though, that the job alone—absent the bone spur—would not have caused Humbert's injury. *Id.* at 177-78.

The Commission disallowed Humbert's claim for benefits for an occupational disease and he appealed to the circuit court. *Id.* at 174. After the circuit court denied Black and Decker's motion for judgment as a matter of law, a jury found that Humbert had suffered an occupational disease. *Id.* at 175. Black and Decker appealed to this Court, asserting in large part that the cause of Humbert's injury was aggravation of a bone spur, which was not occupational in character. *Id.* at 179. In affirming the circuit court's judgment, we distinguished the Court of Appeals' decision in *Blake v. Bethlehem Steel Co.*, 225 Md. 196 (1961), and relied on this Court's decision in *Allied-Signal, Inc. v. Bobbitt*, 96 Md. App. 157 (1993), *rev'd on other grounds*, 334 Md. 347 (1994).

In *Blake*, a pipe-fitter claimed that his chronic bronchitis was an occupational disease, alleging that his work at Bethlehem Steel and exposure to dust aggravated a

bronchial susceptibility he had prior to his employment. 225 Md. at 198. After the Commission granted Blake a workers' compensation award, the company appealed and the circuit court "found as matter of law that there was no evidence legally sufficient to show an occupational disease or aggravation thereof." *Id.* at 197. At trial, "[t]here was testimony that the incidence of bronchial disorders was no higher among workers around open hearth furnaces than among the general city populations." *Id.* at 198-99. On appeal, the Court of Appeals explained that, "since chronic bronchitis and its sequelae were not shown to be characteristic of the industry, the claim is that disability from a cause not itself compensable, was 'aggravated . . . or contributed to by an occupational disease[.]'" *Id.* at 200. Blake argued "that an ordinary disease may become occupational where it is aggravated by the occupational environment." *Id.* The Court disagreed, holding that even if the working conditions aggravated Blake's non-occupational disease, the result was not an occupational disease. *Id.* The Court reasoned that to support a claim, "there must be a finding that, in part at least, the disability is due to an occupational disease, and the claim can be allowed only for that part." *Id.*

This Court in *Humbert* distinguished "the situation in *Blake*, where the claimant suffered from pre-existing chronic bronchitis prior to working for the defendant," because "Humbert never had shoulder impingement syndrome prior to working for appellant and, but for the work-related activities (frequent necessity to reach overhead as part of his employment as an electrician), the shoulder impingement syndrome would not have developed—according to [his doctor's testimony]." 189 Md. App. at 182.

We found Humbert's illness to be more akin to that in *Bobbitt*, in which the claimant

also suffered from shoulder impingement syndrome and the employer also relied on the *Blake* decision. *Id.* at 182-83 (citing *Bobbitt*, 96 Md. App. at 161, 166). In *Bobbitt*, this Court noted "that under the *Blake* analysis the focus is not whether the pre-existing condition is occupational in character but whether the resulting condition is due, *in part at least*, to the occupation." 96 Md. App. at 167 (emphasis added). Although there was evidence to support the company's position that the syndrome was due to the aggravation of a prior condition, this Court reasoned that "we must view the evidence in the light most favorable to appellee." *Id.* Looking to expert testimony at trial, this Court highlighted testimony that "the shoulder impingement syndrome resulted from the repetitive activities inherent in her work; 'you can not separate the condition from the work[.]'" *Id.* We held that "[t]his testimony establishe[d] that even if the arthritis effected the development of the shoulder condition, the condition was due in part to the characteristics of appellee's employment[,]" and thus raised a jury question. *Id.* at 167-68.

The Court in *Humbert* recounted the decision in *Bobbitt*, emphasizing that "the focus that the court should apply is to the issue of whether the resulting condition (shoulder impingement syndrome) is due, in part, to the occupation." 189 Md. App. at 184. We went on to hold that expert testimony at trial made it clear that "Humbert's shoulder impingement syndrome resulted, in part, from the repetitive overhead activities inherent in his work as an electrician." *Id.* Even though Humbert had not presented expert testimony on ergonomics or the frequency with which electricians suffer impingement syndrome, we reasoned that the jury could have found Humbert's testimony regarding his job duties sufficient to establish the job duties typical of electricians. *Id.* at 186. "Humbert's

testimony was that the job requirements of an electrician made it necessary to have repeated overhead arm motions; moreover, Dr. Wittstadt testified that such motions, when coupled with the pre-existing bone spur, were the cause for the impingement syndrome." *Id.* Additionally, this Court explained:

> To be compensable, it is the risk factors, not the disease, that must inhere in the nature of the employment. Taking the evidence in the light most favorable to Humbert, one of the risk factors of being an electrician is developing impingement syndrome due to the necessity of reaching about one's head repeatedly.

Id. at 187.

Finally, we recounted the Court of Appeals' trilogy of mental illness cases discussed above and synthesized the following standard for applying LE § 9-502(d)(1)(i): "[T]he Court must examine the duties of a claimant's profession to determine if the hazard that led to the disease exists in the nature of that employment." *Id.* at 191. We concluded that Humbert "met that threshold requirement by introducing evidence that showed: 1) overhead reaching is a regular part of an electrician's job, and 2) repeated overhead reaching is a risk factor for developing shoulder impingement syndrome." *Id.*

Returning to the County's appeal here, we believe that Mr. Quinlan presented evidence sufficient to prove that his menisci tears are an occupational disease. According to Mr. Quinlan's trial testimony, being a paramedic required him to kneel for lengthy periods of time, numerous times per week during his 24-year career with the County, and that he tended to kneel on his right knee. His job also required him to carry heavy patients down stairs and lift them onto stretchers. Prior to his knee surgery, Mr. Quinlan's job caused him to seek medical treatment for knee soreness on at least one prior occasion.

In addition to testifying about his job duties and the soreness he felt routinely after work, Mr. Quinlan presented expert testimony supporting his claim that he suffered an occupational disease. Dr. Cochran testified that overuse or repetitive trauma were risk factors for Mr. Quinlan's injury because the stress of squatting puts pressure on the menisci and doing so on a repetitive basis causes inflammation to reoccur more quickly than the body can repair itself. She also testified that at least one study showed that firefighters have a "significant" risk of osteoarthritis relative to the rest of the population. Dr. Cochran opined that Mr. Quinlan's "essential job functions, which include considerable repetitive kneeling, bending, stress on the knee, [are] the cause of his knee osteoarthritis."

Likewise, the County's own expert, Dr. Hinton, acknowledged that medical literature suggests that people in more physically demanding jobs, such as firefighters and EMTs, suffer menisci tears and arthritis at a higher rate than the general population and that the CDC considers "occupations involving repetitive knee bending and squatting" as risk factors for osteoarthritis. Additionally, on re-cross examination after being informed that Mr. Quinlan suffered a prior work-related knee injury, Dr. Hinton changed his opinion to conclude that an occupational injury was a "potential" or "arguable" cause of Mr. Quinlan's menisci tears and arthritis.

The County suggests that osteoarthritis cannot be an occupational disease because it is "a disease of life" and is "something that will happen to all of us." Even if the County had preserved this sweeping legal argument, *see* Maryland Rule 8-131(a) ("Ordinarily, the appellate court will not decide any other issue unless it plainly appears by the record to have been raised in or decided by the trial court[.]"), we find it unconvincing. As we stated

in *Humbert*, "[t]o be compensable, it is *the risk factors*, not the disease, that must inhere in the nature of the employment." *Id.* at 187 (emphasis added). The Act does not limit occupational diseases to rare diseases or those exclusive to a specific profession. Instead, the disease must be one "due to the nature of an employment in which hazards of the occupational disease exist and the covered employee was employed before the date of disablement[.]" LE § 9-502(d)(1)(i). As the Court explained in *Means*, "[w]orkers who suffer back pain or soft tissue injury as a result of accidents or diseases arising in the course of employment are not denied compensation due to the difficulty of verification." 344 Md. at 673 (citation and quotation marks omitted).

Looking to the risk factors relevant here, the County's own expert testified that people in occupations that require more squatting and kneeling—such as EMTs and firefighters—are at a higher risk for osteoarthritis and knee problems. Similarly, Dr. Cochran testified that people in Mr. Quinlan's occupation suffer menisci tears and arthritis at a higher rate than the general population. That other risk factors—such as Mr. Quinlan's weight—were present does not preclude the jury from concluding that Mr. Quinlan's occupation caused the degenerative tears in his menisci. *See Hernandez*, 156 Md. App. at 505-06. The evidence also showed that Mr. Quinlan did not have menisci tears or osteoarthritis prior to working for the County. As this Court explained in *Humbert*, "the focus that the court should apply is to the issue of whether the resulting condition . . . is due, *in part*, to the occupation." 189 Md. App. at 184 (emphasis added). Viewed in the light most favorable to Mr. Quinlan, the evidence at trial established that, even if Mr. Quinlan's weight and age were contributing factors to the development of his knee

condition, "the condition was due in part to the characteristics of appellee's employment[,]" and thus raised a jury question. *See Bobbitt*, 96 Md. App. at 167-68.

In sum, Mr. Quinlan established at trial that the degenerative menisci tears were an occupational disease through testimony that showed (1) repetitive kneeling and squatting was a regular part of a paramedic's job and (2) repeated kneeling and squatting is a risk factor for developing menisci tears, which Dr. Cochran explained are "part of the continuum of osteoarthritis." *See Humbert*, 189 Md. App. at 191. This was sufficient evidence for the jury to determine that, "but for the work-related activities[,]" his condition would not have developed. *Id.* at 182. We will not second guess the jury's fact finding on appeal. *See Hernandez*, 156 Md. App. at 506.

JUDGMENT OF THE CIRCUIT COURT FOR BALTIMORE COUNTY AFFIRMED. COSTS TO BE PAID BY APPELLANT.