

1 that might have been evident on that?

2 A. Perhaps.

3 Q. Do you remember whether or not -- maybe  
4 it's in here in my memory -- but do you remember  
5 whether or not he had shoes on?

6 A. Yes, he had white athletic shoes on.

7 Q. Do you know whether or not they had a  
8 particular pattern on the bottom of those athletic  
9 shoes, or did you notice?

10 A. I don't recall. I know that they were  
11 photographed, but I don't remember what pattern they  
12 might have had.

13 MR. SCOTT: I'll pass the witness,  
14 your Honor.

15 MR. PENEGUY: No further questions.

16 THE COURT: Doctor, you are excused.  
17 Thank you so much for your testimony.

18 Call your next witness, please.

19 MR. PENEGUY: State calls Dr. Love.

20 (Witness sworn.)

21 THE COURT: From the State.

22 JENNIFER LOVE,

23 having been first duly sworn, testified as follows:

24 DIRECT EXAMINATION

25 BY MR. PENEGUY

1 Q. Please introduce yourself to the jury.

2 A. Hi. Yes. My name is Dr. Jennifer Love. I  
3 am the forensic anthropology director at the Harris  
4 County Institute of Forensic Sciences.

5 Q. How long have you worked there?

6 A. I've been there for nearly eight years,  
7 since September 2006.

8 Q. And can you tell us kind of about some of  
9 your background and training in your field before  
10 coming the Harris County Institute of Forensic  
11 Sciences?

12 A. Certainly. I received my undergraduate in  
13 anthropology from Pen State and my master's and PhD  
14 from the University of Tennessee in Knoxville. I  
15 then served as the forensic anthropologist at the  
16 Regional Forensic Center which is in Memphis,  
17 Tennessee, before coming to Harris County. I am  
18 certified by the American Board of Forensic  
19 anthropology.

20 Q. Can you kind of tell the jury what a  
21 forensic anthropologist does?

22 A. Certainly. So forensic anthropology is the  
23 application of physical anthropology to medical/legal  
24 cases. So essentially a physical anthropologist  
25 studies skeletal remains, studies the skeleton in

1 order to understand human variation. Also we study  
2 biomechanics of bones, looking at fracture patterns  
3 and so forth.

4 So forensic anthropology is simply  
5 taking the theories and methods developed through  
6 physical anthropology and applying them to  
7 medical/legal cases. So basically the  
8 anthropologists focus on the bone.

9 Q. As a forensic anthropologist, have you  
10 participated in examinations of bones on few or many  
11 occasions?

12 A. On many occasions. We get involved in two  
13 types of cases primarily. Primarily we get involved  
14 with full skeletal cases where it's the  
15 responsibility of the anthropologist to determine who  
16 the individual is as well as what trauma may have  
17 occurred around the time of death. But we also get  
18 involved in cases that are not decomposed. At the  
19 request of the pathologist, we will come in and look  
20 strictly at the bone.

21 Q. Have you testified before as an expert  
22 about forensic anthropology?

23 A. Yes, I have.

24 Q. On few or many occasions?

25 A. I would go with many. Approximately three

1 to four times a year on average.

2 Q. I'd like to talk to you about an autopsy  
3 performed by Dr. Chu, the assistant medical examiner  
4 at the institute, in reference to Medical/Legal  
5 Number 12-1681. Are you familiar with that case?

6 A. Yes, I am.

7 Q. Can you tell us the circumstances by which  
8 you became involved in that investigation?

9 A. Certainly. So this is a case in which this  
10 individual was not skeletonized. So this is a case  
11 in which the pathologist was performing a standard  
12 autopsy and noted extensive bone trauma. So the  
13 pathologist then requested that I come in to consult  
14 and to do -- to look at the bones specifically to  
15 analyze the trauma and determine potential causes for  
16 that bone trauma.

17 MR. PENEГУY: Judge, may I approach  
18 the witness?

19 THE COURT: You may.

20 Q. (MR. PENEГУY) I'm going to show you what  
21 has already been admitted in evidence as State's  
22 Exhibit Number 154. Are you familiar with this  
23 document?

24 A. I am.

25 Q. Okay. It also contains additional

1 reporting in regards to anthropology consultation.

2 Did you prepare that document?

3 A. I did, yes.

4 Q. Okay. And there are certain diagrams in  
5 regards to this?

6 A. Uh-huh.

7 Q. Did you prepare these diagrams?

8 A. I did, yes.

9 Q. And is that part of your research in  
10 regards to this case?

11 A. Absolutely, yes.

12 Q. Dr. Love, I would like to go through  
13 portions of your report. Can you specifically tell  
14 us for starters -- again this is State's Exhibit  
15 Number 154. ML Number 12-1681; is that correct?

16 A. That's correct.

17 Q. That's the body of Baron Armstrong?

18 A. Yes.

19 Q. In your report, does it carry the same  
20 medical/legal number?

21 A. It does.

22 Q. And does it detail the same individual and  
23 the pathologist that was involved in their autopsy?

24 A. That's correct.

25 Q. Here do you talk about the injuries in

1 detail?

2 A. Yes. So the first paragraph on my report  
3 that you are showing is basically a chain of custody  
4 and it's telling what I did. So what I did in this  
5 case, there are really three areas of the body that  
6 Dr. Chu requested a consult on. One was of the  
7 skull, and then of the structures of the neck, and  
8 then of three ribs. So the fracture pattern of the  
9 skull, I examined that in the autopsy suite. I  
10 diagrammed what I saw. I photographed it and did all  
11 that in the autopsy suite.

12 Now, the structures of the neck and  
13 the three ribs that were fractured, I actually took  
14 those out of the body. I then processed them so I  
15 could look directly at the bone. So the neck  
16 structures, there is bone, the hyoid bone, and then  
17 there's the thyroid cartilage and the cricoid  
18 cartilage.

19 Q. Did you collect those in regards to  
20 evidence in this case?

21 A. I did. Now, the bone, the hyoid bone in  
22 the neck, and ribs that I took from the body, I  
23 processed those through a chemical processing so that  
24 I could get down to the bone and examine the bone.

25 The thyroid cartilage, because it's

1 cartilage, I had to fix in formalin. Then I process  
2 that manually by taking off the extra tissue so I can  
3 look at the structure.

4 So basically this first paragraph is  
5 just detailing what I did in the autopsy suite, what  
6 specimens I took from the body, and how I processed  
7 them to prepare them for analysis.

8 Q. In regards to the actual analysis that you  
9 conducted, starting with the portion that you did in  
10 the autopsy suite, did you document in detail some of  
11 your findings on a diagram?

12 A. Yes. Yes, I did. As I was looking at the  
13 decedent, I diagrammed the fractures that I saw and I  
14 also had them photographed.

15 Q. Okay. Is this one of the sections that you  
16 diagrammed in this case?

17 A. Yes. So these are my bench notes. So  
18 basically this is just a diagram of a skull which I  
19 then used so that I could outline where the fractures  
20 are. So on this you see very heavy lines. Those are  
21 my lines that are showing where the fracture is  
22 versus these lighter lines are actually the skull,  
23 image of the skull.

24 Q. And when you're talking about these bones,  
25 are there lots of separate bones that encompass what

1 we would traditionally call someone's skull?

2 A. Right. Right. Yes. So many -- your skull  
3 is actually made up of many bones that then are  
4 joined. These are not moveable joints, but there are  
5 several joints. So yes, we have many bones that make  
6 up our face as well as our neuro cranium or the --  
7 this part of the skull. And those lines are showing  
8 the joints between the various bones.

9 Q. So some of the joints are fused together, I  
10 guess?

11 A. They fuse with age. So on a child they  
12 would be open. An elderly individual you can get  
13 complete fusion.

14 Q. When you're talking about your dark lines  
15 that you've drawn, do those reflect what we would  
16 call fresh injuries?

17 A. Right. So those dark lines are the  
18 fractures that I am seeing during the autopsy.

19 Q. When you looked at the bone structure in  
20 the skull, did you note any signs of healing?

21 A. No. No. All of these -- from a gross  
22 standpoint, all of this was acute. So all of it  
23 occurred at or around the time of death.

24 Q. In regards to your examination of the bones  
25 of the head, what we call the skull, can you detail

1 for the jury the injuries that you were able to  
2 detect, the actual bone structure?

3 A. Sure. So what I'm seeing in this case is  
4 I'm seeing several areas where I have concentration  
5 of fractures. So, I'm seeing focal areas of  
6 fracture. And what that indicates is that indicates  
7 a point of contact between the bone and some sort of  
8 instrument. So basically what I have here -- and  
9 it's circled on the diagram so I think that you can  
10 see it. You see where there's a circle and then  
11 there's an "A"? Right here is the "A." Okay.  
12 That's one focal area of trauma. So that would be an  
13 impact site.

14 Additionally there is a "B" here. And  
15 that's looking at all of that right there under the  
16 eye. Again, that is another focal site.

17 Then we see around the teeth here is  
18 the letter "C." And the teeth where I have  
19 hashmarks, they were actually above. So they are  
20 outside of their socket. They're another impact  
21 site.

22 And then we can see on the cheeks,  
23 both side of the cheeks, here and here, we can see  
24 that the cheek bone is actually fractured, not only  
25 in the front but on the sides. And that would be

1 additional strikes to the face.

2           The mandible is broken in the midline  
3 as well as on both sides. That could be from a  
4 single impact or that could be from as many as three  
5 impacts.

6           Q.     When you're looking at the bones and the  
7 injuries caused here, these types of injuries to  
8 different surfaces were different, I guess, planes of  
9 the face and the skull, are they consistent with  
10 somebody falling on the ground?

11          A.     No. No. We're seeing fractures coming  
12 from various planes. If an individual falls perhaps  
13 on one side of the face where you have a bony  
14 prominence, you can fracture that. But to fracture  
15 the bone prominence from one side, the bony  
16 prominence from another side, as well as areas that  
17 are not bony prominences, such as the bridge of your  
18 nose and then your teeth, that is several separate  
19 impacts.

20          Q.     Looking at the impacts that you studied,  
21 can you tell us anything about the size of the -- the  
22 focal of the object or the striking object?

23          A.     So with this type of fracture not only did  
24 I see fractures or focal areas of fractures but  
25 actually the fragments of bones were depressed into

1 the face. So here as well as here (*indicating*).  
2 That indicates an object of a relatively small  
3 surface area.

4 Q. When you are referring to your -- when  
5 you're diagramming for the jury there, you are  
6 talking about what areas? What part of the body?

7 A. The bridge of the nose as well as well the  
8 cheek here right next to the nose. So here at "A"  
9 and "C" on my diagram, (*indicating*) where I've  
10 inadvertently put an arrow, those areas there was  
11 actually bone embedded into the skull. So it was not  
12 only highly fractured but was depressed inward. So  
13 that shows me it's going to be something with a  
14 relatively small surface area.

15 Q. Can you tell us anything about the degree  
16 of force used to do that damage in those focal areas?

17 A. You know, that's something that really is  
18 difficult to define how much force it would take.  
19 It's certainly above normal daily activity. You  
20 don't bump yourself on the table and get this sort of  
21 fracture. It's an extensive amount of force.

22 Q. Is it consistent with blunt force trauma?

23 A. It is, yes.

24 Q. And blunt force trauma can mean anything, I  
25 guess, from a hand to --

1           A.       That's correct.

2           Q.       It could also be an object, like a bat or a  
3 hammer?

4           A.       That's correct, yes.

5           Q.       In regards to the structures of the head or  
6 the bones of the head, are you able to tell us  
7 exactly how many times the person was struck with a  
8 blunt object?

9           A.       What I can do from the bones is I can  
10 estimate a minimum number of times. Because, you  
11 know, a strike may not fracture the bone. An impact  
12 also may occur at the same place. So you may have  
13 impacts overlying each other. So I can give a  
14 minimum count. Not a maximum. Not a definite count.

15          Q.       So it's not even an approximate count; it's  
16 just a baseline minimum?

17          A.       It's a baseline minimum, yes.

18          Q.       For the structures of Mr. Armstrong's head,  
19 what was the minimum baseline that you were able to  
20 determine for blunt injuries?

21          A.       I felt that the fracture probably was  
22 consistent with a minimum of five impacts to the  
23 face.

24          Q.       The next several diagrams, do they talk or  
25 do they show some additional diagrams, additional

1 diagrams of the structures of Mr. Armstrong's head?

2 A. Right. So this is just showing the two  
3 lateral views of the skull. So the fractures of the  
4 cheekbones actually had a more lateral orientation.  
5 So this clearly shows where they were located.

6 Q. And when we're talking about lateral, what  
7 do we mean?

8 A. The sides. The sides of the skull.

9 This is the base of the skull. So if  
10 you cut open the top of the skull and remove the  
11 brain, now you're looking down onto the surface of  
12 the skull. So this area up here, that's the roof of  
13 your eye orbit. Okay? This area here, that sits at  
14 your nose.

15 So basically we have a few fractures  
16 over the right orbit. Most likely these are a result  
17 of the impact to the face. This is thin bone. If  
18 you fracture the facial features, often that fracture  
19 will run into the base of the skull. So that's what  
20 we're seeing here.

21 Q. You talked about removing certain parts of  
22 the body and bringing them to your lab to do  
23 additional processing; is that fair?

24 A. That's correct, yes.

25 Q. You did that with some of the fractures of

1 the neck as well as structures of the face?

2 A. That's correct.

3 Q. As part of your diagram that you've  
4 attached as part of your examination, what parts do  
5 you diagram next?

6 A. I'm sorry? What part did I?

7 Q. What part do you diagram next?

8 A. My next diagram, which is Diagram Number 5  
9 of 7, is of the ribs.

10 Q. And is that what we're showing?

11 A. That's correct. So just to get you  
12 oriented, what you're seeing here is you're seeing  
13 the ribcage. On the right side of the diagram is  
14 actually the left ribcage if you were looking at it  
15 from the side. In the center, that's going to be the  
16 front of the chest. And then away from the center at  
17 the edges, that's actually going to be the back of  
18 the chest. So if you slice in half and then lay it  
19 flat on a piece of paper, that's what you're looking  
20 at here.

21 Q. Does the diagram attempt to kind of show a  
22 three dimensional view of the ribcage?

23 A. It does, yes.

24 Q. When we're talking about injury to the ribs  
25 and the type of processing that you did with the

1 bones, what type of injuries did you document here?

2 A. So what happened was during the autopsy  
3 when I was looking into the ribcage I noticed that  
4 three ribs were fractured. This was rib Number 1 and  
5 4 on the left and rib Number 7 on the right. So  
6 because those were the only ribs that were fractured,  
7 those were the only ribs that I took from the  
8 individual. I processed them, and then I  
9 reconstructed them because they were actually broken  
10 into several pieces.

11 What I've done here is I've diagrammed  
12 where the fractures are on the body and sort of how  
13 the fractures ran, to the best of my ability.

14 So you see on the right side of the --  
15 you see here --

16 Q. Let's start here. Can you show us the left  
17 rib Number 1?

18 A. Okay. That's going to be there.

19 *(Indicating.)*

20 Q. Okay. And did you examine the bony  
21 structure of left rib Number 1?

22 A. I did, yes.

23 Q. And if it's your body, can you kind of show  
24 us where left rib Number 1 is?

25 A. Right here, up high right under your

1 clavicle.

2 Q. Okay. And so is there a bone to get past  
3 to get to the left rib Number 1?

4 A. Yes. So it's sort of -- it's sort of in a  
5 more protective area because in the front you have  
6 your collar bone, or clavicle. And in the back you  
7 have your scapula, which is that blade, your shoulder  
8 blade in the back. So it does sit in more of a  
9 protected position.

10 Q. Okay. Can you talk or describe the injury  
11 to left rib Number 1?

12 A. Yes. So the bone is completely fractured.  
13 And actually if you look right here, I've hand drawn  
14 the rib if you were looking at it from a birdseye  
15 view.

16 Q. Is that in the top right corner of that  
17 diagram at the bottom?

18 A. Yes. Yes, it is.

19 The way that the rib is fractured, it  
20 tells me a bit about what the force is, how the force  
21 is being applied to the rib. And in this, when I  
22 looked at it, the type of fracture and the location  
23 was consistent with an anterior to posterior, so a  
24 front to back impact, and superior to inferior. So  
25 sort of coming towards the body -- towards the

1 shoulder from the front and then sort of downward and  
2 it's striking that bone.

3 Q. Now, when you're looking at all of these  
4 injuries to the chest, injuries to the head, do you  
5 know anything about the positioning of the decedent  
6 at the time that he received these injuries?

7 A. I don't. No.

8 Q. Is it possible that injuries can come from  
9 different angles?

10 A. Right. Right. Now that I can tell from  
11 where the fractures are occurring. So we have a  
12 fracture on rib Number 1 that is sort of to the  
13 front. Then we have a fracture on the same side on  
14 rib Number 4 which is also towards the front towards  
15 the back and kind of down to up. Then we have  
16 another fracture which is on right rib Number 7 which  
17 is more to the axial line kind of in line with the  
18 armpits right in the back. It's coming, you know,  
19 from left to right. So we're having four separate  
20 impacts to the rib. And we have two that are front  
21 to back on the left side. One is more up to down.  
22 One is more down to up. And then on the right side  
23 we have one that's coming from right to left and  
24 that's more towards the back, kind of that midline to  
25 back position on the ribs.

1 Q. Are these consistent with a number of  
2 different blows?

3 A. Yes. Because they're individual fractures,  
4 they indicate that we're looking at individual blows.

5 Q. So when we're talking about the head, you  
6 told us about the minimum baseline. When we're  
7 talking about the ribcage here, were you able to kind  
8 of come up with what would be a minimum baseline for  
9 the fractures?

10 A. So these three fractures would be  
11 consistent with three separate impact sites.

12 Q. Now, are they consistent with blunt force  
13 trauma?

14 A. Yes, they are.

15 Q. Could they be hitting with an object?  
16 Would they also be potentially consistent with being  
17 kicked in the ribs?

18 A. Yes. What we're -- because we're seeing  
19 individual single bone fractures, what that tells me  
20 is again we're thinking of an -- it's consistent with  
21 an object of relatively small surface area. When  
22 people fall, especially elderly individuals who have  
23 poor bone quality, they do fall and break their ribs.  
24 And they're striking, typically, a floor, a large  
25 flat surface. And when it occurs, we see several

1 ribs fracture in a line. They line up. Several ribs  
2 are involved. And that's that flat surface hitting  
3 against -- the bone hitting against the large  
4 surface.

5 Here we have single fractures that are  
6 not serial, you know, they're at different places in  
7 the body. So that indicates that we're looking at  
8 separate impacts with an open object that's  
9 relatively small. So it's involving only one rib and  
10 not the neighboring ribs.

11 Q. Minimum baseline on this, how many?

12 A. Three.

13 Q. When you're examining the structures in  
14 your laboratory, and you talked about tissues in  
15 portions of Mr. Armstrong's neck, what can you tell  
16 us about the injuries to Mr. Armstrong's neck?

17 A. Okay. As I stated, I took the hyoid bone  
18 and then the thyroid cartilage and cricoid cartilage.  
19 So your hyoid bone sits up high, almost near the end  
20 of your jawline. Your thyroid cartilage is your  
21 Adam's apple. And then your cricoid cartilage just  
22 sits right underneath it. So this diagram shown here  
23 is the thyroid cartilage, and then this small bump  
24 underneath it is the cricoid cartilage. And again we  
25 have several fractures. The thyroid cartilage is

1 fractured at both horns, here and here.

2 And then it's also fractured in the  
3 midline here.

4 The cricoid structure is fractured  
5 here completely.

6 And then there's an incomplete  
7 fracture on this side.

8 So this structure is actually sort  
9 of cupped as it sits in your neck. So this really  
10 indicates that the structure has been crushed.

11 Q. Okay. Is that consistent with blunt force  
12 trauma as well?

13 A. It is, yes.

14 Q. In regards to that strike in the neck,  
15 blunt force trauma to the neck, were you able to  
16 give -- you talk about different areas, were you able  
17 the kind of give a minimum number of blows to the  
18 surface?

19 A. To be honest, this could all be done with a  
20 single impact.

21 And then the hyoid, which I didn't,  
22 was also fractured, which is the next diagram -- or  
23 the previous diagram, six of seven.

24 So this is the hyoid bone. And you  
25 can see it was fractured again on the left side,

1 which is the right side of the diagram. And I have  
2 shown that bone had been forced in at that tract  
3 aerosat and that's what I've drawn here. So all  
4 those structures that I took of the neck are  
5 fractured.

6 Q. In regards to being able to talk through  
7 some of the injuries, there are certain things that  
8 you can tell us that are drawn but there are also  
9 some things that you really can't tell us about the  
10 injuries.

11 A. Certainly.

12 Q. Are you able to kind of give us a sequence  
13 of injuries?

14 A. In this case I cannot give a sequence of  
15 injuries. The injuries to the ribcage, to the rib,  
16 the only -- in order for me to see sequence  
17 fractures, fractures must communicate. So when I  
18 have a fracture of various ribs, I can't sequence  
19 them.

20 In a skull when a fracture is present,  
21 a second fracture will stop at the previous fracture.  
22 So at times we can sequence the fractures based on  
23 the skull pattern. However, in this situation the  
24 fractures were so complex and some of them did not  
25 communicate -- so the fracture in the middle of the

1 face did not communicate with the fractures to the  
2 side to the cheekbones-- so I cannot sequence the  
3 injuries, no.

4 Q. In regards to the remainder of  
5 Mr. Armstrong's skeleton, did you conduct any  
6 analysis on the bones of his arms or legs or hands?

7 A. No. In this case I was restricted to what  
8 Dr. Chu had requested. In order to examine the other  
9 bones, it requires making additional cuts on the body  
10 that was not deemed necessary. So I only looked at  
11 the skull, the neck, and the ribcage in this  
12 individual.

13 MR. PENEГУY: Judge, I pass the  
14 witness.

15 THE COURT: Mr. Scott.

16 CROSS-EXAMINATION

17 Q. (BY MR. SCOTT) Ms. Love, in relation to the  
18 process, I gather you are telling us that you're  
19 physically in the room with Dr. Chu at least during  
20 part of this process; is that accurate?

21 A. That's correct, yes.

22 Q. And I guess the way that works is he's  
23 going through his autopsy, he starts seeing things,  
24 in some way he communicates to you, and you come on  
25 in and you and Dr. Chu then would, I gather,

1 generally speaking, proceed together, you're  
2 answering some questions, but he's also going about  
3 his work, too, right?

4 A. That's correct, yes.

5 Q. All right. And the questions that you were  
6 dealing with is not cause of death or anything like  
7 that?

8 A. That's correct, sir.

9 Q. That's his job.

10 A. That's correct.

11 Q. So the medical doctor would go in and  
12 examine the parts of the body, the brain and all the  
13 things that we've heard here today; but you would be  
14 dealing strictly with the bone and the structure of  
15 the bone; is that accurate?

16 A. That's correct, yes.

17 Q. So the bone then, of course, has to be  
18 exposed for you to be able to analyze say these  
19 fractures that you pointed out on the exhibit,  
20 correct?

21 A. That's correct.

22 Q. All right. And I'm assuming that is just  
23 the way it happened in relation to this case,  
24 correct?

25 A. Correct.

1 Q. Now, there are multiple fractures to the  
2 skull, correct?

3 A. Correct.

4 Q. And those multiple fractures, at least from  
5 what I remember you talking about, seem to have been  
6 evident on the front portion of the skull; is that  
7 correct?

8 A. That's correct, yes.

9 Q. As far as the back, you called it something  
10 else I remember.

11 A. Right. Right.

12 Q. I call it the back of the skull. There  
13 were no fractures; is that correct?

14 A. That is correct.

15 Q. All right. Now, I know everything is  
16 relative, but you used the phrase a small object. I  
17 can't remember when you said it, either about the  
18 ribs. I know you said it about the ribs, but I can't  
19 remember it about the skull. A small object such as?

20 A. Okay. So a large object would be like  
21 striking the floor. That would be a large surface  
22 area. A small object could be anything from the  
23 width of let's say a golf club, you know, something  
24 very thin, but it could be thicker. I mean, even a  
25 baseball bat, I would say that that is a relatively

1 small surface area.

2 Q. So some of these injuries then could in  
3 fact -- could be struck with a blunt object?

4 A. Uh-huh.

5 Q. And when you talk about the size of the  
6 object, you're referring to the diameter or the  
7 surface area that actually comes in contact with the  
8 flesh we see having the effect of the fracture  
9 underneath, correct?

10 A. Correct. Absolutely. It's that surface  
11 area that is actually coming in contact with the  
12 skin. Yes.

13 Q. Did you notice -- as far as the injuries to  
14 the left and right side of the skull, did you notice  
15 blunt trauma on the exterior of the skull before you  
16 determined that there had been fracture in those  
17 areas?

18 A. I'm a little bit confused. So the way I  
19 knew there was blunt trauma was because the fractures  
20 were present. Are you -- so are you referring to the  
21 soft tissue?

22 Q. Yes, ma'am. Soft tissue.

23 A. Okay. So that would be something for Dr.  
24 Chu. When I came in, the soft tissue had already  
25 been removed. So I'm looking directly at the bone.

1 Q. Okay. All right. Now, when a skull hits a  
2 flat surface, could it hit the flat surface with  
3 enough impact to do damage in more areas than just  
4 the point of impact?

5 A. We see fractures occur at the point of  
6 impact. Now, there are some times when we can see a  
7 fracture away from the point of impact, for example,  
8 most likely with the jaw. When we see someone  
9 impacted on one side of the jaw, based on the fact  
10 that it's a U, we do see indirect fractures at other  
11 locations of the jaw. So it can happen with some  
12 elements. Others such as with the cheek, if we see a  
13 fracture of the cheekbone, it's because there was an  
14 impact at the cheekbone.

15 Q. So in relation to the diagram that we have  
16 as to the frontal picture of the skull, if in fact  
17 Mr. Armstrong had gone face down onto the floor with  
18 enough force then to shatter his -- break his jaw and  
19 have it also, more breaks where the jawbone and  
20 that -- they would be jammed back up into the rest of  
21 the skull?

22 A. From a fall, that sort of pattern is  
23 unlikely. So if you fall straight onto your chin and  
24 you do in fact fracture your chin, we would expect to  
25 see a midline fracture.

1 Q. That is consistent with this?

2 A. Right. Right. We do have a midline  
3 fracture here.

4 Q. Okay.

5 A. So -- but now that right there -- now, if  
6 you are falling here, we do not expect then to get a  
7 depressed fracture here, a depressed fracture here,  
8 and then two separate fractures that are involving  
9 both sides of the cheekbone. So a fall here,  
10 something midline, but not depressed here, depressed  
11 here, and then these two prominent.

12 Q. If a person fell, though, and they actually  
13 hit flat face down, not at the point of the chin --

14 A. Okay. So now we're going like this.

15 Q. We're standing upright and we just go down  
16 like that. (*Indicating.*)

17 A. Uh-huh.

18 Q. Flat on our face -- happened to me many  
19 times. Flat on our face into the ground, right?  
20 Could that radiate not only through the break in the  
21 jaw, which would be directly flat on the ground, that  
22 would expand that bone, either break it in or out,  
23 whichever might be the situation, be radiated up that  
24 jawbone to where it comes to a stopping point,  
25 whatever might stop it, and radiate the fracture or

1 additional fractures up into that area?

2 A. When I see people who do a full face  
3 plant -- and we do see people that come fully -- the  
4 type of fracture that is most common is a simple  
5 fracture of the nasal bone. The rule of thumb is  
6 simple fall, simple fracture. Okay? People fall  
7 backwards and smack their head and do fracture their  
8 skull. Again, a very similar linear fracture.

9 When you get a more complex fracture,  
10 not only complex but you're getting bone depressed  
11 into the skull, that is more of a direct impact with  
12 a smaller implement, not falling simply onto a flat  
13 surface.

14 Q. Now, at least minimally speaking, what  
15 you're talking about, I guess we can debate that  
16 number of shots to the face, but we're certainly  
17 confident in saying, I think, that there would have  
18 been three separate strikes to the ribcage, right?

19 A. That's correct.

20 Q. Okay. And those things were individual  
21 strikes, correct?

22 A. Correct, because of the focal fractures and  
23 the different locations through the ribcage, yes,  
24 sir.

25 Q. That also confused me. Not the number or

1 whatever. But when you talk about the ribcage and  
2 the picture we've got here that was shown, I kind of  
3 got lost in the explanation, I guess. Is that one  
4 side of the ribcage, or is that both left and right?  
5 I've got it left and right. But I couldn't tell if  
6 it was one ribcage cut in half and then flattened out  
7 like you said --

8 A. Yeah.

9 Q. -- or if it was two ribcages cut or  
10 whatever it was.

11 A. This is showing one person's ribcage. So  
12 because the ribs are rounded, right, they wrap  
13 around.

14 Q. They go all the way around your body?

15 A. Well, no --

16 Q. Or basically?

17 A. Right. In the back you have your  
18 vertebrae.

19 Q. Right.

20 A. And so the rib attaches to the vertebra in  
21 the back. Then anterior the rib comes around and you  
22 have your breast plate, your sternum. So between the  
23 sternum and the rib is cartilage. Okay? So you have  
24 bone, cartilage, and then the breast plate. So  
25 basically this is showing you the ribs coming around,

1 the attaching cartilage, and then that sternum. So  
2 you cut right through the breast plate. And then so  
3 it's one person's ribcage.

4 Q. Okay. So -- all right. Wherever it was,  
5 Number 5 of 7, that would be both sides of the  
6 ribcage, left and right complete?

7 A. Right.

8 Q. The sternum and that has been removed and  
9 there's no backbone shown in there.

10 A. Right. That's perfect, yes.

11 Q. All right. Did you notice any damage to  
12 the collar bone that was close to proximity of the  
13 Number 1 rib?

14 A. I did not. No. I did not take it and  
15 process it. However, there was no grossly obvious  
16 fracture. Could there have been an incomplete  
17 fracture there that I did not see, it's possible.  
18 But it wasn't a displaced fracture like that.

19 Q. Do you form an opinion based upon your  
20 examination -- I know you said that you can't  
21 sequence the injuries, correct?

22 A. That's correct.

23 Q. Were you able to do anything with  
24 debilitating injuries based upon your examination?

25 A. That's outside my area of expertise.

1 That's a question for Dr. Chu.

2 MR. SCOTT: I pass the witness, your  
3 Honor.

4 MR. PENEGUY: No further questions  
5 from the State, Judge.

6 THE COURT: Thank you so much for your  
7 testimony. You're excused.

8 Let's take a five, 10-minute break at  
9 the most.

10 (*Jury leaves courtroom.*)

11 (*Recess taken.*)

12 THE COURT: Bring the jury out.

13 (*Jury enters courtroom*)

14 THE COURT: State, your next witness,  
15 please.

16 MR. PENEGUY: Judge, the State of  
17 Texas rests.

18 THE COURT: The State of Texas has  
19 just rested. If you will go with the bailiff back to  
20 the jury room, I'll have you back out extremely  
21 quickly.

22 (*Jury leaves courtroom.*)

23 THE COURT: You may be seated. Thank  
24 you.

25 Mr. Scott, do you have something you