George J. Dean, a firefighter employed by the City of Richmond Fire Department, developed "asymptomatic complete heart block." Ruling that Dean suffered from an occupational disease, the commission awarded Dean temporary total disability benefits and medical benefits. On appeal, the Department contends the commission erred in ruling that the Department failed to rebut the presumption of occupational disease contained in Code § 65.2-402(B). We affirm the commission's ruling.

I.

In 1988, the City of Richmond Fire Department required George J. Dean to have a pre-employment physical examination. The examination revealed that Dean was free of heart disease. After the Department hired Dean as a firefighter, Dean had
periodic physical examinations throughout the course of his employment. Those examinations revealed no significant health problems until 1995. In that year, Dean's routine physical examination disclosed an "abnormal EKG" and "a problem with [his] pulse rate." Dean visited Dr. William F. Moore, his personal doctor, who performed an electrocardiograph and referred Dean to Dr. Brian L. Kaminsky, a cardiologist. Dr. Kaminsky examined Dean, reviewed his electrocardiographs, and diagnosed "asymptomatic complete heart block . . . [that] appears to be new since 1989." Dr. Kaminsky then referred Dean to Dr. Kenneth A. Ellenbogen.

Dr. Ellenbogen, a cardiologist and Director of Electrophysiology at the Medical College of Virginia, examined Dean and concluded that Dean "should be considered to have complete heart block of idiopathic etiology." Dr. Ellenbogen recommended that Dean have a pacemaker installed to control his heartbeat and surgically installed a pacemaker in 1996. He then reported that "Dean's condition can be definitely diagnosed as heart disease . . . [and that the] etiology of [Dean's] complete heart block is unclear."

Dean applied for temporary total disability benefits for the period of time he was unable to work. In addition to the reports of Dr. Moore, Dr. Kaminsky, and Dr. Ellenbogen, the record before the commission included the deposition of Dr. Ellenbogen. Dr. Ellenbogen testified that "we don't understand
how we get heart block. But in medicine there is a big category of causes of heart block, and it's idiopathic; unknown." Dr. Ellenbogen further stated that Dean's condition was not congenital and opined that Dean acquired it at some point during his lifetime. He could not rule out the hypothesis that Dean acquired his condition through exposure to toxic chemicals or viral infections in the course of his employment.

Dr. Michael L. Hess, a cardiologist who examined Dean and his records for the Department, testified on deposition as follows:

The most likely explanation for [Dean's condition] is that his conducting system degenerated, and his electrical conducting system is replaced with fibrous tissue. The most likely reason why [its] degenerated is that the cells are programmed to degenerate much more prematurely. We call that concept apoptosis, which is programmed cell death.

Dr. Hess performed no specific test to determine whether Dean's heart block was indeed caused by apoptosis induced fibrosis. When asked to explain the basis for his conclusion, Dr. Hess testified that because ninety percent of heart block cases are caused by fibrosis and there was only a fifteen percent likelihood that Dean's fibrosis was caused by something other than apoptosis, then the fact that apoptosis induced fibrosis caused Dean's heart block was a "statistical probability." Such a methodology was unavoidable, Dr. Hess testified, because the only certain method of diagnosing the heart block's etiology was to "examine [Dean's] conducting system under the microscope," which cannot be done
while Dean is alive. Barring such an examination, or utilization of statistical models, Dr. Hess conceded that "[t]he etiology of [Dean's] heart block is unclear." Dr. Hess further testified that the cause of ten percent of heart block cases not attributable to fibrosis is unknown and that he did not believe Dean's condition was congenital.

Dr. Richard A. Schwartz, a cardiologist, also examined Dean's records and reported that "[m]edical science has not established why [fibrosis] develops." He opined that Dean's "work cannot be excluded as a cause of this condition . . . [and that the] likelihood of some blockage of the coronary arteries due, in part, to occupational stress seems . . . to be the most likely cause of Mr. Dean's acquired heart block."

Finding that the Department had successfully rebutted the presumption codified in Code § 65.2-402(B), a deputy commissioner denied Dean's application. On Dean's appeal, the commission ruled that the Department "failed to prove a nonwork-related cause of the disease." The commission further ruled that "Code § 65.2-402 dictates that, until the employer presents another cause of heart disease unrelated to Dean's work as a firefighter, the occupational disease is presumed to be caused by the work." The Department appeals from the decision awarding Dean benefits.
II.

In pertinent part, Code § 65.2-402(B) provides as follows:

[Heart disease causing . . . any health condition or impairment resulting in total or partial disability of . . . salaried or volunteer firefighters . . . shall be presumed to be occupational diseases, suffered in the line of duty, that are covered by this title unless such presumption is overcome by a preponderance of competent evidence to the contrary.]

Clarifying its prior decisions and reviewing decisions of this Court, the Supreme Court recently held that "[t]o overcome the presumption [contained in Code § 65.2-402(B)], the employer must show, by a preponderance of the evidence, both that (1) the [employee's] disease was not caused by his [or her] employment, and (2) there was a non-work-related cause of the disease."

Bass v. City of Richmond Police Dep't, ___ Va. ___, ___, ___ S.E.2d ___, ___ (June 11, 1999). Thus, it follows that "if the employer does not prove by a preponderance of the evidence both parts of this two-part test, the employer has failed to overcome the statutory presumption." Id. at ___, ___ S.E.2d at ___.

Based on the evidence in this record, the commission made the following findings:

[Both Dr. Hess and Dr. Ellenbogen agree that there is no evidence that work factors or any presumptive risk factors in any way contributed to the claimant's complete heart block. However, both physicians also admit that the complete heart block was not congenital. It did not arise as a genetic function of birth, but the disease condition developed sometime after birth, perhaps]
after Dean began work with the City of Richmond Fire Department, or even subsequent to the May 1995 examination. Dr. Hess and Dr. Ellenbogen candidly admit they cannot determine what precipitated the bradycardia, or when such process even began. While the physicians may disagree as to the specific pathologic condition presenting as bradycardia, both agree that they cannot attribute a cause to that disease, at least until a postmortem examination can be performed.

We find that the employer has therefore failed to prove a nonwork-related cause of the disease. Code § 65.2-402 dictates that, until the employer presents evidence of another cause of heart disease unrelated to Dean's work as a firefighter, the occupational disease is presumed to be caused by the work.

(Emphasis added).

"In determining whether credible evidence exists, the appellate court does not retry the facts, reweigh the preponderance of the evidence, or make its own determination of the credibility of the witnesses." Wagner Enterprises v. Brooks, 12 Va. App. 890, 894, 407 S.E.2d 32, 35 (1991). "Matters of weight and preponderance of the evidence, and the resolution of conflicting inferences fairly deducible from the evidence, are within the prerogative of the commission, and are conclusive and binding on the Court of Appeals." Kim v. Sportswear, 10 Va. App. 460, 465, 393 S.E.2d 418, 421 (1990) (citation omitted); see also Code § 65.2-706(A).

Credible evidence in the record supports the commission's finding that both Dr. Ellenbogen and Dr. Hess concluded that the
cause of Dean's heart block is unknown. Both doctors agreed that the cause of Dean's condition was not congenital and that no cause could be attributed to Dean's condition, absent a postmortem examination. According to Dr. Ellenbogen, the pathologic diagnosis was an "inflammation or infiltration of the conduction system tissue" within the heart. Dr. Ellenbogen testified that between twenty to thirty percent of cases with this type of heart disease, which results from a conduction system block between the chambers of the heart, are attributable to unknown causes. He also testified that the percentage of such cases is greater for persons in Dean's age range. He further reported that "Dean has complete heart block for which there is no clear-cut or obvious etiology." He did not know what had caused the inflammation or infiltration of the inflammatory cells in Dean's heart and could only determine that by postmortem biopsy of Dean's heart.

Dr. Hess testified that "[i]diopathic is a term that means we don't know." Although he testified that "idiopathic" did not apply to Dean's disease because the heart block resulted from the emergence of a "cell death gene," Dr. Hess agreed that the "cell death gene" was not congenital. He testified "with 90 percent certainty" that the disease involved "progressive fibrosis and loss of function of the conducting system of the heart." Dr. Hess further testified that he did not know when the cell death process actually began, but he believed it developed during the time Dean was employed as a firefighter. However, Dr. Hess could not say
what caused Dean's noncongenital condition to develop, and he agreed with Dr. Ellenbogen that only a postmortem examination would reveal the true cause.

Dr. Schwartz clearly related Dean's disease to his employment. The commission found, however, that "Dr. Schwartz never treated, examined, met with, or even spoke with the claimant," and gave no "significant evidentiary weight to his opinion."

The principle is well established that "[m]edical evidence is . . . subject to the commission's consideration and weighing." Hungerford Mechanical Corp. v. Hobson, 11 Va. App. 675, 677, 401 S.E.2d 213, 215 (1991). The testimony of Drs. Ellenbogen and Hess constitutes credible evidence in support of the commission's finding. Therefore, we hold that the commission did not err in ruling that the record failed to establish by a preponderance of credible evidence a non-work-related cause of Dean's disease. Accordingly, we affirm the commission's award of benefits.

Affirmed.