NOTES

WORKMEN'S COMPENSATION FOR HEART ATTACKS IN IOWA AND IN ITS BORDERING STATES

I. INTRODUCTION

The strains and tensions faced in our increasingly complex society have unfortunately resulted in a growing number of heart ailments. Recognizing the pressures that one's employment places upon the individual, courts are more willing to affirm awards of workmen's compensation where an individual's heart attack is a result, at least in part, of his work. Fortunately for some claimants, Iowa and its bordering states seem headed in the direction of increased liberalization in the often complex and troublesome area of the compensability of heart attacks. Accordingly, this Note will examine and discuss this recent trend.[1]

Renowned workmen's compensation expert Arthur Larson has noted that "[t]he compensability of heart attacks continues to be probably the most prolific and troublesome problem in workmen's compensation law."[2] Basically, this difficulty stems from three factors unique to heart attacks.[3] First, heart attacks are not easily identified with the victim's employment.[4] Second, unlike many work-related injuries, most heart attacks involve preexisting heart conditions or diseases that facilitate the occurence of the heart attack. Finally, present medical research has not yet been able to precisely establish the causes of heart attacks.[5]

Consequently, industrial commissions are forced to determine the suffi-

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1. Iowa refers to workmen's compensation as workers' compensation throughout its case and statutory law. *See, e.g.*, IOWA CODE § 85 (1981). This Note will use workmen's compensation to mean either term.

2. Larson, *The "Heart Cases" In Workman's Compensation: An Analysis and Suggested Solution*, 65 MICH. L. REV. 441 (1967) [hereinafter cited as Larson *Heart Cases*].

3. *See* notes 4-5 *infra*.

4. Note, *Wold v. Meilman Food Industries, Inc. — Injury by Accident Arising Out of And in the Course of the Employment — Causation in "Heart Cases,"* 24 S.D.L. REV. 181, 181-82 (1978) [hereinafter cited as *Wold Heart Cases*].

5. Gaines, *Cardiovascular Injuries Under The Workmen's Compensation Act of Illinois*, 67 ILL. B.J. 230 (1978). Arteriosclerosis is the underlying disease manifested in heart conditions and commonly involves hardening of the artieries and the development of fatty deposits on the heart wall. There is a particular concern in the area of heart attack compensation because many heart attacks are the result of coronary occlusion which can occur regardless of whether a person is sleeping or working. *Id.* at 232..

ciency of medical causation when, in fact, experts themselves are uncertain of the exact causes of heart attacks. The creation of a legal causation standard is particularly crucial in an area in which there is such medical uncertainty.

Generally, one of three distinct standards is utilized to determine if an injury is compensable: 1) whether the injury arose out of the employment;[6] 2) whether the injury was an accidental injury "arising out of the employment";[7] and 3) whether the injury was caused by an accident.[8]

The majority of states follow the second standard: not only must the injury arise out of the employment but it must also be accidental.[9] The states requiring an accidental result generally follow the "usual-exertion" rule where the claimant must show that the injury was unlooked-for and unexpected.[10] By contrast, those states that require an accidental cause follow the "unusual exertion rule"[11] in which the exertions of the employee

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6. *See* notes 41-74, 76-92 *infra*.

7. *See* notes 93-153 *infra*.

8. Iowa follows the first standard and defines "arising out of the employment" as the existence of "a causal connection between the conditions under which the work was performed and the resulting injury, i.e., . . . an injury [which] follow[ed] as a natural incident of the work." Musselman v. Central Tel. Co., 261 Iowa 352, 355, 154 N.W.2d 128, 130 (1967)(relief denied to employee who allegedly injured his back while lifting containers). A second requirement for compensation for an employee's injury in Iowa is that the injury "arise in the course of employment" which is defined in *Cedar Rapids Community School v. Cady* as an injury which occurs "within the period of employment at a place the employee may reasonably be, and while he is doing work or something incidental to it." 278 N.W.2d 298, 299 (Iowa 1979)(widow of employee killed by deranged co-employee while at work granted compensation).

See Duckworth, *Injuries Arising out of and in the Course of Employment*, 30 DRAKE L. REV. 861 (1981). *See also* IOWA CODE § 85.3(1)(1981) which provides in pertinent part that: "[E]very employer, not specifically excepted by the provisions of this chapter, shall provide, secure, and pay compensation according to the provisions of this chapter for any and all personal injuries sustained by an employee arising out of and in the course of employment . . . ." *Id.* For an analysis of one of the ramifications of injuries "arising in the course of employment" involving the "going and coming rule," *see* Note, *Workers' Compensation in Iowa - The Going and Coming Rule and Its Exceptions*, 27 DRAKE L. REV. 688 (1978).

9. 1B A. LARSON, THE LAW OF WORKMEN'S COMPENSATION § 37.10, at 7-1. (1980) [hereinafter cited as LARSON].

Those states which require an accidental injury follow an early English case which defined an accident as "an unlooked for mishap or an untoward event which is not expected or designed." Fenton v. Thorley & Co., [1903], A.C. 443, ___. In addition to this first accident component, most states require that "[t]he injury must be traceable, within reasonable limits to a definite time, place, and occasion or cause." LARSON, *supra* note 9, § 37.20, at 7-5. Larson criticizes such a requirement on the ground that the courts have incorrectly applied — as a matter of improper grammatical interpretation — accidental injury to mean an accident. *Id.* § 37.20, at 7-6.

10. LARSON, *supra* note 9, § 37.20, at 7-6. Larson gives the example of a man who suffers a heart attack while lifting hundred pound sacks which is normal activity for him. Though the work is not unusual for the employee, he is entitled to compensation because the heart attack was unlooked-for. *Id.* People do not generally attempt, desire, or expect to suffer heart attacks.

11. Larson *Heart Cases*, *supra* note 2, at 444. Here, the concern is with the events leading

which cause his heart attack must be unusual for him.

In response to the confusion generated by the "arising out of the employment" doctrine[12] and also with the "by accident" requirement,[13] Larson developed an additional test for causation. This test can best be described as the personal risk-employer contribution test.[14] Basically, this test is divided into two categories: 1) employees with pre-existing diseases known as personal risk factors; and 2) employees without pre-existing diseases.[15] Essentially, Larson's test requires that employees with previously diseased hearts must exert effort "greater than that of nonemployment life" to recover compensation,[16] while employees not afflicted by prior heart disease can recover compensation for any exertion which medically causes a heart attack.[17]

II. The Iowa Approach

There is not an over-abundance of Iowa case law concerning work-related heart attacks. Moreover, the case law that does exist fails to enunciate a definitive standard. In comparing Iowa to its bordering states, however, Iowa remains one of the more liberal states concerning workmen's compensation for heart attacks.

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up to the injury and whether or not they were in some sense unusual. Larson, *supra* note 9, § 37.20, at 7-6.

In the prior example the claimant would be denied relief within an "unusual exertion" state because the employee's exertion was not unusual or abnormal for him. *See* note 10 *supra*.

The ratio of states that follow the usual-exertion rule as compared with those states that follow the unusual-exertion rule is presently three to one in favor of the former. Larson, *supra* note 9, § 38.30, at 7-48 to-77.

For an excellent critique of the unusual-exertion requirement see Larson, *supra* note 9, §§ 38.61-.63, at 7-145 to -53.

12. Larson *Heart Cases*, *supra* note 2, at 442.

13. Larson, *supra* note 9, §§ 38.82-.83, at 7-231 to -233.

14. *Id.* § 38.83, at 7-236.

15. *Id.* § 38.83, at 7-237.

16. *Id.*

17. *Id.* Larson describes his test as follows:

> If there is some personal causal contribution *in the form of a previously weakened or diseased heart*, the employment contribution must take the form of an exertion greater than that of nonemployment life. . . . Note that the comparison is not with *this employee's* usual exertion *in his employment* but with the exertions of normal *nonemployment* life of this or any other person.
>
> If there is no personal causal contribution, that is, if there is no prior weakness or disease, *any* exertion connected with the employment and causally connected with the collapse as a matter of medical fact is adequate to satisfy the *legal* test of causation.

Id. (emphasis original).

A. *Histocial Development*

The majority of Iowa case law in the area of employee-heart attacks has dealt with the aggravation of heart conditions or diseases as caused by one's work.[18] An early Iowa case dealing with the concept of aggravation of pre-existing conditions or diseases was *Almquist v. Shenadoah Nursuries, Inc.*[19] The court held that a personal injury compensable under Iowa law would include an injury or impairment of health "which . . . [came] about, not through the natural building up and tearing down of the human body, but because of a traumatic or other hurt or damage to the health or body of an employee."[20] Despite the fact that natural body changes and deterioration are not compensable,[21] the court held that an employee can still receive compensation for a work strain.[22] The court seemed to indicate that an employee was entitled to relief where it was shown that injury was the result of any work strain which actually aggravated an already weakened condition.[23]

B. *Launching of The Iowa Two-Prong Approach*

Two equally significant cases[24] followed the *Almquist* decision which developed the modern day Iowa approach to compensability for aggravated heart conditions. The alternative standards developed in these cases, however, established some restrictions on compensation for heart attacks where the employee's work medically caused his heart attack.[25] The key question in this area "is whether the diseased condition was the cause, or whether the employment was a proximate contributing cause."[26]

1. *Strenuous Exertion Incident*

In *Guyon v. Swift & Co.*,[27] the court established that where an em-

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18. There is little Iowa case law concerning heart attack victims (employees) who did not suffer from pre-existing heart conditions.

19. 218 Iowa 724, 254 N.W. 35 (1935) (plaintiff suffered perforated stomach ulcer when already deteriorated stomach was further damaged). *Almquist* has been heavily cited in Iowa heart cases.

20. *Id.* at 732, 254 N.W. at 40.

21. *Id.*

22. *Id.* at 736, 254 N.W. at 40.

23. *See id.* The court noted that the employee's "work was exceedingly heavy because it required much lifting, pulling, and prying," and a doctor testified that the employee's pre-existing "ulcer would not have perforated naturally, but that the perforation necessarily came from the work.," *Id.*

24. Littel v. Lagomarcino Grupe Co., 235 Iowa 523, 17 N.W.2d 120 (1945); Guyon v. Swift & Co., 229 Iowa 625, 295 N.W. 185 (1940).

25. *See* notes 27-73 *infra.*

26. Musselman v. Central Tel. Co., 261 Iowa 352, 360, 154 N.W.2d 128, 132 (1967)(employee denied compensation where back injury was caused by natural deteriorative processes rather than by employee's jerking while putting on overshoe).

27. 229 Iowa 625, 295 N.W. 185 (1940).

ployee's heart condition was aggravated or accelerated by a work exertion and resulted in a heart attack, he or his widow was entitled to compensation.[29] In *Guyon*, the deceased employee was an electrician with a diseased heart artery who was required one day to run up and down a series of stairs in an attempt to correct an electrical problem that developed in his packing plant.[30] In affirming compensation to the employee's widow,[30] the court seemed to hold that an incident of strenuous exertion which aggravated a pre-existing heart condition could result in compensation.[31]

In a subsequent case not involving a heart attack,[32] the court, though not citing to *Guyon*, stated "that when an employee is hired, the employer takes him subject to any active or dormant health impairments incurred prior to his employment"[33] and that an employee who suffers a work-related "aggravation to his already-impaired physical condition . . . is entitled to compensation to the extent of that injury."[34] Subsequently, in *Barz v. Oler*,[35] where a plumber who had been ill for some time suffered a ruptured aorta as a result of heavy exertions he made in turning wrenches in a water tank,[36] the court stated that "pre-existing conditions are not necessarily a defense to actions for workmen's compensation,"[37] and "an injury is compensable even though there is an underlying disease, if death results from or was hastened by the injury, which includes exertion."[38]

Recently, in *Holmes v. Bruce Motor Freight, Inc.*,[39] the court reversed an award of benefits[40] to an employee with many unrelated heart problems who suffered a heart attack allegedly caused by lifting heavy barrels.[41] The court held that the claimant had to prove by a probability, not a possibility, "that some employment incident or activity brought about the health im-

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28. *Id.* at 633, 295 N.W. at 189.
29. *Id.* at 627-28, 295 N.W. at 186.
30. *Id.* at 634, 295 N.W. at 189.
31. *See id.* at 633, 295 N.W. at 189 (evidence sufficiently justified conclusion that employee's work exertion brought about heart attack sooner than otherwise would have occurred). *See also* Lindeken v. Lowden, 229 Iowa 645, 657-58, 245 N.W. 112, 119 (1940) (the court on the same day as *Guyon*, granted relief to an employee who suffered a heart attack which was aggravated by an on-the-job knee injury); Note, *Workman's Compensation: Recoveries for Heart Diseases*, 4 DRAKE L. REV. 133, 138 (1954). It was not until *Sondag v. Ferris Hardware*, 220 N.W.2d 903 (Iowa 1974) that the court specifically stated the *Guyon* rule in these terms. In fact, the court used the term "unusual" strain which was not present in *Guyon*. *Id.* at 905.
32. Ziegler v. United States Gypsum Co., 252 Iowa 613, 106 N.W.2d 591 (1960).
33. *Id.* at 620, 106 N.W.2d at 595.
34. *Id.* (employee who re-injured bad back while performing a number of tasks was entitled to compensation).
35. 257 Iowa 508, 133 N.W.2d 704 (1965).
36. *Id.* at 511, 133 N.W.2d at 705-06.
37. *Id.* at 512, 133 N.W.2d at 706.
38. *Id.* at 512, 133 N.W.2d at 706-07.
39. 215 N.W.2d 296 (Iowa 1974).
40. *Id.* at 302.
41. *Id.* at 298.

pairment" upon which his claim was based.[42] This decision exemplified the *Guyon* standard that the aggravation of an employee's heart condition had to be related to an incident on the job.

2. *Daily, Heavy Exertions*

The second Iowa standard concerning work-aggravated heart conditions was developed in *Littell v. Lagomarcino Grupe Co.*[43] The court, upholding the *Almquist* standard,[44] held that an employee is entitled to compensation for a heart condition aggravated by daily heavy exertions over a period of time.[45] In affirming an award of compensation[46] to an employee with a weak heart who suffered a heart attack after unloading heavy cases of canned goods,[47] the court held that there was sufficient evidence from which the Industrial Commissioner could have determined that the employee's daily, heavy exertions aggravated his heart condition.[48] Therefore, *Littell* eased the burden of proof on the claimant by not requiring the claimant to indicate one particular exertion which aggravated his heart condition. Rather, the employee need only prove that the wear and tear of his work contributed to his heart attack.

C. *A Third Means of Recovery as Seen In Sondag v. Ferris Hardware*

A significant development regarding heart attack cases occurred with the decision of *Sondag v. Ferris Hardware.*[49] Not only did the court re-state the two standard approach previously developed in Iowa heart cases,[50] but the court also added a third standard involving compensation for extended heart injuries incurred through continued work exertions on heart attacks already in progress.[51]

This new standard involves the right to compensation for "damage caused by continued exertions after the onset of a heart attack."[52] In *Sondag,* the employee was a fifty-seven-year-old clerk and appliance service-

42. *Id.* at 297.

43. 235 Iowa 523, 17 N.W.2d 120 (1945).

44. *Id.* at 529, 17 N.W.2d at 123-24.

45. *Id.* at 530, 17 N.W.2d at 124 ("no proof of accident or special or unusual occurrence is necessary where the injury is otherwise proven").

46. *Id.* at 532, 17 N.W.2d at 125.

47. *Id.* at 524-25, 17 N.W.2d at 122.

48. *Id.* at 529-30, 17 N.W.2d at 123-24. Note also that as with the *Guyon* standard, the court did not expressly state the *Littell* standard until *Sondag v. Ferris Hardware,* 220 N.W.2d 903, 905 (Iowa 1974). *See* note 31 *supra.*

49. 220 N.W.2d 903 (Iowa 1974).

50. *Id.* at 905.

51. *Id.* at 906.

52. *Id.* On remand the Industrial Commissioner awarded claimant compensation based on this rule. Sondag v. Ferris Hardware, 32nd Biennial Report, Iowa Indus. Comm'r 117, 118 (1976).

man who felt chest pains at work at times and had a pre-existing heart condition.[53] One day while unloading 300 to 400 pound washing machines he suffered a myocardial infarction[54] (heart attack), but he continued to work strenuously for an hour after the attack's onset.[55] Subsequently, the employee sought compensation on the ground that the exertions in moving the washing machines aggravated his heart condition and caused his heart attack.[56] Though the court agreed with the Industrial Commissioner that the facts did not support such a conclusion,[57] the court went further and held that the claimant should have been granted a new hearing based on this third standard of recovery in heart cases.[58] In describing this concept as "[a] long established rule",[59] the court cited two Industrial Commissioner decisions.[60]

In *Rogers v. Lake View Concrete Products Co.*,[61] the Industrial Commissioner awarded compensation to the widow of an employee, who after suffering two previous heart attacks, suffered another heart attack on the job but continued to work, thus further damaging his heart.[62] The Commissioner in *Rogers* reasoned that but for the employee's continuing to work after the onset of the heart attack, his heart might not have been aggravated to the point of resulting in death.[63] Similarily, in *Miller v. H.S. Holtze Construction Co.*,[64] the employee suffered heart failure while on the job and his continued exertions, though light, were sufficient to cause fatal cardiac failure for which his widow was held entitled to compensation.[65] Although this new standard created by *Sondag* appears at first glance to be a significant advantage for the employee, its impact is limited to situations where the employee does not die from the initial heart failure but instead suffers further heart damage from continued work exertions.

Although the court cited Larson's test for support,[66] there is some doubt as to whether it properly construed Larson's test. First, no Iowa heart

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53. Sondag v. Ferris Hardware, 220 N.W.2d 903, 904, 906 (Iowa 1974).

54. *Id.* at 904. A myocardial infarction is "a localized death of a heart muscle resulting from obstruction of circulation by blood clot or abnormal particle." *Id.*

55. *Id.*

56. *Id.* at 906.

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.* (citing Miller v. H.S. Holtze Constr. Co., 30th Biennial Report, Iowa Indus. Comm'r 27 (1970); Rogers v. Lake View Concrete Prod. Co., 29th Biennial Report, Iowa Indus. Comm'r 36 (1969)).

61. 29th Biennial Report, Iowa Indus. Comm'r 37 (1969).

62. *Id.* The *Sondag* court remarked that the facts in *Rogers* were "strikingly similar to those in this case." 220 N.W.2d at 906.

63. 29th Biennial Report, Iowa Indus. Comm'r 37, 38 (1969).

64. 30th Biennial Report, Iowa Indus. Comm'r 27 (1970).

65. *Id.* at 28-29.

66. *Id.*

case, including *Littell,* appears to have adopted or applied Larson's risk test. Second, the concern in Iowa heart cases has not been with the non-employment exertions of the public, but rather with the employee's own prior exertions.[67] Consequently, there is some confusion as to whether Larson's test is in fact to be applied in future Iowa cases. Nonetheless, *Sondag* reiterated the *Littell* view that long term physical strain resulting in heart attacks can be compensated.[68]

The other situation under which compensation for aggravation of pre-existing heart conditions "is allowed [is] when the medical testimony shows an instance of unusually strenuous employment exertion, imposed upon a pre-existing diseased condition, [which] results in a heart injury."[69] In citing *Guyon* for support,[70] the *Sondag* court may have misinterpreted *Guyon* in two ways. First, *Sondag* appeared to have removed the trier of fact from the determination of what constituted a sufficient legal exertion by allowing medical experts to so determine.[71] No such language can be found in *Guyon.* This also raised the question of how a medical expert was to determine whether an exertion was "unusual" enough to cause a heart attack. This seemed to be the province of the Industrial Commissioner. Second, *Sondag* referred to the need for an employment exertion to be "unusual".[72] The *Guyon* court, however, never used such a term. Instead, cases prior to *Sondag* appeared to concentrate on whether the particular exertion was medically sufficient to cause a susceptible individual to suffer a heart attack.[73] Hopefully, future Iowa cases will clarify the matter and apply a straight-forward rule.

The Iowa court is not likely to backtrack in the area of workmen's compensation and heart attacks, particularly in light of the development of the third standard of recovery in *Sondag.* A recent reflection of the court's present attitude towards workmen's compensation was expressed as follows: "[I]n keeping with the humanitarian objectives of the worker's compensation statute, we apply it broadly and liberally. The legislation is primarily for the benefit of the worker and the worker's dependents."[74]

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67. *See* Larson *Heart Cases, supra* note 2, at 470-71 (an employee, who normally does little lifting, but is required to lift 15 pound weights and suffers a heart attack as a result is not entitled to relief under the Larson test). However, it is not so clear whether Iowa would be willing to place such a restriction on compensation if a medical causal connection existed and the *Guyon* or *Littell* standard was met.

68. 220 N.W.2d at 905.

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.*

73. *See* notes 27-44 *supra.*

74. Cedar Rapids Community School v. Cady, 278 N.W.2d 298, 299 (Iowa 1979).

III. The Approach Of Other Usual Exertion States

Although the standards of Minnesota, Nebraska, Illinois, and Wisconsin regarding the compensability of heart attacks are at times unclear, each standard rejects the unusual exertion requirement.[75]

A. *Minnesota: Cumulative Effect and Strenuous Exertion Doctrines*

As with Iowa law, Minnesota's workmen's compensation statute does not require that an employee's injury arise out of, or occur by, an accident.[76] In *Kolflat v. Northern Ordnance Co.*,[77] the Minnesota Supreme Court specifically rejected the unusual-exertion rule and held that the removal of the word "accident" from Minnesota's statutory language eliminated the necessity of proving whether an exertion or strain "which precipitated the harm to an employee was in itself unusual or beyond the routine of his employment."[78] Consequently, Minnesota's case law has proceeded on a clearly stated rejection of the unusual exertion test. However, in addressing the issue of pre-existing heart conditions, the Minnesota Supreme Court has developed two distinct standards similar to Iowa's standards. The first standard was developed in *Gillette v. Harold, Inc.*[79] The court held that a saleslady was entitled to compensation because the gradual, cumulative effect of her work aggravated a previously existing foot problem.[80] Although *Gillette* did not involve a heart attack, its language is applicable by analogy. The court held that injuries which occur in an employee's ordinary duties may cause minimal damage by themselves, but have "the cumulative effect of which in the course of time may be as injurious as a single traumatic occurrence which is completely disabling."[81]

In *Kleman v. Ford Motor Co.*,[82] the court affirmed an award of bene-

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75. *See* text accompanying notes 76-153 *infra*.

76. *Compare* Minn. Stat. § 176.011(16)(1975) (" '[p]ersonal injury means injury arising out of and in the course of employment,' ") *with* Iowa Code § 85.3(1)(1981).

77. 274 Minn. 104, 142 N.W.2d 588 (1966).

78. *Id.* at _, 142 N.W.2d at 590; *accord*, Gillette v. Harold, Inc., 257 Minn. 313, _, 101 N.W.2d 200, 205 (1960) (citing Almquist v. Shenandoah Nurseries, 218 Iowa 724, 254 N.W. 35 (1934)).

79. 257 Minn. 313, 101 N.W.2d 200 (1960).

80. *Id.* at _, 101 N.W.2d at 206, 207.

81. *Id.* at _, 101 N.W.2d at 206. The "cumulative effect" test in *Gillette* appears much less stringent than Iowa's "heavy exertion" test. The defendant-employer in *Gillette* argued "that the act of standing or walking, which is a part of every day existence and is performed at home, at work, or at play, may not be considered as an occurrence which gives rise to a compensable injury." *Id.* at _, 101 N.W.2d at 207. The court responded that the plaintiff-saleslady's "acts of standing and walking were vital and necessary to the performance of her usual tasks." *Id.* Therefore, if *Sondag* did in fact adopt the Larson risk test then it appears doubtful whether the saleslady would have succeeded in Iowa under the "heavy exertion" test since her work activity of walking is indiscernible from non-employment activities.

82. 307 Minn. 218, 239 N.W.2d 449 (1976) (5-4 decision).

fits[83] where an employee with a pre-existing heart disease did much inventory work which required the lifting of door panels and overtime work. Subsequently, he suffered a fatal heart attack.[84] Though the *Kleman* court did not cite to *Gillette*, it appeared to rely on similar reasoning and held that the employee's gradual workload wore him down and eventually aggravated his diseased heart.[85] However, there has not been a Minnesota heart attack case since *Kleman* which either directly or indirectly adopted *Gillette*. Consequently, the future of the cumulative effect doctrine in Minnesota remains unclear.

Similar to Iowa's strenuous exertion test is Minnesota's second standard which requires the claimant to show "'that the heart attack was brought on by strain or overexertion incident to the employment, even though the strain or exertion need not be unusual or other than that occurring in the normal course of employment'."[86] In *Kolflat v. Northern Ordnance Co.*,[87] the court noted that the claimant failed to provide evidence "that the employee was working under tension or doing anything which required exertion of a strenuous nature."[88]

In affirming compensation benefits[89] to the wife of a deceased welder who suffered a heart attack as a result of his welding activities,[90] the Minnesota Supreme Court recently re-stated the view that although an exertion need not be unusual or extraordinary, the claimant must show that an employee's fatal heart attack was caused by the "work that was being done and that the employment was a contributing factor in bringing about the death."[91] The court's requirement that the heart attack was caused, at least in part by the employment,[92] puts it on line with Iowa and possibly Larson, as well.

B. *Nebraska: Adherence to Larson's Test*

The Nebraska standard regarding compensability of heart attacks is the most explicit state standard among those discussed in this Note. Though Nebraska requires the employee's injury to be of accidental nature,[93] Ne-

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83. *Id.* at _, 239 N.W.2d at 451.
84. *Id.* at _, 239 N.W.2d at 450-51.
85. *Id.* at _, 239 N.W.2d at 451.
86. Kolflat v. Northern Ordnance Co., 274 Minn. 121, 142 N.W.2d 588 (1966)(widow denied benefits after husband died of a heart attack while performing his normal functions as a radial drill machinist).
87. *Id.*
88. 274 Minn. at _, 142 N.W.2d at 592.
89. Wever v. Farmhand, Inc., 243 N.W.2d 37, 39 (Minn. 1976).
90. 243 N.W.2d at 38.
91. 243 N.W.2d at 38-39.
92. *See* notes 77-91 *supra*.
93. NEB. REV. STAT. § 48-151(2)(1978): "The word accident as used in this act shall . . . be construed to mean an unexpected or unforseen injury happening suddenly and violently,

braska has expressly adopted the Larson employee personal risk-employer contribution test.[94] Accordingly, Nebraska has clearly rejected the unusual exertion rule.[95]

In *Brokaw v. Robinson*,[96] the court stated that the employee-claimant must prove "by a preponderance of the evidence that exertion in his employment, in reasonable probability, contributed in some material and substantial degree to cause the injury."[97] Requiring a material and substantial work exertion contribution[98] even in cases not involving a pre-existing heart condition, appeared on its face, to be a more stringent standard than Larson's test.[99] The Nebraska Supreme Court later resolved this discrepancy when it expressly adopted Larson's personal risk-employer contribution test in *Beck v. State*.[100] The court in *Beck* reversed an award of relief to a claimant[101] whose husband had a pre-existing heart condition but allegedly suffered a heart attack as the result of on-the-job emotional stress.[102] The court held that because a "heart disease . . . was a personal risk"[103] and "emotional strain . . . was an employment risk,"[104] workmen's compensation could not be granted for death caused by both risks when "[t]he strain was no greater than that of nonemployment life."[105]

The Larson standard, however, suffered a temporary setback in *Hyatt v. Kay Windsor, Inc.*,[106] in which the court affirmed the denial of relief[107] to a salesman with a pre-existing heart condition who suffered a heart attack

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with or without human fault, and producing at the time objective symptoms of an injury." Hence, Nebraska follows the original definition given to the term "accident" by the English court in *Fenton v. Thorley & Co.* [1903] A.C. 443, and also avoids Larson's criticisms by requiring an unexpected or unforeseen result rather than an unusual cause. *See* notes 9, 11 *supra*. *See also* Brokaw v. Robinson, 183 Neb. 760, _, 164 N.W.2d 461, 464 (1969).

94. Beck v. State, 184 Neb. 477, _, 164 N.W.2d 532, 533-34 (1969).

95. *See* notes 96-105, 110-116 *infra*.

96. 183 Neb. 760, _, 164 N.W.2d 461, 464 (1969) (claimant need not show that "employment exertion which produced the result was in some way unusual").

97. *Id.* at _, 164 N.W.2d at 464-65 (affirmed relief to employee with no pre-existing conditions or weaknesses who suffered stroke after pulling a 400 to 500 pound cattle chute through mud).

98. *Id.* at _, 164 N.W.2d at 464-65 (evidence established that employee's stroke was an unexpected or unforeseen injury and "in reasonable probability, arose out of and in the course of his employment").

99. Larson did not require distinguishable employment exertions in non-pre-existing heart condition cases.

100. 184 Neb. 477, _, 168 N.W.2d 532, 533-34 (1969).

101. 184 Neb. at _, 168 N.W.2d at 534.

102. *Id.* at _, 168 N.W.2d at 532-33 (allegation that state agency director's mental anxiety over a pending bill contributed to his death).

103. *Id.* at _, 168 N.W.2d at 533.

104. *Id.* at _, 168 N.W.2d at 533.

105. *Id.* at _, 168 N.W.2d at 533.

106. 198 Neb. 580, 254 N.W.2d 92 (1977).

107. *Id.* at _, 254 N.W.2d at 95.

after carrying samples that constituted twice his normal work load.[108] The court stated that there was not a fixed formula to determine whether a heart attack arose out of and in the course of employment.[109]

One year later, the court in *Newbanks v. Foursome Package & Bar, Inc.*,[110] clearly extended and applied the Larson test to physical exertion heart cases.[111] Although the court denied the claimant relief,[112] it did so because he failed to prove that his exertion "was . . . greater than that found in nonemployment life."[113] Recently, the court reiterated its support of the Larson personal risk-employment contribution test in *Sellens v. Allen Products Co., Inc.*,[114] thereby making it clear that this test has continuing applicability in Nebraska heart cases.[115] There is one note of caution, however. A review of Nebraska heart cases indicates a tendency by the Nebraska industrial commissioner to be very stringent in what it construes as an employment exertion.[116]

C. *Illinois: Application Though Not Adoption of Larson's Test*

Illinois also appears to be following a "Larson-like" approach, although it has not expressly adopted Larson's test.[117] The Illinois workmen's statute includes an "accident" requirement.[118] An injury is accidental "when it is traceable to a definite time, place and cause and occurs in the course of employment unexpectedly and without affirmative act or design of the em-

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108. *Id.* at _, 254 N.W.2d at 94.

109. *Id.* at _, 254 N.W.2d at 95 (quoting from Reis v. Douglas County Hosp., 193 Neb. 542, _, 227 N.W.2d 879, 884 (1975)). Although the court stated that "heart cases" involve the causation problem of whether an injury was "the result of personal rather than employment risk," 198 Neb. at _, 254 N.W.2d at 95, the court refused to apply the Larson rule probably because the defendant's medical expert gave little causal responsibility to the employee's exertion even though he admitted it could have precipitated the attack. *Id.* at _, 254 N.W.2d at 94.

110. 201 Neb. 818, 272 N.W.2d 372 (1978).

111. *Id.* at _, 272 N.W.2d at 375 (affirmed denial of relief to bartender who suffered heart attack six days after lifting a case of whiskey weighing 60 pounds).

112. *Id.* at _, 272 N.W.2d at 376.

113. *Id.* at _, 272 N.W.2d at 375-76.

114. 206 Neb. 506, 293 N.W.2d 415 (1980)(affirmed denial of relief to widow of overweight truck driver with a heart condition and high cholesterol level who suffered fatal heart attack while unloading cases of food weighing approximately 28 pounds each).

115. *Id.* at _, 293 N.W.2d at 418. The *Sellens* court said that in determining whether an exertion met the Larson test, "the comparison is to be made with the exertions present in the normal nonemployment life of the workman or any other person." *Id.*

116. *See, e.g.*, Newbanks v. Foursome Package & Bar, Inc., 201 Neb. 818, 272 N.W.2d 372 (1978) (employee's lifting a 60 pound case apparently not distinct from non-employment exertions). *See also* Hyatt v. Kay Windsor, Inc., 198 Neb. 580, 254 N.W.2d 92 (1977) (lifting 80 pound bags though twice the employee's normal load not deemed separate from an non-employment exertion).

117. *See* notes 122-24, 129-36 *infra*.

118. ILL. ANN. STAT. ch. 48, § 138.1 (Smith-Hurd 1980)(requires that an employee's injury be accidental though no such explicit language is stated in the statute).

ployee."[119] Since Illinois is mainly concerned with whether an injury occurs unexpectedly, there is no requirement that the victim's exertions or stress be unusual.[120]

The Illinois courts' apparent reliance on a Larson risk test approach[121] was recently exemplified in *Segler v. Industrial Commission.*[122] The court held that an injury arises out of the employment only when it has "its origin in some risk connected or incidental to the employee's duties"[123] which is necessary to establish "a causal connection between the injury and the employment."[124] Accordingly, the Illinois courts appear to have established two interrelated exceptions to heart attack compensation even where medical causation is established.[125] The first exception involves what can be described as the "substantial health deterioration" test in which an employee will be denied compensation "where it is shown [that] the employee's health has so deteriorated that any normal daily activity is an overexertion."[126] Under this exception the court is apparently concerned with denying compensation in those cases where the employee was likely to have died at work regardless of the degree of work exertion.[127]

The second exception to heart attack compensation in Illinois is a reiteration, though not an express adoption, of the Larson rule.[128] In *County of Cook v. Industrial Commission,*[129] the court held that "where it is shown that the activity engaged in presents risks no greater than those to which the general public is exposed, compensation will be denied."[130] In affirming an award of relief[131] to the widow of a clerical worker, who suffered a heart attack after aiding fellow workers in processing between 2,000 and 3,000 tax-

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119. International Harvester Co. v. Industrial Comm'n, 56 Ill. 2d 84, _, 305 N.E.2d 529, 532 (1973)(quoting Matthiessen & Hegeler Zinc Co. v. Industrial Bd., 284 Ill. 378, 120 N.E. 249 (1918)).

120. *See, e.g.,* Johns-Manville Prod. v. Industrial Comm'n, 78 Ill. 2d 171, _, 399 N.E.2d 606, 610 (1979). *See also* Gaines, *supra* note 5, at 235-36.

121. *See* notes 122-24, 129-36 *infra.*

122. 81 Ill. 2d 125, 406 N.E.2d 542 (1980).

123. *Id.* at _, 406 N.E.2d at 543 (affirmed dismissal where claimant injured his leg while pulling frozen pot pie from a large industrial oven).

124. *Id. Accord,* Johns-Manville Prod. v. Industrial Comm'n, 78 Ill. 2d 171, _, 399 N.E.2d 606, 609 (1979) ("employer takes the employee as he finds him" and employee is entitled to compensation where he "can show that the preexisting illness was aggravated or accelerated by the employment").

125. *See* notes 126-36 *infra.*

126. County of Cook v. Industrial Comm'n, 69 Ill. 2d 10, _, 370 N.E.2d 520, 523 (1977). *See also* County of Cook v. Industrial Comm'n, 68 Ill. 2d 24, _, 368 N.E.2d 1292, 1294 (1977)(court denied relief to claimant with a long history of hypertension, who suffered cerebral hemorrhage damage while rising from a chair at work).

127. County of Cook v. Industrial Comm'n, 69 Ill. 2d at _, 370 N.E.2d at 523.

128. *Id.* at _, 370 N.E.2d at 523.

129. 69 Ill. 2d 10, 370 N.E.2d 520 (1977).

130. *Id.* at _, 370 N.E.2d at 523.

131. *Id.* at _, 370 N.E.2d at 524.

payers each day for the week prior to his death,[132] the court held that the employee's exertions in *Cook* were clearly distinguishable from claims for heart attacks allegedly caused by walking four blocks,[133] rising from a chair,[134] or climbing a set of stairs.[135] Moreover, the court noted that there was nothing in these latter cases "to distinguish the work activity complained of from any other daily activity which was at least as stressful."[136] Such reasoning seems to be a clear restatement of the Larson test for pre-existing heart conditions.[137]

D. *Wisconsin: Precipitation, Aggravation, and Acceleration Beyond Normal Progression*

Of the states bordering Iowa, Wisconsin has the heart attack standard that is the most difficult to discern. Basically, the difficulty stems from the fact that very few heart attack cases have been reviewed by the Wisconsin Supreme Court. Moreover, the cases that have been decided fail to enunciate a definitive standard.

In a case involving a herniated disk,[138] the Wisconsin court held that where an employee's "work activity precipitates, aggravates and accelerates beyond normal progression, a progressively deteriorating or degenerative condition, it is an accident-causing injury" for which the employee is entitled to relief.[139] The court defined "usual" or "normal" exertions as those of normal nonemployment,[140] but it did not apply Larson's test.

Subsequently, in *Tews Lime & Cement Co. v. Department of Industry, Labor & Human Relations*,[141] the court affirmed an award of benefits[142] where the deceased truck driver, who "had been suffering from rather ad-

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132. *Id.* at _, 370 N.E.2d at 521.

133. *Id.* at _, 370 N.E.2d at 524. The court in *Bell* stated that an accidental injury arose out of the employment where the injury "had its origin in the nature of, or have been incidental to, the employment, or it must have been the result of a risk, by reason of the employment, the injured employee was exposed to a greater degree than if he had not been so employed." Illinois Bell Tel. Co. v. Industrial Comm'n, 35 Ill. 2d 474, _, 220 N.E.2d 435, 437 (1966).

134. 69 Ill. 2d at _, 370 N.E.2d at 524.

135. *Id.* at _, 370 N.E.2d at 524.

136. *Id.* at _, 370 N.E.2d at 524.

137. Moreover, the court spoke in terms of heart attack compensation in a manner strikingly similar to Iowa's standards. The court held that an employee who died as a result of his usual work stress "need only prove that some act or phase of the employment was a causative factor of the resulting injury." 69 Ill. 2d at _, 370 N.E.2d at 523.

138. Lewellyn v. Industrial Comm'n, 38 Wis. 2d 43, 155 N.W.2d 678 (1968)(relief denied to employee with pre-existing back condition who suffered herniated disc allegedly as result of work aggravation).

139. *Id.* at _, 155 N.W.2d at 687. Wisconsin requires an accidental injury that grows out of and is incidental to employment. WIS. STAT. ANN. § 102.03 (West 1979).

140. 38 Wis. 2d at _, 155 N.W.2d at 686.

141. 38 Wis. 2d 665, 158 N.W.2d 377 (1968).

142. *Id.* at _, 158 N.W.2d at 382.

vanced [heart] arteriosclerosis for several years,"[143] suffered a fatal attack after unloading and delivering bags of cement.[144] The court held that the medical evidence clearly showed that the employee's physical exertion was an immediate cause of the heart attack[145] and stated that heart failure which was the result of "employment or employment-related exertion" was compensable.[146] Whether this concept of "employment or employment-related exertion" constituted a test similar to Larson's risk test is not clear from this decision.

The strong reliance that the court placed on medical testimony was indicated in *Pitsch v. Department of Industry, Labor & Human Relations*,[147] where the court allowed medical experts to consider "whether the employee was engaged in his usual work at the time of injury" in its determination as to medical causation.[148] Some question exists as to whether the court was in fact allowing the medical expert to determine the legal causation standard as well.[149] The court did, however, reiterate the requirement that a pre-existing condition be precipitated, aggravated and accelerated by a work activity,[150] and also held that unusual exertions are not a prerequisite to compensation for aggravated conditions.[151]

Some attempt was finally made to explain the aggravation rule in *Joseph Schlitz Brewing Co. v. Department of Industry, Labor & Human Relations*,[152] in which the court required "that the work incident be such as induces or triggers an earlier onset of a deteriorative or degenerative condition."[153] The court seemed to indicate that if an employee with a weak heart suffered a heart attack, the employee would be entitled to compensation if his work exertions precipitated the heart attack earlier than it would have occurred by natural degenerative processes. The aggravation standard ap-

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143. *Id.* at _, 158 N.W.2d at 382.

144. *Id.* at _, 158 N.W.2d at 382. The case was decided on other grounds; the court held that there was no fraud committed by the employee when he returned to work after being warned by his doctor not to do so. *Id.* at _, 158 N.W.2d at 381.

145. *Id.* at _, 158 N.W.2d at 380.

146. *Id.* at _, 158 N.W.2d at 380. The court refers to *Lewellyn*, and hence it is presumed that the *Lewellyn* rule applies to Wisconsin heart cases as well. Tews Lime & Cement Co., 38 Wis. 2d at _, 158 N.W.2d at 380.

147. 47 Wis. 2d 55, 176 N.W.2d 390 (1970)(heart condition not aggravated by deceased employee's exertions in unloading four 40 pound concrete blocks from a truck).

148. *Id.* at _, 176 N.W.2d at 392. (doctor may compare employee's work at time of injury with employee's usual or routine work).

149. *Cf.* LARSON, *supra* note 9, § 38.83, at 7-235 ("All too often . . . [the medical and legal causation] tests are scrambled together . . .").

150. 47 Wis. 2d at _, 176 N.W.2d at 393 (quoting Lewellyn v. Industrial Comm'n, 38 Wis. 2d 43, 54, 155 N.W.2d 678, 687 (1968)).

151. 47 Wis. 2d at _, 176 N.W.2d at 392.

152. 67 Wis. 2d 185, 226 N.W.2d 492 (1975)(failure to prove that employee died from exposure to carbon dioxide poisoning rather than pre-existing heart condition).

153. *Id.* at _, 226 N.W.2d at 495.

pears to be the standard today in Wisconsin. However, a question remains as to whether the Wisconsin standard requires work exertions that are distinct from nonemployment life in order to recover compensation, or merely requires exertions which medically precipitate, aggravate, and accelerate the heart condition.

IV. The Unusual Exertion Requirement of Missouri and South Dakota

The present heart attack standards of Missouri and South Dakota are illustrative of the effect a statutory accident requirement can have on a state's legal causation standard.[154] Both states have had statutory accident requirements;[155] but unlike other states bordering Iowa, the courts of Missouri[156] and South Dakota[157] interpret "accident" to mean unusual causes, exertions or strains, rather than simply unexpected or unlooked for results, mishaps, or injuries. Regardless of the fairness of the unusual exertion requirement, it is one of the most explicit standards applied today. Missouri and South Dakota case law exemplify this clear but highly burdensome standard.

A. *Missouri: Unusual Exertion Rule Via Abnormal or Unusual Strain Requirement*

In *Crow v. Missouri Implement Tractor Co.*,[158] the Missouri Supreme Court established the present rule that to be compensable an employee's injury must be "the result of an unusual or abnormal strain arising out of and in the course of his employment."[159] The court referred to unusual or abnormal strain as involving a work exertion of an employee that was not usual for him or was not done by him in the ordinary manner.[160]

The extremely harsh nature of this standard was reflected in the court's

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154. *See* notes 155-77 *infra*.

155. Mo. Ann. Stat. § 287.020(2)(Vernon 1978)(defines an "accident" as "an unexpected or unforseen event happening suddenly and violently"). S.D. Comp. Laws Ann. § 62-1-1(2)(1974) required an injury to be "by accident" which arose out of and in course of employment. The applicable South Dakota statute was amended in 1975, S.D. Comp. Laws Ann. § 62-1-1(2)(1978), and removed the "by accident" requirement. However, the South Dakota courts still require unusual exertion because no South Dakota case that has been presented before the Industrial Commission has reached the state supreme court since the statute was amended.

156. *See, e.g.*, Crow v. Missouri Implement Tractor Co., 307 S.W.2d 401, 405 (Mo. 1957)(en banc).

157. *See, e.g.*, Wold v. Meilman Food Indus., Inc., 269 S.W.2d 112, 114-15 (1978).

158. 307 S.W.2d 401 (Mo. 1957)(reversed denial of benefits to employee).

159. *Id.* at 405.

160. *Id.* at 404. The court held that "[i]njuries produced by the strains which are normal for the job to be performed in a customary manner are not compensable although the amount of straining may be great or would be considered abnormal in other classes of employment or if performed in an abnormal manner under unusual circumstances." *Id.*

application of it to the facts. The employee-claimant, who had no prior heart problems or diseases, suffered a heart attack after an elevator on a corn picker machine fell on him while he and another employee were repairing it.[161] The court's interpretation of these facts was significant in that although this individual had no prior heart condition, the court still required that the employee's exertions be abnormal or unusual.[162] Requiring abnormal strains for non-pre-existing heart attack cases demonstrates the extreme nature of the unusual exertion test.[163] Subsequently, in *Herbert v. Sharp Brothers Contracting*,[164] the Missouri Court of Appeals reversed a denial of benefits[165] to the widow of a deceased cement foreman with no prior heart problems who suffered a heart attack as a result of moving a large generator.[166] The court held that the foreman's exertions constituted compensable, abnormal strain because his normal work did not require such strain.[167]

The Missouri courts have obviously extended the unusual exertion requirement to workers with pre-existing heart conditions which are aggravated by unusual exertions.[168] Additionally, a Missouri appellate court has held that recovery for an injury by accident requires that both the acts done and the result that occurred were unexpected and unforeseen.[169] As a result of its statutory accident requirement and corresponding case law, Missouri, unlike South Dakota, appears likely to remain entrenched in the unusual exertion doctrine.

B. *South Dakota: Adherence to Unusual Exertion Requirement Likely to Change*

South Dakota's heart attack causation standard can best be described as on the verge of change. Though South Dakota presently follows the un-

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161. *Id.* at 402-03.

162. *Id.* at 405. *But cf.* LARSON, *supra* note 9, § 38.83, at 7-237 (heart victim with no prior heart condition entitled to compensation for any work-related exertion).

163. The non-unusual exertion states, by contrast, generally do not require any type of unusual strain in such a situation.

164. 467 S.W.2d 105 (Mo. Ct. App. 1971).

165. *Id.* at 108.

166. *Id.* at 106.

167. *Id.* at 108 (work strain done differently from an employee's normal working procedure could be compensable as an accidental injury).

168. The requirement of unusual exertions under this line of cases seems more logical from a medical standpoint, as well as, from a fairness standpoint as compared to non pre-existing heart condition cases.

169. Liebrum v. Laclede Gas Co., 419 S.W.2d 517, 520 (Mo. Ct. App. 1967)(relief denied to claimant whose husband, having heart disease, suffered heart attack while being exposed to poisonous gas fumes from air conditioners he worked on).

An employee who intentionally exposes himself to on-the-job danger is not entitled to relief where injury occurs as a result, because the acts "were not unexpected or unforseen events." *Id.* at 520.

usual exertion rule,[170] the state is likely to adopt a different, less burdensome rule in the near future because South Dakota's recently amended statute has removed the "by accident" requirement.[171]

In an early case,[172] the South Dakota Supreme Court held that an employee with a diseased heart, who suffered a heart attack as the result of physical and mental exertion,[173] was not entitled to relief because his exertions were common to the type of work he normally performed.[174] Additionally, in *Wold v. Meilman Food Industries*,[175] the court stated that compensation for pre-existing heart conditions requires not only that there be an unusual exertion, [176]but also that the exertion aggravation has to "be assignable to a definite time, place, and circumstance."[177]

What the future holds for South Dakota heart attack standards can only be conjecture, but the fact that the state removed the "by accident" requirement for compensation makes it probable that the court will not only review the legislature's reasoning and intent in making such a change, but will also examine the decisions of other states that do not have "by accident" statutory requirements.[178]

Case law concerning compensation for heart attacks is varied and diverse, but generally causation requirements are dependent upon either an acceptance or rejection of the need for unusual exertion in heart cases. All states discussed here, with the exception of Missouri[179] and South Dakota,[180]

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170. Wold v. Meilman Food Indus., 269 N.W.2d 112, 114-15 (S.D. 1978).

171. *See* note 119 *supra*. *Accord, Wold Heart Cases, supra* note 4, at 199. The South Dakota court recently remarked that the "injury by accident" phrase was what required the unusual exertion rule. Wold v. Meilman Food Indus., 269 N.W.2d 112, 114 (S.D. 1978).

172. Cooper v. Vinatieri, 73 S.D. 418, 43 N.W.2d 747 (1950).

173. *Id.* at _, 43 N.W.2d at 751.

174. *Id.* at _, 43 N.W.2d at 751. The court equated the "only injury by accident" requirement with unusual exertions. *Id.* at _, 43 N.W.2d at 751. In *Campbell v. City of Chamberlain*, however, the court stated that only the injury itself need be unexpected and that it was not necessary for the injury's cause to " 'be untoward and unexpected, occurring without design'." 78 S.D. 245, _, 100 N.W.2d 707, 708 (1960) (quoting Johnson v. LaBolt Oil Co., 62 S.D. 391, _, 252 N.W. 869, 871 (1934)("injury by accident" satisfied by unexpected injury)).

175. 269 N.W.2d 112 (S.D. 1978)(meat cutter with weakened heart denied relief for heart attack suffered as the result of having to contend with increased speed on assembly line).

176. *Id.* at 114.

177. *Id.* at 115 (quoting Oviatt v. Oviatt Dairy Co., 80 S.D. 83, 85, 119 N.W.2d 649, 650 (1963)).

For a critique of the *Wold* approach see *Wold Heart Cases, supra* note 4, at 188 ("arising out of course of employment" requirement rather than "injury by accident" requirement was proper test for causation).

178. *See, e.g.*, Wold v. Meilman Food Indus., 269 N.W.2d 112 (S.D. 1978). In *Wold*, the court acknowledged Iowa's requirement that the claimant's injury had to be the result of some employment incident or activity. *Id.* at 116. Hence, there is a chance that South Dakota may adopt Iowa-type causation standards involving an incident of strenuous exertion and daily, heavy exertions. In any regard, South Dakota's unusual exertion requirement is very likely to be replaced the next time its Supreme Court decides a heart case.

179. *See* notes 155-69 *supra*.

clearly reflect the national trend away from an unusual exertion requirement.[181] It is likely that as medical science more precisely defines the actual causes of heart attacks, the states will become even more willing to grant compensation in the future.

V. Evidentiary Aspects in Heart Cases Before the Iowa Industrial Commissioner

The Iowa Supreme Court gives substantial deference to the Industrial Commissioner, making the latter's decisions quite important. The court has stated repeatedly that the Commissioner's findings are to be given a broad and liberal construction and are to be "construed to uphold rather than defeat his decision."[182] The court has also held that the Commissioner's findings are binding on the court where the evidence is in conflict.[183] More specifically, an award of benefits for an injury alleged to have been aggravated by one's work will be affirmed where reasonable minds may conclude that such aggravation was a contributing cause.[184]

Consequently, medical opinion plays a crucial, if not decisive role in heart attack cases heard by the Iowa Industrial Commissioner. The question of whether an injury had a direct causal connection to one's employment exertions "is essentially within the domain of expert testimony,"[185] and the finder of facts gives the weight it deems proper to such testimony.[186] Accordingly, the Industrial Commissioner's interpretation of medical testimony can be, and often is, dispositive of a claimant's case. Even though a claimant may have sufficient evidence to satisfy legal causation, the claimant must also satisfy the burden of medical causation.

Similarly, medical testimony that the employee's work "possibly" could have caused his heart attack is not sufficient.[187] In *Coleman v. Milford Community School District*,[188] where a critical fact was the lapse of time be-

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180. *See* notes 170-78 *supra*.

181. *See* note 2 *supra*.

182. Hemker v. Drobney, 253 Iowa 421, 112 N.W.2d 672, 673 (1962).

183. Ziegler v. United States Gypsum Co., 252 Iowa 613, 616, 106 N.W.2d 591, 595-96 (1960).

184. Hawk v. Jim Hawk Chev.-Buick, Inc., 282 N.W.2d 84, 87 (Iowa 1979)(benefits awarded to widow of deceased employee killed while flying for employer even though employee violated federal aviation laws).

185. Musselman v. Central Tel. Co., 261 Iowa 352, 360, 154 N.W.2d 128, 133 (1967). *See also* Merchant v. SMB Stagelines, 172 N.W.2d 804, 807 (Iowa 1969).

186. Musselman v. Central Tel. Co., 261 Iowa 352, 360, 154 N.W.2d 128, 133 (1967).

187. Coleman v. Milford Community School Dist., 33rd Biennial Report, Iowa Indus. Comm'r 36, 38 (1978)(deputy commissioner decision).

188. 33rd Biennial Report, Iowa Indus. Comm'r 36 (1978)(benefits denied claimant-custodian who suffered heart attack two days after having moved 50-60 pound desks and other items to a three-story school building). Note that although the deputy commissioner denied relief, he regarded the employee's work as "physically more demanding than the normal work performed by [the] claimant." *Id.* at 37. This indicates that though there may have been sufficient legal

tween the employee's work and his heart attack two days later,[189] the deputy commissioner gave greater weight to the employer's medical testimony,[190] most likely because the claimant's medical experts were unable to give an opinion or specifically state what effect if any the lapse of time after the claimant's heavy custodial work had on his subsequent heart attack.[191] This exemplifies the necessity of having the claimant's medical expert establish as conclusively as possible a causal connection between not only the heart attack and work but also all relevant facts surrounding the claimant's case.[192]

The case of *Holman v. Iowa Beef Packers, Inc.*,[193] typifies the fatally damaging effect a claimant's medical expert testimony can have on the claimant's case when the testimony is equivocal in nature. In *Holman*, the claimant's main medical expert stated that heart attacks like the one suffered by the employee could occur "without over exertion but most generally they are brought on by over exertions."[194] However, the expert was unable to definitely link the work as a causative factor and on cross examination his position was further weakened by his stating that the work probably was a causative factor.[195] Accordingly, the Commissioner deemed the doctor's testimony as equivocal and apparently gave it little weight.[196] Moreover, testimony concerning the events leading up to the employee's heart attack, the employee's physical condition before, during and after the attack, the amount of work undertaken by the employee and the working conditions under which he worked is particularly critical in a claimant's heart attack case.

VI. Conclusion

The occurrence of job-related heart attacks has become a very common

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causation, the claimant lost for failure to meet the medical causation requirement.

189. *Id.* at 39.

190. *Id.*

191. *Id.* at 37-38.

192. In *Holman v. Iowa Beef Packers, Inc.*, the Commissioner stated that "[t]he doctor's use of such words as 'might,' 'could,' 'likely,' 'possible' and 'may have,' coupled with other credible evidence of a non-medical character, such as a sequence of symptoms or events corroborating the opinion," is sufficient to sustain an award. 29th Biennial Report, Iowa Indus. Comm'r 34, 38 (1968). Moreover, such non-medical factors as the severity of the employee's work and the employee's working conditions may aid the claimant's case. *See, e.g.*, Rustin v. Prince Lumber & Hardware Co., 30th Biennial Report, Iowa Indus. Comm'r 30, 31 (1971).

193. 29th Biennial Report, Iowa Indus. Comm'r 34 (1968)(beef pusher who suffered heart flutter allegedly caused by additional, strenuous work in a meat cooler denied relief).

194. *Id.* at 36.

195. *Id.* For some unexplained reason the Commissioner did not deem the doctor's statement that the work "probably" caused the heart attack sufficient. Most likely the Commissioner determined that since the doctor's testimony became increasingly indefinite as the hearing proceeded, it was to be given little weight.

196. *Id.*

phenomenon today. Exemplifying the liberal approach taken by a majority of jurisdictions, Iowa and most of its bordering states have adopted heart attack causation standards which enable the claimant to recover when he can show that his heart condition was aggravated, at least in part, by his employment. Further refinement of these legal causation standards is essential to achieving fair and equal treatment of the heart attack claims brought before industrial commissions. Most important, however, is the continued movement away from the illogical and archaic unusual exertion requirement.

Storrs Downey