

1 THE COURT: Everyone ready? Bring the
2 jury out.

3 *(Jury present.)*

4 THE COURT: How was lunch? Deputy
5 Kaminski informed me he did not order dessert today,
6 which is kind of a shock.

7 Both sides ready to continue?

8 MS. THOMAS: The State's ready.

9 MR. GONZALEZ: Defense is ready, Your
10 Honor.

11 THE COURT: Ms. Thomas, you may continue.

12 **DIRECT EXAMINATION (CONTINUED)**

13 Q (BY MS. THOMAS) Dr. Chu, when we left off, we
14 were talking about his [sic] hand. And I pulled out
15 some pictures, I'm trying to cull out some things so we
16 can move a little faster. Did you already tell us
17 whether or not this is all bruised here on the top of
18 the hand?

19 A Her entire hand is covered in bruises, but she
20 does have an area of scarring also on the back of that
21 right hand.

22 Q Is the left hand pretty much the same in that
23 respect, it's all bruised with scarring?

24 A Yes. The back of the hand, yes.

25 Q Okay. And the scar -- let me put 135. Is that

1 a closer view of that same hand?

2 A Yes.

3 Q Let me ask you: Hypothetically, if that
4 4-year-old child pulled a television cord out of the
5 wall and it electrocuted her, would you expect the
6 pattern of burn from that electrocution to occur on the
7 backs of her hand in that fashion, in that shape?

8 A Probably not.

9 Q With the electrical burns, are they generally
10 smaller in size than that scar?

11 MR. GONZALEZ: Excuse me, Your Honor. I
12 asked my client to put on her earphones and she won't.

13 THE COURT: Ms. Herrera, it's important
14 that you're able to hear this entire proceeding. You
15 are required to wear your earphones so that the
16 interpreter can translate these proceedings for you, for
17 your benefit.

18 Continue.

19 Q (BY MS. THOMAS) Dr. Chu, would you expect an
20 electrical burn from a cord to occur on the backs of the
21 hands as opposed to the insides of the hand? Generally?
22 I mean --

23 A Not if it was being grabbed and causing that
24 electrical burn.

25 Q Okay. With electrical burns, are they -- would

1 the surface area occur all over the tops of the hands or
2 just more pointedly, like more localized?

3 A Yes. With household current, currents from
4 household current, you would not expect to see from a
5 cord a broad area of scarring like that. It's usually a
6 much smaller burn. You might not even see a burn at
7 all.

8 Q Could this be consistent with some sort of a
9 thermal burn?

10 A A healed burn, it could be, yes.

11 Q For example, hot water, something hot, hot
12 liquid, boiling water, that kind of thing?

13 A It could be.

14 Q Okay. Skip through. One -- this hand -- we're
15 looking at State's Exhibit 135. I'm not going to
16 continue to ask you about the timing except that I would
17 like to know if you did a microscopy on this injury?

18 A Yes.

19 Q And what were your findings?

20 A On the right hand, there was microscopic
21 evidence on the bruising but only a minimal reaction,
22 suggesting that it could be a much more recent injury
23 than the injuries that I saw on her scalp and on her
24 arms.

25 Q More recent, say -- okay. So, we're not within

1 the three to five days, we're now like?

2 A More like within a day.

3 Q State's 139, what do we see here?

4 A This is a picture of Betsabeth Sandoval's right
5 hand showing the fingertips and fingernails.

6 Q State's Exhibit 141, what do we see here?

7 A This is a picture of -- it's hard to tell which
8 finger it is, but it's a picture of her left fourth
9 fingertip with her fingernail. And what you're seeing
10 is, it's a wooden stick right here that I'm using to
11 push against the nail to demonstrate that it's partially
12 been torn off.

13 Q And does that suggest to you that there's been
14 some trauma inflicted on that nail?

15 A Yes.

16 Q Of some type. Moving along to the other arm on
17 the other side, were the injuries pretty similar to --
18 it's going to be the left side -- to the right side that
19 you've already testified about?

20 A Yes. Again, almost the entire left upper
21 extremities involved by bruising, again circumferential
22 or wrapping around the entire surface of the left upper
23 extremity.

24 Q And State's 148, in the palms of both of her
25 hands, was there discoloration or bruising?

1 A Bruising, yes.

2 Q In your opinion, or I don't know if you can
3 tell, did that bruising occur because something hit the
4 palm of her hand or is that bruising that's bleeding
5 through the tops of her hand?

6 A It could be either. Because of the extent of
7 the bruising from the backs of her hands, it's hard to
8 say whether those represent additional applications of
9 force in the palm or if it's just blood tracking all the
10 way through her hand.

11 Q State's 150, is now this the hand that had the
12 finger on which you lifted it with the stick or is
13 that --

14 A Yes. This is the left hand and in the
15 photograph you saw again, was the left fourth finger or
16 ring finger. So, that's this finger right here. You
17 can see there's a little bit of an abrasion right next
18 to where the nail begins and then again, that fingernail
19 is partially lifted off from the nail bed.

20 Q But that's different from the other fingernail
21 that you have lifted from the stick, is it not? Or is
22 it the same?

23 A That's the same one.

24 Q Okay. Let's look at the feet real quick,
25 State's 155. A lot of color here going up the ankle, is

1 that actually all contusion?

2 A Yes.

3 Q Dr. Chu, in this autopsy you mentioned the
4 avulsion pockets on the rear of Betsabeth. Were there
5 any more of those pockets to be found?

6 A Yes. She had similar avulsion pockets or areas
7 of tearing of the tissue beneath the skin with
8 accompanying bleeding and soft tissue destruction,
9 similar pockets on all four of her extremities.

10 Q And just a shot of both legs again, these
11 injuries consistent with blunt force trauma?

12 A Yes.

13 Q Dr. Chu, in your opinion, if a wooden stick,
14 for example, is used to strike a 4-year-old child over
15 and over and over again, would that stick be considered
16 to you to be a deadly weapon?

17 A Yes.

18 Q Capable of causing serious injury or death?

19 A Yes.

20 Q In your opinion, is doing such an act an act
21 clearly dangerous to human life?

22 A Yes.

23 Q How about with a belt or a hand? The same
24 question: Would striking a child over and over and over
25 again hard enough over a long period of time constitute

1 that that hand or belt would be a deadly weapon?

2 A Yes.

3 Q Would doing so constitute an act clearly
4 dangerous to human life?

5 A Yes.

6 Q How about any unknown blunt object?

7 A Yes.

8 Q To strike a child over and over and over again
9 in the same place with any unknown blunt object, would
10 that be an act clearly dangerous to human life?

11 A Yes.

12 Q Okay. No more pictures. Dr. Chu, in examining
13 this child, did you learn anything about her state of
14 health in terms of was she infected anywhere? Did she
15 have any infections?

16 A Yes.

17 Q And tell the jury about that.

18 A As part of the autopsy procedure, I collect
19 specimens to be sent for bacterial culture; and what
20 that means is that I collect blood and other tissues
21 from body and send that to a local hospital, Ben Taub,
22 where they have a microbiology lab and they test those
23 tissues to see if they will grow out any bacterial
24 organisms. And, so, if they do and it's an organism
25 that's known to cause illness in humans, that allows me

1 to identify that she has an infection in her system.

2 So, in her case, I submitted blood, lung,
3 and spleen to the microbiology lab and all three -- all
4 three specimens grew out of bacteria called
5 staphylococcus aureus. So, it's a bacteria, staph, it's
6 commonly known as staph aureus. It's a known pathogen
7 or disease causing organism; and, so, that finding
8 indicates to me that she had a widespread staph
9 infection.

10 Q Given the amount of tissue damage we just saw
11 in the avulsion pockets that you described, does that
12 surprise you at all?

13 A No.

14 Q Why not?

15 A Remember we're talking about large areas of
16 tissue destruction, pockets of blood that are no longer
17 circulating and so, therefore, no longer accessible by
18 the body's immune system. So, once you get those big
19 avulsion pockets and big areas of dead tissue, those are
20 all potential sites of infection. So, those can get
21 very easily infected because the body's immune system no
22 longer can access those areas. So, the fact that she
23 has staph infection in the setting of those avulsion
24 pockets is not surprising at all.

25 Q The fact that it was found in her blood, her

1 spleen, and lung tissue, does that tell you anything
2 about the extent of this infection?

3 A Just indicates that it's a widespread infection
4 and it's also an indicator that it's a -- not the result
5 of lab contamination because it's growing from every
6 single specimen that I sent.

7 Q This infection all stems back to the blunt
8 force trauma, doesn't it?

9 A Yes.

10 Q We've already talked about the weight and that
11 she's below the 5th percentile for her age. Would you
12 categorize her as a malnourished child?

13 A Yes.

14 Q Anything in toxicology that was of note in this
15 case?

16 A Yes. When I reviewed her -- the results of her
17 virtuous fluid electrolytes -- so, what that means is
18 that during the autopsy, I collect the fluid from the
19 eyeball and submit that to our lab. And the reason why
20 that fluid is of value is because it's -- after death
21 it's a pretty stable fluid because it's not part of the
22 circulating blood. And so, the values of the
23 electrolytes detected in that fluid are often much more
24 representative of what they were when the person was
25 alive than similar values in the blood.

1 THE COURT: Thank you, Ms. Thomas.

2 Mr. Gonzalez.

3 MR. GONZALEZ: Thank you, Your Honor.

4 **CROSS-EXAMINATION**

5 BY MR. GONZALEZ:

6 Q Now, Dr. Chu -- how you doing?

7 A Good.

8 Q Good. Now, Dr. Chu, you made some references
9 to a comment that, basically, says you cannot rule out
10 more recent injuries to the area and you explain that
11 because of several contusions to the same area, it's
12 hard to determine when the last one occurred; is that
13 correct?

14 A Yes.

15 Q In other words, the newest one?

16 A Correct.

17 Q So, when you say -- when you say that the --
18 the timeline for those injuries, for that specific
19 contusion, when you say it's three to five days old, I
20 guess the closest day is three and the oldest day is
21 five?

22 A Actually it's -- it's at least three to five
23 days; so, there's a certain type of cell -- without
24 getting too technical, there's a certain order of
25 progression of inflammatory cells that arrive at a site

1 of injury. So, when I see one particular type of cell
2 called a hemosiderin-laden macrophage, this is a cell
3 that is only visible three to five days. It shows up
4 three to five days after the initial injuries. So, if I
5 see that cell, I know that that injury is at least three
6 to five days old. It may persist longer than that
7 period.

8 Q Also, Doctor, you mentioned that -- well, you
9 used the term again when you said for injuries that you
10 see, sometimes you say you can't rule out, you know,
11 injuries or contusions to that spot, but at the same
12 time -- in other words, you're not being specific. It
13 could have happened or it might not have happened, would
14 you agree?

15 A Well, there are definitely contusions. The
16 only question is whether there's more than one on top of
17 the first one. But they're all contusions though.

18 Q But because there might be one on top of
19 another, you -- you would not be able to say this
20 occurred within "x" number of hours or "x" number of
21 days, would you agree to that?

22 A Yes, I can only identify the oldest -- I can
23 only reliably identify the oldest component of the
24 bruise.

25 Q Now, Dr. Chu, those injuries that we saw on the

1 arms and on the legs that the bruises seem to go all the
2 way around the body -- well, when someone's hit, let's
3 say using that stick, okay? Someone's hit on the arm,
4 what causes the bruising that occurs?

5 A What happens is with any application of blunt
6 force, whether it's a blow or tight squeezing or
7 twisting, there's tearing of blood vessels in the soft
8 tissue, whether it's in the skin or in the deeper
9 layers. When those blood vessels tear, the blood that's
10 within those vessels leaks out in the surrounding soft
11 tissue and that's what you visualize as the bruise.

12 Q Would you agree with me that most times when,
13 let's say, you bump into a table, the bruise is going to
14 be contained into a smaller area of, let's say, your
15 thigh instead of the whole thigh. Would you agree
16 there?

17 A Yes.

18 Q What would cause the bruise to go all the way
19 around the leg?

20 A It could be a number of things. Of course, it
21 could be impacts to all surfaces of that extremity, leg,
22 or arm. It could be that maybe it's not all the way
23 around but there are multiple blows, they're a severe
24 enough blow that there's enough blood leeching out into
25 those soft tissues that tracks all the way around. It

1 may not be a blow at all, it could be a tight -- like if
2 someone grabs you and really forcefully around the arm,
3 maybe twists a little bit, that can also result in a
4 circumferential pattern of bruising. So, there's a
5 number of different mechanisms; but they're all blunt --
6 they all are forms of blunt force.

7 Q But what you're saying is that -- correct me if
8 I'm wrong. What you're saying is that if that occurs,
9 it could not be accidental?

10 A I think that an individual bruise can be
11 accidental or if -- few individual bruises can be
12 accidental but, you know, we don't focus on one single
13 injury. You know, like in autopsy, I don't focus in on
14 one single injury. I look at the entire case, the
15 pattern of where that bruising is over the entire body
16 and then make an assessment as to whether or not the
17 death is accidental or not. And so, in this case the
18 fact that she has bruises not just on one arm but on all
19 four extremities, on her head, on her buttocks, in areas
20 where you would not expect to see them from something
21 like a fall or even repeated falls, combined with the
22 other findings that I saw on the inside of her body,
23 looking at the big picture, that's how I classified the
24 death as a homicide because these are not -- in totality
25 are not accidental injuries.

1 Q Now, for example, Dr. Chu, if somebody goes,
2 let's say, roller skating in a roller rink. You know,
3 the floors are made out of wood and you're learning how
4 to skate and you start falling and falling and falling.
5 Let's say you fell ten times before you learned to stay
6 on your feet, that wouldn't cause something like what we
7 saw on the legs and the arms?

8 A Yeah, that could cause, certainly could
9 bruising on, say, the knees, the elbows, the buttocks.
10 But remember, she also has bruising up and down the
11 entire length of her arms, not over just the bony
12 prominences where I would expect to see it from some
13 scenario like that when you're falling onto a hard
14 surface. She has bruises in areas that wouldn't make
15 sense for a simple fall or even multiple falls onto a
16 hard floor, also includes the bruises all over her head,
17 on multiple surfaces of her head. So, it doesn't fit
18 that either.

19 Q I believe you said that those blood trauma
20 could be caused by either someone hitting you or you
21 running into something?

22 A Yeah. The individual -- any individual blunt
23 or any individual contusion can be caused by running
24 into something or being struck by something.

25 MR. GONZALEZ: I'll pass the witness.

1 THE COURT: Thank you, Mr. Gonzalez.

2 Is there anything further?

3 MS. THOMAS: No, ma'am.

4 THE COURT: May Dr. Chu be excused?

5 MS. THOMAS: Yes, Your Honor.

6 MR. GONZALEZ: Yes, ma'am.

7 THE COURT: Thank you, Doctor. You are
8 excused.

9 Call your next witness, please.

10 MS. SPENCE: Dr. Jennifer Love.

11 MS. THOMAS: Judge, while we're waiting
12 for her to come in, if you don't mind, I would like to
13 offer what's on the back of this diagram, State's 214,
14 it's a page out of Dr. Levy's report that's already in
15 evidence.

16 THE COURT: Any objection?

17 MR. GONZALEZ: No.

18 THE COURT: State's Exhibit No. 214
19 admitted without objection.

20 MS. THOMAS: Thank you. And may I just
21 make one brief comment about it, Judge?

22 THE COURT: Yes.

23 MS. THOMAS: This represents her weight
24 at 1 year of age. She weighs approximately the same as
25 she weighed at death.

1 THE BAILIFF: Judge, this witness has not
2 been sworn.

3 THE COURT: Doctor, if you would, raise
4 your right hand to be sworn, please.

5 (Witness sworn.)

6 THE COURT: Ms. Spence, you may proceed.

7 **JENNIFER LOVE,**
8 having been first duly sworn, testified as follows:

9 **DIRECT EXAMINATION**

10 BY MS. SPENCE:

11 Q Good afternoon, ma'am. Would you please
12 introduce yourself.

13 A Hello. My name is Dr. Jennifer Love. I am the
14 forensic anthropology director of the Harris County
15 Institute of Forensic Sciences.

16 Q And what is a forensic anthropology director?

17 A So, I oversee the forensic anthropology
18 division which is a division of three forensic
19 anthropologists.

20 Q And what kind of educational background do you
21 have or other trainings do you hold to qualify you as
22 director of forensic anthropology at the Harris County
23 Institute of Forensic Sciences?

24 A So, I have a PhD in anthropology focused in
25 physical anthropology. I also am board certified by the