

Testimony of
Charles Fricke
Logan County Coroner

Before the
U.S. Senate Subcommittee on Oversight of Government Management,
Restructuring, and the District of Columbia

Good morning, Mr. Chairman, my name is Chuck Fricke. Thank you for the opportunity to testify before the subcommittee. I am the coroner for Logan County, Illinois and will be testifying regarding the death of Sean Riggins.

It is my determination that the cause of death of Sean Riggins was Acute myocardial infarction. The autopsy revealed a mildly enlarged (410 gram) heart with diffuse softening and mottling of the myocardium. Histologic examination of the heart revealed a dense infiltrate of neutrophils in the myocardium infarction. The coronary arteries arose normally from the aorta, followed a usual course on the surface of the heart, but were of relatively small caliber. No atherosclerosis, thrombus, or other fixed stenosis was in any coronary artery.

Other notable finding at autopsy included an enlarged, congested spleen, fatty change of the liver, small incidental fibrous nodules at the periphery of the lungs, minor abrasions of the right knee and left elbow, and contusions of the left leg.

Toxicology testing revealed lidocaine in the blood, most likely related to cardio-pulmonary resuscitation. No other drugs/ medications were detected in the blood. Toxicology testing of the urine revealed metoclopramide (Reglan), pseudoephedrine and/ or ephedrine, and benzyl alcohol. The Reglan detected is consistent with his history of receiving this medication at his doctors office the day he died. The laboratory that performed the testing could not differentiate between pseudoephedrine (a drug found in

several over the counter cold and allergy preparations) and ephedrine (a component in several dietary supplements, including "Yellow Jackets"). Benzyl alcohol is a commonly used antibacterial agent in several pharmaceutical preparations. Ephedra alkaloids, including ephedrine, have significant physiologic effects on the cardiovascular system. These effects include elevation of blood pressure and cardiac stimulation. A variety of deaths has been attributed to the effects of ephedrine and includes cases of acute myocardial infarction, likely due to its vasoconstrictive properties.

It is our opinion that the acute myocardial infarct in this individual is consistent with the effects of ephedrine. No other anatomic/structural abnormality of the coronary arteries sufficient to cause myocardial infarction was identified at autopsy. There were no atherosclerotic plaques or acute thrombosis in the coronary arteries. No other drugs, such as cocaine, which may have caused vasospasm of the coronary arteries, were detected in the blood or urine. While we cannot definitively state that ephedrine was detected in the urine (as opposed to pseudoephedrine), this is most likely the case given his history of using "Yellow Jackets" and lack of a reported history the decedent was using preparations containing pseudoephedrine (and lacking ephedrine).

In response to your question asking me of any knowledge of Sean Riggins having a heart condition I found no available information Sean Riggins had prior heart problems. This finding is based on a medical report courtesy of his family physician.

Based on the autopsy there were no other signs as to the cause of death other than ephedrine. This conclusion is related to by the research by city detectives, the school nurse, and Mr. and Mrs. Riggins. This can also be seen from the chemistry results for LD and CK-specific to the heart and liver. CK is the common name for Creatinine kinase an enzyme release from damaged muscle tissue. A high CK can mean a cardiac event but running a marathon will also increase you CK's. CK is released from damaged cardiac muscle but also from other muscles. A normal level according to the emergency room doctors at Abraham Lincoln Memorial Hospital is anywhere from thirty-eight to one hundred seventy four. Sean Riggins had a CK level of 3500! LD in the liver has a normal range of ninety-one to one hundred and eighty. Sean Riggins had a LD level of 785. His Troponin (enzyme specific to heart muscle) was 100-normal is 1 or 2; heart attack is 4-5. This (Troponin) is a better marker than CK.

The cause of death was consistent with the physiological effects of ephedrine, including its vaso-constrictive properties. The pathologist stated, "We can not definitely state that ephedrine was detected in the urine (as opposed to pseudoephedrine)." Follow up and reports from family, detectives, teammates and the school nurse place *Yellow Jacket's* in Sean's hands. If this is a smoking gun or not, the product was there at sometime.

Yellow Jacket's and ephedra was not something I had seen prior to Sean Riggins' death. My research into *Yellow Jacket's* began when the Lincoln High School nurse, Diane Stephenson made me aware of the students usage. I notified the Lincoln City detectives, John Bunner and Michael Harberts of what I thought to be an illegal drug. Both detectives went to the high school and requested an interview with the principal, superintendent, and football coach. I drove to the nearest gas station and purchased my own *Yellow Jacket's* and *Stackers*. The label identified it as a diet supplement and High energizer containing twenty-five milligrams ephedra and three hundred milligrams of caffeine. Combien this with drinking *Mountain Dew* or *Code Red* and it would only enhance the caffeine level. Finding out that Sean had not been feeling well and had been vomiting leading to dehydration with little or no food would again enhance the ephedrine as well. The interview with several teammates confirmed that the usage on the team was prevalent and went back to 2001 wrestling team. As the days past after Sean's funeral the students became silent or not wanting to go on record as they feared talking with authorities might lead to blame or arrests. Assurances to the contrary was unsuccessful. I began a dialogue with the parents which they informed me that some of Sean's teammates confided in them when they came to the house. Those stories can best be expressed by them. With the help of the school nurse and a friend of Sean's several students wrote letters confirming their experiences or their parents with Ephedra. Several women at the Lincoln Recreational Center confided they took *Yellow Jacket's* for weight loss and for energy prior to a tread mill exercise. They would also describe the websites and their finding as they searched the Internet.

Since the manufacturers label stated that sales to a minor were prohibited I asked the detectives if they would go to the distributors and request how they enforced sales. They discussed this first with the Logan County States Attorney's office and was informed that the warning was merely the manufacturers and not a state law. He concluded that even a twelve-year-old could purchase them. Most places keep them at the cash register stand and have never requested an age limit. Only in Mt. Pulaski, Illinois, ten miles from Lincoln, Illinois, does the attendant at the local *Market Place* gas station require you to

be 18 years of age. When questioned why she does it, her answer was that she had used *Yellow Jacket's* in college prior to going out partying and understood the possible harmful effects ephedra can cause.

W.A.N.D. T.V. in Decatur, Illinois is doing a survey about the public's use of ephedra. They have had numerous calls and will share their results as of Tuesday, October 8, 2002 with me. Decatur, Illinois' Herald and Review's article of October 3, 2002 is asking questions why the NCAA, NFL, Olympic athletes, Canada, and other sports organizations ban Ephedra use and yet a twelve year old in Lincoln, Illinois can purchase it over the counter without being tested in the local schools? As of Tuesday, October 8, 250 calls have been received, with 2 to 1 against ephedra and for legislation.

I have learned much about Ephedra. I've learned like any other lesson in life that if you don't understand it, if the possibilities exist that something may be harmful to you, you shouldn't risk taking it until a more educated and gifted individual in authority test it first. In this case our youth are trusting men and women in the proper authorities that if you have it so readily available over the it must be safe. I have serious questions about this.

This product is easily acquired as twelve year olds can walk into a gas station and purchase it right off the shelf. Mr. Chairman, this concludes my statement, thank you for the opportunity to testify. I would be happy to answer any questions you and the members of the Subcommittee may have.