

**FILED: March 7, 2012**

IN THE COURT OF APPEALS OF THE STATE OF OREGON

In the Matter of the Compensation of  
Carolyn McCann, Claimant.

CITY OF EUGENE,  
Petitioner,

v.

CAROLYN MCCANN,  
Respondent.

Workers' Compensation Board  
0704605

A146910

Argued and submitted on October 26, 2011.

Krishna Balasubramani argued the cause for petitioner. On the briefs were Deborah L. Sather and Sather, Byerly & Holloway, LLP.

James L. Edmunson argued the cause and filed the brief for respondent.

Before Ortega, Presiding Judge, and Sercombe, Judge, and Hadlock, Judge.

HADLOCK, J.

Reversed and remanded.

1 HADLOCK, J.

2 To establish the existence of an "occupational disease" that is compensable  
3 under the Workers' Compensation Law, a claimant ordinarily "must prove that  
4 employment conditions were the major contributing cause of the disease." ORS  
5 656.802(2)(a). In some circumstances, however, firefighters do not have the burden to  
6 prove causation. Instead, the "firefighters' presumption" deems certain medical  
7 conditions to presumptively have been caused by employment when those conditions are  
8 suffered by individuals who have worked as firefighters for at least five years:

9 "Death, disability or impairment of health of firefighters of any  
10 political division who have completed five or more years of employment as  
11 firefighters, caused by any *disease of the lungs or respiratory tract,*  
12 *hypertension or cardiovascular-renal disease,* and resulting from their  
13 employment as firefighters is an 'occupational disease.' Any condition or  
14 impairment of health arising under this subsection shall be presumed to  
15 result from a firefighter's employment. \* \* \* Denial of a claim for any  
16 condition or impairment of health arising under this subsection must be on  
17 the basis of clear and convincing medical evidence that the cause of the  
18 condition or impairment is unrelated to the firefighter's employment."

19 ORS 656.802(4) (emphasis added).<sup>1</sup>

20 This case requires us to determine the meaning of the term "cardiovascular-  
21 renal disease" as it is used in ORS 656.802(4). The Workers' Compensation Board  
22 interpreted that term as referring to "an impairment of the body or any of its components  
23 that interrupts or modifies the heart and blood vessels." (Emphasis omitted.)

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<sup>1</sup> "The firefighters' presumption was added to ORS 656.802 in 1961. The proponents intended to give relief to firefighters because statistical studies indicated firefighters were much more likely to suffer from heart and lung diseases due to exposure to smoke and gases under strenuous conditions." *Wright v. SAIF*, 289 Or 323, 328, 613 P2d 755 (1980) (citations omitted).

1 Consequently, the board ruled, claimant--a firefighter--proved that she had an  
2 occupational disease simply by establishing that she suffered from a condition that  
3 affected the *function* of her heart by causing it to beat too slowly, even if the underlying  
4 condition was a "nervous system disorder," rather than a disease of the heart itself. On  
5 review, employer contends that "cardiovascular-renal disease" does not "encompass just  
6 any disease that may have symptoms in the heart"; rather, "[t]he disease itself must be of  
7 the heart, vessels and kidneys." Although we do not fully adopt employer's proposed  
8 interpretation of "cardiovascular-renal disease," we agree with employer that the board's  
9 interpretation of that term erroneously conflates symptoms and diseases, thus expanding  
10 the definition of "cardiovascular-renal disease" to encompass more than the legislature  
11 intended. Accordingly, we reverse and remand.

12           The pertinent historical facts are undisputed and we take them primarily  
13 from the (administrative law judge's) ALJ's factual findings, which the board adopted,  
14 and from the board's order on review. Claimant is a physically fit firefighter. She plays  
15 rugby and soccer, and she has a history of "numerous concussions" that may have  
16 resulted in short-term memory loss. In December 2006, claimant vomited heavily, lost  
17 consciousness, and experienced seizure-like activity after drinking several glasses of  
18 wine. A neurologist who examined claimant soon after that event noted that "claimant  
19 had a history of chronic bradycardia," *i.e.*, a slow heartbeat, "but had no prior episodes of  
20 syncope," *i.e.*, fainting.<sup>2</sup> Results from EEG and MRI testing were within normal limits.

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<sup>2</sup> Bradycardia is "[s]lowness of the heartbeat, usually defined (by convention) as a rate under 50 beats/min." *Stedman's Medical Dictionary* 232 (27th ed 2000). Syncope is

1               Several cardiologists also examined claimant, including Dr. Ashley, who  
2   reported that claimant had experienced additional episodes of "near syncope where she  
3   felt like she was going to pass out." Ashley and her partner, Dr. Reddy, evaluated  
4   claimant repeatedly in 2007. In March 2008, both of those physicians signed a letter that  
5   stated, in part:

6               "[Claimant] is a patient in Oregon Cardiology since December of 2006.  
7               She has been treated for a number of conditions, the most dominant of  
8               which is a chronic vagal syndrome manifest by [symptomatic] bradycardia,  
9               syncope and palpations. Although the exact underlying etiology of her  
10              symptoms are unclear, there is little doubt that she has cardiac  
11              manifestations dominated by symptomatic bradycardia now, although  
12              previously manifest by syncope."

13   As another doctor later explained, the word "vagal" refers to the vagus nerve, which  
14   "comes down from the brain through the skull and into the lungs, stomach and the right  
15   atrium predominantly." The vagus nerve is "not part of the structural anatomy of the  
16   heart," but it produces chemicals that activate the heart.

17              Letters and deposition testimony from several physicians revealed that,  
18   although they used varying terminology to refer to claimant's condition (including "vagal  
19   syndrome," "vasovagal syncope," "neurocardiogenic (vaso vagal) syncope," and  
20   "dysautonomia,"), they all agreed that the condition related to claimant's nervous system  
21   signaling her heart to beat too slowly. Dr. Reddy explained, "bradycardia is a symptom  
22   of dysautonomia," in which "the brain slows down the heart excessively."

23              At least three doctors opined that claimant's heart is sound. Ashley

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"[l]oss of consciousness and postural tone caused by diminished cerebral blood flow."  
*Id.* at 1745.

1 reported in early 2007 that claimant had a strong and healthy heart. Ashley later testified  
2 at deposition that she had ruled out cardiovascular disease as a possible diagnosis. Dr.  
3 Girod, an infectious disease specialist who had looked for evidence of myocarditis (and  
4 found none), noted that claimant's echocardiogram showed that she had "essentially  
5 normal heart function." Dr. Semler, a cardiologist who reviewed claimant's records,  
6 reported that claimant had "no signs of heart disease, peripheral vascular disease,  
7 myocarditis or infectious heart disease."<sup>3</sup>

8               Relatedly, multiple physicians explained that claimant's dysautonomia is  
9 not a cardiovascular disease. Ashley stated that claimant's low heart rate was a "function  
10 of the nervous system" that only "resulted in cardiovascular *effects*." (Emphasis added.)  
11 Reddy similarly opined that claimant's dysautonomia is not a cardiovascular process.  
12 Semler agreed, stating that the vagus nerve is not part of the heart, but only activates the  
13 organ, comparing the relationship between the nerve and heart to the relationship  
14 between a television and its remote control.

15               One physician, Dr. Kron, disagreed. Kron, a board-certified cardiac  
16 electrophysiologist, opined that neurocardiogenic syncope "is a cardiovascular disease of  
17 the nervous system in the heart," which involves "the brain, the heart [and the] blood  
18 vessels that are all integrated in a feedback loop." Because cardiologists see and treat the

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<sup>3</sup> As described by the ALJ, myocarditis is a viral illness that causes an inflammation of the muscular walls of the heart. Claimant initially submitted a claim for echoviral myocarditis, reflecting an early diagnosis of her condition. Later testing suggested that claimant did not suffer from myocarditis, and claimant no longer pursues a claim associated with that condition.

1 condition, he asserted, it "falls within the scope of cardiovascular disease." Semler  
2 disagreed with Kron's description of claimant's condition, stating that "the heart is just an  
3 innocent bystander" of the nervous system disorder. Instead, Semler "agreed that the  
4 heart was affected by the disorder of the autonomic nervous system in the same way that  
5 a pinched nerve in the lumbar spine would result in radicular pain in the foot."

6 Claimant had a pacemaker implanted in April 2008. Reddy explained that  
7 a pacemaker can treat a slow heart rate, which is "the symptom of dysautonomia," but it  
8 does not help the underlying problem itself. After claimant received the pacemaker,  
9 Reddy released her for all normal recreational and occupational activities.

10 Claimant filed a claim for autonomic dysfunction, which employer denied.<sup>4</sup>  
11 The claim was heard by an ALJ, who agreed with employer that claimant's dysautonomia  
12 was not a "cardiovascular-renal disease" for purposes of the firefighters' presumption  
13 because it did not "cause any pathology to her heart--nor frankly to her blood vessels or  
14 nerves." Because claimant's claim was based entirely on application of the firefighters'  
15 presumption, the ALJ affirmed employer's denial of her claim.

16 Claimant requested review before the Workers' Compensation Board,  
17 which reversed the portion of the ALJ's order that upheld employer's denial of her  
18 dysautonomia claim. As explained above, the board interpreted the statutory term  
19 "cardiovascular-renal disease" to mean "an impairment of the body or any of its  
20 components that interrupts or modifies the heart and blood vessels." (Emphasis omitted.)

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<sup>4</sup> As noted, claimant initially submitted a claim for a different condition, echoviral myocarditis, but no longer pursues a claim for that condition.

1 Applying that definition, the board found that claimant's condition was a "cardiovascular-  
2 renal disease," for purposes of the firefighters' presumption, because it modified or  
3 interrupted the *performance* and *function* of her heart and vascular system.<sup>5</sup> The board  
4 also concluded that employer had not overcome the presumption that claimant's condition  
5 resulted from her employment. *See* ORS 656.802(4) ("Denial of a claim for any  
6 condition or impairment of health arising under this subsection must be on the basis of  
7 clear and convincing medical evidence that the cause of the condition or impairment is  
8 unrelated to the firefighter's employment."). Accordingly, the board reversed the ALJ's  
9 order. Employer seeks judicial review in this court.

10 On review, we determine the meaning of the statutory term  
11 "cardiovascular-renal disease" as a matter of law, not as a question of fact. [\*Karjalainen\*](#)  
12 [\*v. Curtis Johnston & Pennywise, Inc.\*](#), 208 Or App 674, 681, 146 P3d 336 (2006), *rev*  
13 *den*, 342 Or 473 (2007) (construing the statutory term "arthritis or an arthritic  
14 condition"). In doing so, we examine the statutory text in context, "along with any  
15 helpful legislative history and, if necessary, other aids to construction." [\*Young v. State of\*](#)  
16 [\*Oregon\*](#), 246 Or App 115, 119, 265 P3d 32 (2011).

17 Considering solely the statutory text, one might conclude that the term at  
18 issue--"cardiovascular-renal disease"--comes into play only when a firefighter suffers a  
19 disease of the cardiovascular *and* renal systems, that is, when the disease is "of the heart,  
20 vessels and kidneys," as employer contends. The record in this case includes no

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<sup>5</sup> One board member dissented, concluding that claimant had "an impairment of her nervous system" that merely caused "symptoms in her heart."

1 indication that claimant suffers from any disease that has a renal component. We decline,  
2 however, to resolve the case on that basis. Previous opinions of this court and the  
3 Supreme Court implicitly equate "cardiovascular-renal disease" with heart disease,  
4 without discussing the significance of "renal" in the statutory term. *See, e.g., Wright v.*  
5 *SAIF*, 289 Or 323, 332, 613 P2d 755 (1980) (presumption applied to claimant who  
6 suffered "both heart related and lung related conditions or impairments of the kind  
7 described in the statutes"); [\*Long v. Tualatin Valley Fire\*](#), 163 Or App 397, 399-400, 987  
8 P2d 1267 (1999), *rev den*, 330 Or 412 (2000) (characterizing the firefighters'  
9 presumption as applying where a firefighter has "heart or lung disease"). Given that we  
10 readily can resolve this case on the other grounds discussed below, we decline to decide  
11 whether, despite the cases noted above, the term "cardiovascular-renal disease" applies  
12 only where a claimant proves that his or her cardiovascular disease has a renal  
13 component. Instead we assume, only for purposes of this opinion, that the legislature  
14 intended the term to encompass all cardiovascular diseases.<sup>6</sup>

15           We turn, then, to what it means for a claimant to have a cardiovascular  
16 disease. Because the Workers' Compensation Law does not specifically define that term,

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<sup>6</sup> We note that our previous cases did not necessarily read the term "renal" out of the statute. We may implicitly have construed the term "cardiovascular-renal disease" as covering both cardiovascular diseases and renal diseases. Conversely, we may have concluded that the 1961 legislature believed that cardiovascular diseases necessarily had renal aspects. The legislature considered the statement of at least one physician who opined that "[t]he ordinary conceptual evaluation of 'heart disease' is actually cardiovascular-renal disease." Exhibits, House Labor and Industries Committee, HB 1018, Feb 2, 1961 (written statement of Herbert E. Griswold, M.D.). In any event, we leave resolution of the "renal" question for another day.



1 we look first to dictionary definitions. *Webster's* defines "cardiovascular" as "of, relating  
2 to, or involving the heart and blood vessels." *Webster's Third New Int'l Dictionary* 338  
3 (unabridged ed 2002). It defines "disease" (as pertinent here) as "an impairment of the  
4 normal state of the living animal \* \* \* or any of its components that interrupts or  
5 modifies the performance of the vital functions \* \* \*." *Id.* at 648. Medical dictionary  
6 definitions are similar.<sup>7</sup>

7           Those dictionary definitions of the noun "disease" and the modifying  
8 adjective "cardiovascular" can be read together in two ways that carry two very different  
9 meanings. First, "cardiovascular" could be read to modify the "impairment" that  
10 constitutes the disease. Understood that way, "cardiovascular disease" means

11           "an *impairment of the normal state of the heart and blood vessels* that  
12           interrupts or modifies the performance of the vital functions."

13 (Emphasis added.) Alternatively, one could read "cardiovascular" to modify "the vital  
14 functions" whose performance is affected by the underlying impairment:

15           "an impairment of the body, or any of its component parts, that *interrupts*  
16           *or modifies the performance of the vital functions of the heart and blood*  
17           *vessels.*"

18 (Emphasis added.) The board's interpretation of "cardiovascular disease" mirrors the  
19 second possible definition set forth above:

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<sup>7</sup> For example, *Stedman's Medical Dictionary* defines "cardiovascular" as "[r]elating to the heart and the blood vessels or the circulation." *Stedman's* at 291. It defines disease, in part, as an "interruption, cessation, or disorder of body function, system, or organ." *Id.* at 509.

1 "Combining [various dictionary] definitions, we conclude that the  
2 term 'cardiovascular disease' refers to an impairment of the body or any of  
3 its components that *interrupts or modifies the heart and blood vessels*.

4 "\* \* \* \* \*

5 "[C]laimant's heart beats too slowly and \* \* \* not enough blood is  
6 circulating, which causes her to faint. Thus, claimant's abnormal heart rate  
7 impairs the performance of the heart by adversely affecting its ability to  
8 function at a rate that is sufficient for good circulation of the blood.  
9 Because claimant's slow heart beat modifies the *function* of her heart and  
10 blood vessels, her condition qualifies as a 'cardiovascular disease[.]'"

11 (Emphasis added.)

12 With respect, we believe that the board's interpretation overlooks the  
13 statutory context in which the term "cardiovascular-renal disease" is used--a context in  
14 which the heart cannot be said to be "diseased" simply because its *function*, although not  
15 its physical health, has been affected by some underlying ailment. We find contextual  
16 clues to the meaning of "cardiovascular-renal disease" in three aspects of the Workers'  
17 Compensation Law: (1) use of the word "condition," which encompasses "disease," to  
18 refer to the body's physical status; (2) the distinction between diseases and symptoms;  
19 and (3) inclusion of hypertension among the ailments that trigger the firefighters'  
20 presumption.

21 First, although the Workers' Compensation Law does not define the word  
22 "disease," it repeatedly uses the word "condition" as an umbrella term that encompasses  
23 both diseases and injuries. *E.g.*, ORS 656.012(2)(e). The plain and ordinary meaning of  
24 "condition" is "the physical status of the body as a whole or of one of its parts."  
25 *Webster's* at 473 (defining "condition"); see [SAIF v. Stephens](#), 247 Or App 107, 113, 269

1 P3d 62 (2011) (noting our approval of that definition of "condition"). Considering the  
2 definitions of "disease" and "condition" together, we conclude that a "disease" must be an  
3 impairment of the *physical status* of the body or one of its parts that interrupts or  
4 modifies the performance of the vital functions. The board's definition of "cardiovascular  
5 disease" conflicts with our understanding of the term "condition" to the extent it focuses  
6 on whether something has affected the heart's *function* rather than whether the heart's  
7 *physical status* is impaired.

8           Second, the Workers' Compensation Law distinguishes diseases from  
9 symptoms. See [Young v. Hermiston Good Samaritan](#), 223 Or App 99, 104-06, 194 P3d  
10 857 (2008) (explaining distinction between "conditions" (including diseases) and  
11 "symptoms"). Because a symptom generally is not itself a disease, any workable  
12 definition of "disease" must, at least for purposes of the Workers' Compensation Law,  
13 exclude mere "symptoms," that is, abnormalities in "structure, function, or sensation,  
14 experienced by the patient and indicative of disease."<sup>8</sup> *Stedman's Medical Dictionary*  
15 1742 (27th ed 2000). Cf. *Young*, 223 Or App at 101, 107 (radiculopathy, defined by the  
16 evidence as "pain that radiates along the course of a nerve root that exits from the spine,"  
17 is a symptom, not a condition). Thus, an organ is not diseased merely because its  
18 function is affected in a way that indicates the presence of some other, underlying  
19 disease. The board's focus on the heart's function--in this case, claimant's slow heart rate--

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<sup>8</sup> In some circumstances, a complex of symptoms may itself constitute a disease. See *Georgia-Pacific Corp. v. Warren*, 103 Or App 275, 278, 796 P2d 1246 (1990), *rev den*, 311 Or 60 (1991). Claimant has not argued, and the board did not conclude, that her symptoms themselves constitute her disease.

1 -is inconsistent with the statutory distinction between symptoms and diseases.

2           Third, we also find significance in the word "hypertension" in the statute  
3 that creates the firefighters' presumption, which covers "any disease of the lungs or  
4 respiratory tract, hypertension or cardiovascular-renal disease." ORS 656.802(4). If any  
5 underlying condition that affected the *function* of the heart and blood vessels counted as  
6 "cardiovascular-renal disease," the word "hypertension" (high blood pressure) would be  
7 superfluous.

8           Our previous decisions also shed light on the correct interpretation of the  
9 word "disease," even though we most frequently have discussed its meaning in the  
10 context of distinguishing "disease" from "injury." In drawing that distinction, we have  
11 reasoned that "diseases are gradual, rather than sudden, in onset." [\*Dynea USA, Inc. v.\*](#)  
12 [\*Fairbanks\*](#), 241 Or App 311, 316, 250 P3d 389 (2011). A phenomenon like a slow heart  
13 rate is not, itself, a condition that appears gradually. Rather, like other symptoms, it is  
14 something that is measured or perceived at a particular point in time. The underlying  
15 condition that *causes* the heart to beat slowly--here, autonomic dysfunction--may be a  
16 disease that has a gradual onset, but the resulting bradycardia is not.

17           Taking all of the above factors into consideration, we conclude that  
18 "cardiovascular-renal disease" is a physical impairment of the heart or blood vessels,  
19 gradual in onset, that interrupts or modifies the performance of the body's vital  
20 functions.<sup>9</sup> That definition excludes mere symptoms of underlying disease, like modified

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<sup>9</sup> Again, only for purposes of this opinion, we assume that the term "cardiovascular-renal disease" covers all cardiovascular diseases, whether or not they have a renal

1 heart rate, so long as those symptoms do not impair the physical structure of the heart or  
2 blood vessels themselves.

3           The importance of the disease/symptom distinction is highlighted by the  
4 logical consequences of defining "cardiovascular-renal disease" so broadly that it  
5 encompasses all conditions that affect the heart's function, but not the physical structure  
6 of the heart itself. Under the board's definition, *any* condition that triggered a problem  
7 with the heart would count as "cardiovascular disease." Thus, as claimant acknowledged  
8 at oral argument, even such conditions as eating disorders, stage fright, or nicotine  
9 addiction would qualify as "cardiovascular-renal diseases" if the person who suffered  
10 from those conditions experienced a slower or higher heart rate as a result. Such a broad  
11 definition of "cardiovascular-renal disease" would conflict with the statutory distinction  
12 between diseases and symptoms, and it would expand the firefighters' presumption far  
13 beyond what the statutory text and context suggest the legislature contemplated.

14           In short, we disagree with the board's interpretation of the statutory term  
15 "cardiovascular-renal disease" for the reasons set forth above. We remand so the board  
16 may reconsider the case applying the correct statutory standard.

17           Reversed and remanded.

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component.