

ADDENDUM TO MEDICAL REPORT

STATE OF NORTH CAROLINA

MECKLENBURG COUNTY / ss:

EX PARTE LARRY SWEARINGEN

I am a physician licensed to practice medicine in the State of North Carolina. I am board certified in Forensic Medicine by the American Board of Forensic Medicine and a Fellow of the American College of Forensic Examiners. Among my contributions to the field is the chapter on *TIME OF DEATH* in *THE FORENSIC SCIENCES*, edited by Cyril Wecht. I have personally performed in excess of two thousand autopsies, many of which were on bodies that were in various stages of decomposition. I am familiar with post-mortem changes. I have testified in over 100 cases in criminal and civil state and federal courts in five states.

I have reviewed the autopsy report of the body of Melissa Trotter made by Dr. Joye M. Carter (autopsy protocol). I have reviewed trial testimony and some of the photographs in *State v. Swearingen*, no. 00-11-06435-CR, in the 9th District Court, Montgomery County, Texas, including the testimony of Dr. Carter. I have already submitted a report in this matter. I add the following to clear up certain matters.

- 1) Because Mr. Swearingen was incarcerated on December 11, 1998, and has remained in prison thereafter, the following forensic conclusion not only is supportable, it cannot be reasonably questioned: Someone else, not Mr. Swearingen, left the body of Ms. Trotter in the Sam Houston National Forest where it was found on January 2, 1999.
- 2) December 23, 2007, is the soonest that Trotter's body could have been left in the woods, which is to say 12 days after Mr. Swearingen was incarcerated. Furthermore, it is important to stress that forensic evidence strongly

supports the conclusion that the body in this case was deposited in the Sam Houston National Forest several days after December 23, 1998. Indeed, undisputed forensic evidence, namely, the external appearances and the description of the internal organs and tissues, and photographs of resected organs strongly support a date as late as December 30, 1998, which is to say nineteen days after Mr. Swearingen was incarcerated and three week later than the date the State maintains Trotter's body was left in the Sam Houston National Forest.

- 3) In arriving at the conclusions in paragraphs 1 and 2, supra, I have considered the weather changes from 9 December 1998 until 2 January 1999, specifically including the interval from 23 December 1998 until 2 January 1999. The temperature table and graph supplying the weather data on which I relied is attached.
- 4) All pathologic diagnoses are based on the fact that changes in death predictable, cumulative and irreversible. Changes are additive. The colder temperatures between December 21-26, 1998, would temporarily slows decomposition, but would not stop the process, let alone reverse it.
- 5) Importantly, even if temperature conditions were cooler in the Sam Houston National Forest than at the Conroe airport, e.g., on average five degrees cooler, the forensic evidence would still strongly support the dates of December 23, 1998, as an outer limit, and December 30, 1998, as a very likely date, on which the body was left in the Sam Houston National Forest. A temperature difference of this magnitude, or greater, would not change at all the conclusion to a medical certainty that the body of Trotter was left in the woods after Mr. Swearingen was incarcerated.
- 6) Dr. Carter's description of specific internal organs is sufficient to establish with certainty that Trotter's body was not left exposed in the woods until well after December 11, 1998, the date Swearingen was incarcerated.
- 7) If Trotter was killed in the woods or her body left in the woods near the time of death, the pancreas would not have

been present in the condition described by Dr. Carter unless exposure in the Sam Houston Forest occurred after December 28 or December 29, 1998.

- 8) Pancreatic cells produces digestive enzymes. Upon death, metabolic processes that prevent the enzymes from acting on the pancreas' own tissue cease. Liquefaction of the pancreas to the point it loses internal structure and becomes a sludge incapable of being sectioned consequently may occur within 24 to 48 hours even under hospital or morgue conditions where the environment and temperature are controlled.
- 9) The condition of Trotter's spleen at autopsy supports the conclusion that Trotter's body was not exposed in the forest until well after Mr. Swearingen was incarcerated. Like the pancreas, the spleen autolyzes relatively rapidly even under hospital and morgue conditions. The autopsy report's description of the spleen, however, fits that of tissue from a recently deceased person. The photograph of Trotter's spleen, attached here as Exhibit 'A', confirms the description; the organ has the appearance of tissue from a recently (3-4 days) deceased person.
- 10) Dr. Carter's examination of the liver is remarkable evidence that Trotter's body had not been in the woods for more than ten days and in all probability for far less time. The liver is large organ that loses integrity and autolyzes relatively rapidly, forming gas bubbles as it does, which makes it crepitant, a bit like bubble wrap. However, Dr. Carter was able to remove the liver and section it, using essentially the same methods used upon the pancreas. Microscopic examination failed to reveal perforations due to gas bubbles that would have formed relatively soon after exposure under conditions found in the Conroe area in December 1998 and January 1999.
- 11) Dr. Carter's examination of the gastrointestinal tract strongly confirms the conclusion that Trotter's body was exposed in the Sam Houston National Forest for ten days or less. Dr. Carter found the esophagus "intact". She dissected the stomach, and was able to rinse and examine the gastric mucosa. Dr. Carter also found both the large and small intestines intact and un-perforated. Further,

the mucosal lining of the intestines was still present at autopsy.

- 12) Mucosa is a fragile tissue that readily decomposes under temperature conditions such as those reported for the Conroe area in December of 1998 and January of 1999. The gastric mucosa and intestinal mucosa do not decompose in a living organism due to the protective enzymes that these tissues secrete while functioning. After death, these tissues quickly disintegrate. In Trotter's case, the conditions in which the mucosa were preserved allowed Dr. Carter to identify them, examine them for pathology, and subject them to mechanical processes such as dissection and rinsing. It is a medical certainty, that these tissues would not have retained the integrity seen at autopsy unless the body had been left in the Sam Houston National Forest less than ten days prior to the date of recovery. Indeed, it is very unlikely, that Dr. Carter would have found these tissues in the condition described at autopsy unless the body had only been exposed in the woods for substantially less time - a matter of 3 to 4 day. A similar conclusion follows from Dr. Carter's description of the mucosal lining of the gall bladder.
- 13) Dr Carter found that the breast tissue was "firm and intact." She was able to remove breast tissue, section it serially and examine it for pathology. The condition of this tissue corroborates conclusions that follow from Dr. Carter's description of internal organs.
- 14) Dr. Carter's descriptions of, and photographs depicting the external appearance of, the body also supports the conclusion that Trotter's body was in the Sam Houston National Forest no more than ten days at the very longest. Although Trotter's skin did exhibit slippage, it retained much of its natural color with only a small patch of green discoloration visible in photographs.
- 15) Furthermore, crime scene reports indicate that the body did not have an odor even though daily high temperatures from December 29, 1998 through January 2, 1999 consistently approached 70 degrees Fahrenheit and average temperatures were near 60°.

- 15) Dr. Carter's impression was that the organs of the body retained their normal position. Furthermore, Dr. Carter reported that the weight of the body clothed was 113 lbs while the nude body was 105 lbs. Medical records show that approximately two weeks before December 8, 1998, Trotter weighed 109 pounds at her doctor's office. The weights are remarkable in that they demonstrate very insubstantial or no loss in body weight. Even if a corpse is not scavenged - and there was remarkably little scavenging in this case - a body will lose up to 90% of its weight, in less time than 25 days, when exposed under temperature conditions prevailing in the Conroe area between December 8, 1998 and January 2, 1999.
- 17) Dr. Carter states that the brain was in a "semiliquid" state, and states, further, that "upon removal" there was complete loss of normal tissue architecture. However, the report shows that the brain retained sufficient integrity even upon removal to enable Dr. Carter to make judgments regarding the presence or absence of subdural and subarachnoid hematomas. Dr. Carter was also able to examine the parenchyma and exclude preexisting lesions. Her report indicates, too, that the ventricles were discernable and normal in appearance.
- 18) Under conditions prevailing in the Conroe area where the body was found, the brain in this case would have completely liquefied in a matter of days. If Trotter's body had been placed in the woods as late as December 23 1998, Dr. Carter would not have been able to remove the brain for examination; it would have been a soup incapable of being examined for lesions or abnormalities. Dr. Carter's description of brain tissue, therefore, strongly confirms that Trotter's body was left in the woods at least two weeks after the date on which Mr. Swearingen was incarcerated.
- 17) Positive findings by autopsy establish that Trotter's body was not left exposed in the Sam Houston National Forest until December 23, 1998, at the very earliest. Besides positive findings, the absence of expected decompositional changes indicates exposure well after the date on which Mr. Swearingen was incarcerated. Bloating, for example, normally occurs after two or three days. It

distorts breast and genital tissues, causing them to inflate grossly out of proportion. It also causes perforation of the stomach and intestines. However, Trotter's body did not exhibit any of the distorting changes caused by bloating and her gut was intact.

- 18) In wilderness areas, such as the Sam Houston National Forest, considerably scavenging by birds and mammals take place, but the body from the neck down did not exhibit any insults that could clearly be attributable to animal activity even though crime scene photos show that the body was found with torso exposed, as were the upper extremities, which again, did not exhibit any scavenging at all.
- 19) The following forensic conclusion is therefore not reasonably debatable amongst competent forensic pathologists: Without question, Mr. Swearingen was **not** the person who left Ms. Trotter's body in the Sam Houston National Forest.

G M Larkin MD /electronic signature/

G M Larkin MD
01 October 2007