

**IN THE MATTER OF THE THOMAS R. BRAIDWOOD, Q.C.,  
COMMISSIONS OF INQUIRY UNDER THE *PUBLIC INQUIRY ACT*,  
SBC 2007, c. 9**

Wosk Centre for Dialogue  
Strategy Room 320  
580 West Hastings Street  
Vancouver, B.C.

May 16, 2008

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PROCEEDINGS AT  
FORUM (DAY 10)

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**ORIGINAL**

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Commissioner:	T.R. Braidwood, Q.C.
Commission Counsel:	A. Vertlieb, Q.C.
Associate Commission Counsel:	P. McGowan
Court Recorder:	P. Kealy, C.V.R., C.M.
Transcriber:	P. Neumann

1  
Dr. Jeffrey Ho (Manufacturer presenter)  
Questions by Mr. Vertlieb  
Presentation

1 Vancouver, B.C.  
2 May 16, 2008  
3

4 THE COMMISSIONER: Yes. Good morning, everybody. Good  
5 morning, sir. I see we're ready to go ahead.  
6 Yes, counsel.

7 MR. VERTLIEB: Thank you, sir. We have Dr. Jeffrey Ho  
8 as the first presenter.  
9

10 DR. JEFFREY HO, a Manufacturer  
11 presenter.  
12

13 QUESTIONS BY MR. VERTLIEB:  
14

15 Q Dr. Ho, you are an emergency room physician?

16 A That's correct.

17 Q And your first degree was a Bachelor of Science  
18 from Loma Linda University College of Arts,  
19 graduating in June 1988?

20 A That's correct.

21 Q You received your Doctor of Medicine from Loma  
22 Linda in May of 1992?

23 A That's correct.

24 Q Then went to Minneapolis and you were a resident  
25 in Emergency Medicine?

26 A That's correct.

27 Q You have a Fellowship in Emergency Medical  
28 Services from June 1996.

29 A Yes.

30 Q And your practice as a doctor is as an Emergency  
31 Room physician in the State of Minnesota?

32 A That's correct.

33 Q When were you first licensed to practise medicine  
34 in the United States?

35 A That would be 1993.

36 MR. VERTLIEB: Thank you, Dr. Ho. You have a  
37 presentation to make and we welcome that.  
38

39 PRESENTATION BY DR. JEFFREY HO:  
40

41 A Yes. Good morning. Thank you. You want me just  
42 to go ahead and present to you?

43 THE COMMISSIONER: Yes, any way you wish.

44 A All right. Thank you for allowing me to present  
45 in front of the Commission today, sir.

46 What I would like to do today is just talk a  
47 little bit about the human research that's gone on

1           around Taser devices. I was asked to come up  
2 here and provide evidence that's come out of my  
3 lab on what we've done as far as human studies,  
4 and so I am going to go ahead and do that.

5           You have heard some of my professional  
6 qualifications. I'd like to give you just a  
7 couple of others that give me a little bit of  
8 insight to what these devices do and don't do. In  
9 addition to working full time as an emergency  
10 medicine physician, I also work as a Minnesota  
11 peace officer, so I'm a Deputy Sheriff up there,  
12 and so I have the opportunity to use these in real  
13 field situations as well.

14           I am also an academic medical researcher at  
15 the University Medical School. The hospital that  
16 I work at is a Level 1 trauma centre. It sees  
17 about 103,000 patients per year. I know that  
18 subject to some of previous testimony there has  
19 been issues on whether or not folks have debated  
20 about whether things like "excited delirium" exist  
21 or, you know, whether anybody's cared for patients  
22 like that. I certainly have in my career and so I  
23 have been able to see both sides of this.

24           By way of disclosure, because I think that's  
25 fair also, just so that you're aware, I am a  
26 consultant to TASER International. I am basically  
27 not an employee of the company. I do not take  
28 stock options. I do personally own shares of  
29 TASER International that I have purchased on my  
30 own.

31           We receive, as my lab, receive some funding  
32 from TASER as funding streams for the research  
33 that comes out, and I'd like to explain a little  
34 bit about why that is because I know there has  
35 been a perception of bias or conflict.

36           First of all, my full-time employer is my  
37 medical practice, and so that's where I receive my  
38 pay cheques. What my employer does is protect a  
39 portion of my time for academic endeavours, and at  
40 this point what I am tasked to do under my full-  
41 time employer is to spend time in the lab  
42 researching these devices. There is a contract  
43 that exists between TASER International and my  
44 full-time employer, and so I receive my standard  
45 pay cheque from my employer and TASER basically  
46 pays the contract to allow research work to be  
47 done on their behalf.

1           As far as any perception of conflict goes,  
2 any of the studies that I am going to talk about  
3 today and that you are going to hear about have  
4 all had to pass through our Medical Research  
5 Conflict of Interest Committee. We go through an  
6 annual review and come up with a plan to make sure  
7 that any conflict or perception of conflict that  
8 is there is managed.

9           What the current plan that we have in place -  
10 it has worked very well for the last several years  
11 - has been, if you look at all of my papers, there  
12 is a gentleman on there, Dr. James Miner, who is a  
13 disinterested statistician. He holds all of the  
14 data for our studies. Anything that we gather  
15 goes directly to him and he is the analysis point  
16 of all of our data. So it doesn't come to me. It  
17 doesn't go to TASER International.

18           In addition, TASER does not design our  
19 studies for us. In fact, they are not part of  
20 that process. We are simply their mechanism to  
21 accomplish work to learn more about these devices.

22           And then lastly, before any of our work gets  
23 published, it must go through a scientific peer  
24 review process, and I'm not sure if anybody has  
25 talked about that in earlier testimony. But in  
26 order to get published in the medical arena in any  
27 of these scientific journals, our work has to pass  
28 through not only the publisher and the editorial  
29 staff, but also generally two to three of our peer  
30 colleagues, that have to go through not just the  
31 science and the methods, but also things like  
32 funding sources and that sort of thing. It has to  
33 satisfy all of that from an ethical standpoint  
34 before it will be allowed to be published. So any  
35 of the work that I'm presenting to you today has  
36 gone through all of that.

37           What I'd like to do today is just first of  
38 all some of the objectives that I have are, number  
39 (1) to frame the issue: Why are we actually doing  
40 this type of research? And, you know, the issue  
41 really is, is that there's a perception that  
42 oftentimes after Taser is used it somehow causes  
43 people to die. And so that's the big question  
44 we're asking in the research lab is, is there a  
45 connection here?

46           What we've found so far is that there appears  
47 to be a misperception on a lot of folks'

1 understanding of this when they look at those two  
2 events, and that seems to come from, number (1) a  
3 misunderstanding of electricity, and number (2) a  
4 misapplication of logic. And I am just going to  
5 spend a couple of minutes talking about each of  
6 those points.

7 I would also like to present all the latest  
8 human research that has come out of my lab to you  
9 so that you can be well-informed on that, and  
10 certainly answer any of your questions that come  
11 up.

12 So the question here is why do people die  
13 after arrest? First of all, I think it's  
14 important to put this in sort of the global  
15 perspective. From a historic precedent, if you  
16 look at arrest related deaths or sudden custodial  
17 deaths, these have been documented back into the  
18 mid-1800s. If you look at that and you go back  
19 and search the medical literature, there have been  
20 waves of interest in police tactics and police  
21 devices on whether or not they are somehow  
22 causative or associated with this sudden event.  
23 Things like pepper spray, the hogtie position,  
24 prone positioning of prisoners, neck restraints,  
25 now it's the Taser device, all of these have been  
26 looked at and people have tried to make a  
27 connection one way or another.

28 The interesting thing about this is that  
29 again if you go back historically, people have  
30 been dying in custody since before any of these  
31 devices or tactics were utilized. So intuitively,  
32 that doesn't necessarily make sense if we're  
33 focusing on a single device or a single tactic.  
34 So you have to ask yourself, are we really  
35 focusing on the correct problem?

36 Today the public focus is on Taser, because  
37 that happens to be the latest technology in modern  
38 society, and again that's the reason I am  
39 embarking on much of this research is to answer  
40 that question.

41 As far as just briefly the misunderstanding  
42 of electricity and the general public, the  
43 interesting thing about this is we're taught when  
44 we're little, you know, that electricity is  
45 dangerous. You shouldn't touch wall sockets. In  
46 the United States we have electricity as a form of  
47 capital punishment. So there is this perception

1           that electricity is very, very dangerous, and it  
2           can be under certain circumstances. So I think  
3           that that sort of adds to the perception problem.

4           When you look at electricity, however,  
5           especially in regards to a Taser device and sudden  
6           custodial death, I have had a chance to review  
7           some of the transcripts of previous testimony, and  
8           I know that a lot has been made of certain types  
9           of cardiac rhythms, such as ventricular  
10          fibrillation and ventricular tachycardia. You may  
11          have heard those from cardiologists and  
12          electrophysiology physicians.

13          Probably the take-home point here, however,  
14          is I think we may be focusing on the wrong rhythm,  
15          so to speak, and that's simply because when you  
16          look at folks that die in custody, and there are  
17          several relatively good studies out there that  
18          examine presenting rhythm, and myself in my own  
19          practice, I've taken care of perhaps a dozen of  
20          these people where they have collapsed right in  
21          front of me in the emergency department, and we  
22          have the advantage of having them on the cardiac  
23          monitor. Ventricular fibrillation and ventricular  
24          tachycardia are not the presenting rhythms, and  
25          that is independent of whether a Taser has been  
26          used or whether pepper spray has been used or  
27          whatnot. When people die suddenly in custody,  
28          that's generally not the rhythm that you see. It  
29          tends to be things like pulseless electrical  
30          activity or asystoly.

31          Now, you may have heard this also, but I just  
32          wanted to comment that a physician earlier this  
33          week had testified that his recommendation would  
34          be that a defibrillator should be available to  
35          anybody who a Taser is applied to. And again I  
36          think that that is a misunderstanding of what the  
37          data actually shows, because the folks that are  
38          collapsing in custody are not dying from a  
39          ventricular fibrillation problem, and that is the  
40          only problem that a defibrillator will fix. These  
41          other rhythms they do not fix. So again I think  
42          there's a little bit of a misunderstanding on  
43          that.

44          So then you have to ask yourself, if we're  
45          not looking at ventricular fibrillation, or  
46          ventricular tachycardia, and there's been a  
47          historical documentation of sudden custodial death

1 long before Taser has been around, what exactly is  
2 the problem here that we're looking at? Is there  
3 a connection somehow?

4 The other thing I'd like to make the point on  
5 - and this a very easy misapplication of logic to  
6 make, I see this in many of my colleagues that I  
7 work with every day at the hospital - there is  
8 something called a *post hoc* fallacy which  
9 basically says that after something occurs it  
10 occurred because of the action that directly  
11 preceded that. So, for instance, in a case like  
12 this if a Taser is applied to somebody and they  
13 subsequently go on to die, the Taser must somehow  
14 have participated or contributed to that event.

15 Now, that is a commonsense way of looking at  
16 it, however, it does not always hold up to  
17 scientific scrutiny, and I will give you a good  
18 example of this. Not too many years ago people  
19 used to believe that the sun rising had something  
20 to do with roosters crowing, and that because the  
21 rooster crowed, the sun would rise, and that would  
22 be sort of a natural, logical fallacy to make,  
23 that if the rooster crows, the sun rises, those  
24 two events are related. The problem with that is,  
25 is you need to have a scientific evaluation of  
26 both events to either validate that or refute the  
27 connection there.

28 What the *post hoc* fallacy doesn't take into  
29 account on the rooster analogy that I'm giving you  
30 is that it doesn't discuss things such as the  
31 diurnal nature of roosters, which means they're  
32 going to crow no matter what. It doesn't take  
33 into account the laws of the solar system, which  
34 means the sun is going to rise no matter what.  
35 And when you look at those two independently and  
36 you actually do a scientific study of both of  
37 those, you come to the conclusion that those two  
38 events are not related by any means, even though  
39 they are closely related in time. They have  
40 nothing to do with each other. So again that is  
41 sort of the misapplication of logic that I want to  
42 put forward there.

43 We are also at risk for that type of  
44 misapplication if we don't do a study of the  
45 entire complex of problems here. So not just the  
46 person that is at highest risk for sudden death,  
47 but also the devices that may or may not

1 contribute to those. Those are all things that  
2 have to be looked at independently in order to  
3 come to a conclusion.

4 As far as getting to the meat of the subject,  
5 which is presentation of my data, when we approach  
6 this in my lab with regard to researching these  
7 devices, I've heard a lot of people say, well, you  
8 should research these like medical devices, or the  
9 fact that they are designed to be less than lethal  
10 or non-lethal, you should research them as such.  
11 But I just want to make it very clear that from  
12 seeing both sides of the spectrum on this, that  
13 these devices are designed to help solve high risk  
14 situations, and so any time that you are in a  
15 situation like that, no matter what tactic or tool  
16 is being used there, it needs to be evaluated as  
17 such, so it needs to be evaluated under those  
18 types of circumstances and you need to take all  
19 those factors into consideration.

20 The other thing I'd like to point out is -  
21 excuse me - whenever we start something in my lab,  
22 we always start with a very open-ended question,  
23 and that is the question of what would happen if?  
24 So, for instance, if I were to use a Taser on  
25 somebody, what would happen? That's a very broad  
26 question. There's a lot of factors that we do or  
27 don't control for in that, but we just want to  
28 know what is the general outcome there.

29 The problem with some of the studies that  
30 I've seen out there, and I've seen these thrown  
31 around by a lot of different folks, where they'll  
32 talk about animal studies, they'll talk about  
33 certain other studies that are out there, is they  
34 have not necessarily started with the question of  
35 what happens if? They have started with the  
36 question of can I cause something to happen? And  
37 certainly if you manipulate your testing model or  
38 you use a very specific biased methodology, you  
39 can certainly cause many things to happen that you  
40 could almost predict would happen.

41 So I give an example. I'm aware of an animal  
42 study where they were able to show - and you may  
43 have heard this term - cardiac capture in a pig.  
44 Well, one of the ways that they were able to show  
45 that was by taking all of the skin and the fat  
46 away from the pig and then drilling a hole through  
47 the chest and filling that hole with conductive

1 electric gel, and then putting the electrode from  
2 a Taser device into those holes so you basically  
3 have a tunnel of electrode gel in direct  
4 connection with the heart. And then they said,  
5 look, we were able to cause cardiac capture.

6 I guess I'm a little sceptical of that  
7 because that does not represent real world  
8 situations. That's not how Tasers were designed  
9 to be used. It's -- we don't go around  
10 manipulating people or animals prior to their use.  
11 So again I think it all depends on how you ask the  
12 initial research question before you start your  
13 research.

14 With that I'd like to just spend one more  
15 slide talking a little bit about animal research  
16 again, because a lot of this has been brought up  
17 in the past and I have had to respond to this  
18 many, many times. My own personal take on this is  
19 that animal research is very, very valuable. We  
20 use it a lot in medicine, but it has a limit.  
21 Animal research can certainly point us in certain  
22 directions, and the problem with that is you have  
23 to interpret the results with great caution,  
24 because you're not dealing with the same model,  
25 such as a human, if that's what your end result is  
26 designed to test.

27 So, for instance, animals are anatomically  
28 different than humans. So to say that a certain  
29 result occurs with certain positions of electrodes  
30 or something on a pig is a little bit different  
31 than saying that it happens on a human, because  
32 we're built differently.

33 Secondly, if you look at all the animal  
34 studies to date that have been showing concerning  
35 effects, one of the biggest problems in these  
36 studies is that they're showing concerning effects  
37 with smaller mass animals. We're not using these  
38 on smaller mass human beings. We're using these  
39 on generally full-sized adults, which are in  
40 general much larger than the animals that are  
41 being used in the lab. So you have to be a little  
42 careful about making translational comparisons  
43 there.

44 The other thing that has been very  
45 interesting to me as, you know, primarily I do  
46 human research, is when these animal studies come  
47 out I read them with great interest and they

1 again, like I said, they point me in certain  
2 directions, and so we'll go to the lab and study  
3 some of those problems on a human model. And we  
4 now have two very specific studies where we are  
5 not finding the same, or we're not able to  
6 replicate or find the same concerning findings  
7 that they did in the animal study.

8 I'm going to talk about both of those, but  
9 I'll give you just a brief example of one of them.  
10 About a year ago there was a lot of interest in  
11 the fact that under certain circumstances when a  
12 Taser would be applied to, in this case it was a  
13 swine or a pig, the pig would stop breathing. And  
14 the animal researchers at the time came up with  
15 sort of the aha, we have found what is happening  
16 here. A Taser is probably preventing somebody  
17 from breathing and causing them to suffocate, and  
18 that's why people are dying in custody. That's a  
19 really interesting theory. However, when we do  
20 that same exact experiment on humans in the lab,  
21 what we're finding is that humans breathe, every  
22 single one of them, and so we are not able to show  
23 that humans don't breathe, and so that's where  
24 there's a breakdown sometimes between animal and  
25 human research.

26 We think that may have to do with probably  
27 not just the animal as the model, but also the  
28 fact that in doing animal research you are subject  
29 to limitations from things like anaesthetics and  
30 other ethical concerns that you have to follow  
31 there. So again that's just a good example of  
32 where human and animal research diverges. And I'm  
33 going to give you another example of this towards  
34 the end of the presentation.

35 So just indirectly here's some existing human  
36 evidence. This doesn't come from my lab. This  
37 actually comes from TASER International, and this  
38 is something as I read through I'm aware of, and  
39 so we've kind of kept this in the back of our  
40 minds.

41 TASER International has estimated exposures  
42 to over 675,000 volunteers with no deaths  
43 occurring. Now, many of these exposures have been  
44 in various different positions on the body. They  
45 are not all to the back. I know that somebody  
46 testified earlier this week that all the research  
47 that's been done has been exposures to the back

1 and that is not true, and I'm going to explain to  
2 you why that is not. At least coming out of my  
3 lab, we have plenty of numbers where that's not  
4 true. And that it's only been done to healthy  
5 people and things like that.

6 Well, what I want to explain to you today,  
7 here's the demographics of my study population.  
8 When we do our studies, we recruit - recruit is  
9 probably the wrong word - but we ask for  
10 volunteers in people who are participating in  
11 training courses. These are not necessarily  
12 healthy people. I know that earlier this week it  
13 was also said that only healthy volunteers have  
14 applied for this. Actually, if you read all of  
15 our papers, we list their health concerns. They  
16 are asked to fill out a health summary. Many of  
17 them are on controlling medications for various  
18 different problems, including high blood pressure,  
19 diabetes, prior stroke symptoms, prior heart  
20 attacks, coronary artery disease. So they have  
21 the gamut of problems.

22 The other thing is most of our volunteers are  
23 older in age from the standpoint that if you were  
24 to believe that we were using only healthy young  
25 recruits, 18, 19, 20 years old, that's not  
26 entirely true. In fact, our average age for  
27 participation in our studies is about 40 years  
28 old. So we're using a middle-age population, if  
29 you will.

30 We're also using folks that generally, if you  
31 look at our papers, we describe their body mass  
32 index as one of the parameters. We're using folks  
33 that have high body mass index parameters, and  
34 that is probably a sad statement on the general  
35 health of North American population. Everybody's  
36 getting a little larger. But if you look at the  
37 numbers that we're using and the weight and  
38 indices of our volunteers, they border on  
39 overweight to obese. And if you were to look back  
40 at the studies that have been done on arrest-  
41 related deaths and the people that actually die in  
42 custody, they are not 18-year-old folks. They are  
43 not people that are super skinny. These are  
44 people that are higher body mass index with other  
45 health problems, just like what our audience or  
46 subject population is in our studies.

47 And again, the last thing I want to address

1 is I know that it was brought up earlier that in  
2 my studies, everybody was done at rest with probe  
3 positioning to the back, and that's not true. I'm  
4 going to walk you through several of our studies  
5 and explain exactly how we did that.

6 These are just photos of our lab, so that you  
7 get an understanding of what our lab actually  
8 looks like. Our lab is somewhat mobile. We can  
9 take it from training site to training site to  
10 recruit volunteers. We do not do this out of, you  
11 know, Joe's Garage, and we do not just walk up to  
12 somebody and expose them to a Taser. We do a very  
13 methodical evaluation of each subject. They  
14 undergo informed consent.

15 If you'll notice in this top picture here,  
16 I'll just point with my arrow, this is an  
17 ultrasound machine. Right next to it, this white  
18 device here is a breathing machine.

19 The question came up earlier about my  
20 disclosure about funding. And what I will say is  
21 that just to be aware that the reason that we take  
22 outside funding for some of these studies is  
23 because these pieces of machinery alone are valued  
24 at well over \$100,000. So we would be unable to  
25 do this type of medical research without being  
26 able to pay for these types of devices to measure  
27 parameters.

28 Oh, thanks.

29 The other thing I will show you is what we're  
30 doing here and right here, is we are actually  
31 using an ultrasound machine, and here's a screen  
32 of one, here's a screen of the other. We are  
33 getting real-time information. We're watching the  
34 heart to see exactly what it does during an  
35 exposure.

36 Again in reference to prior testimony this  
37 week I know that a lot was made about the fact  
38 that we don't do EKGs during the Taser exposure of  
39 these individuals. And that is certainly because  
40 of the electrical artefact, and I think that that  
41 was articulated well during the previous  
42 testimony. However, we're doing one better, and  
43 what we're doing is we are actually looking at  
44 what the heart is doing in real time, so we're  
45 doing that before, during and after our Taser  
46 exposures in all of these studies.

47 I'd like to take you through just the next

1 few slides, and just going through some of the  
2 pertinent research that we have put out there,  
3 just so that there is a very clear understanding  
4 of what it is we have and have not found.

5 This is a study that I'll take you back to in  
6 2006. This was a very first study. This may be  
7 the study where people are misunderstanding that  
8 our population is resting. Indeed, in this study  
9 itself, just this one alone, our population was  
10 resting adults. The reason they were resting is  
11 this was our very first attempt at gathering that  
12 "what if" question.

13 So what happens if we just expose somebody to  
14 a Taser? We really weren't sure what the  
15 physiologic changes were. We had to start  
16 somewhere. So our baseline study, number (1)  
17 right here, was done on people at rest. And I  
18 think that makes a lot of sense from a scientific  
19 standpoint. You can't jump in the middle of a  
20 question without knowing what your baseline  
21 parameters are, and that's what we did.

22 In this study we had 66 volunteers, and  
23 indeed they were all shot in the back with a Taser  
24 device from approximately seven feet. Our  
25 volunteers in this included not just police  
26 officers, but many medical professionals, and  
27 that's true of all of my studies. Most of my lab  
28 staff volunteers to go through this, so it's not  
29 again just not healthy recruit police officers.  
30 We're getting a bigger mix of populations. So I  
31 just want to make sure that that's understood.

32 We did not find significant findings on this.  
33 And one of the things that was made, point in  
34 question in earlier testimony, was that we  
35 utilized serum bicarbonate as a measure of  
36 acidosis on this. And that was simply because it  
37 was impractical to draw arterial blood to measure  
38 a direct pH. And from an emergency medicine  
39 standpoint, and again I know that the prior person  
40 who testified may be more familiar with pH, but I  
41 am under the impression that that is because in  
42 his setting where he works in an operating room,  
43 that's what's available to him. In my setting in  
44 the emergency department, we don't always have  
45 those types of testing available to us, and so  
46 we're using our own measures in what's considered  
47 standard of care in emergency medicine to evaluate

1 acidosis. And that was one of the conditions and  
2 one of the findings that we looked at.

3 We did not find findings of acidosis. The  
4 other thing that's not listed in this title that  
5 you should be aware of is that this was only a  
6 single five-second exposure. So again if you read  
7 this paper, and you read only this paper, you  
8 would come away from this thinking that only our  
9 research deals with people who are exposed in the  
10 back for five seconds at resting condition. And  
11 again that's our baseline study.

12 I want to take you to our second study listed  
13 here. This one came out in 2007, and this was  
14 designed to address that breathing question that  
15 we talked about earlier. The interesting thing  
16 here is that we embarked on this because we wanted  
17 to look a little bit more at that breathing  
18 parameter, of what happens if you expose a Taser  
19 to somebody, what happens to their breathing  
20 pattern?

21 What we did was we took our volunteers. We  
22 increased our exposure time to 15 seconds, and we  
23 did it in both 15 continuous seconds. We also did  
24 it in 15-second total increments of five seconds  
25 each, so it was five seconds of exposure with a  
26 one-second break, and then five seconds of  
27 exposure with a one-second break, and then five  
28 seconds of exposure. And we did that to simulate  
29 essentially the two types of exposures that  
30 someone would get in the field. In other words,  
31 if a Taser is applied to somebody in the field,  
32 it's either going to be continuous or it's going  
33 to be intermittent with a few different exposures,  
34 if there's going to be multiple exposures made.

35 During this test, and I'll show you a picture  
36 of this, all of our volunteers wore a form-fitting  
37 neoprene mask that measures all inspiratory and  
38 expiratory parameters. And again as a very  
39 expensive piece of machinery, what we were able to  
40 measure before, during and after respirations  
41 during this, and what we found was that one of the  
42 parameters that we measure, which is called minute  
43 ventilation, actually gets better during a Taser  
44 exposure. People hyperventilate during a Taser  
45 exposure.

46 The implication of that is -- I know that you  
47 spent some time having someone talk with you a

1 little bit about acidosis earlier in the week, and  
2 the condition of acidosis, the first thing your  
3 body wants to do to sort of buffer that or take  
4 care of that condition, is to speed up your  
5 breathing to blow off some excess carbon dioxide.  
6 And so what we found is that during this exposure  
7 to Taser for 15 seconds, people are actually to do  
8 that. They're actually able to hyperventilate and  
9 blow off that excess carbon dioxide. So contrary  
10 to what the animal studies showed, we found  
11 exactly the opposite result here in the human lab.

12 This is just a pictorial example of what this  
13 is. You see our volunteer wearing the form-  
14 fitting mask here. They're hooked up to this,  
15 it's an infrared gas sensor, and then basically  
16 the machine is out here with the computer.

17 We have our EKG leads hooked up so we get  
18 immediate before and after EKGs on all of our  
19 subjects. And so one of the things again that was  
20 mentioned was people were critical of whether or  
21 not we got EKGs or blood tests immediately  
22 following our testing, and, yes, we did. They  
23 were within seconds of the exposure being over.  
24 All of our testing is done before at baseline,  
25 then we give the test exposure, and then we draw  
26 our lab parameters immediately following. And we  
27 follow those out for 24 hours. So they get --

28 THE COMMISSIONER: Just a minute. Were you able to do  
29 it during the Taser was on?

30 A As far as the EKG?

31 THE COMMISSIONER: Yes.

32 A We were not able to do EKGs during the Taser, and  
33 that's because of the electrical artefact that's  
34 showing.

35 THE COMMISSIONER: Yes. That's what we were told.

36 A Yeah, and what I want you to be very clear on is  
37 my very last study that I'm going to show you goes  
38 one better than that, and I will explain why that  
39 is, okay? I think it will answer your question.

40 If you look at our -- these are just our  
41 sample values from this volunteer. Our minute  
42 ventilation before the exposure started was 13.2.  
43 Their pH again, which in this study we did measure  
44 pH, which is that measure of acidosis, is 7.4 and  
45 that's completely normal for humans. During the  
46 15 seconds their minute ventilation goes up to  
47 almost 19, so this is an increase in their

1 breathability. All right, that's an important  
2 distinction to make. That's not what is found in  
3 animals. And their pH afterwards, if they were  
4 going to be acidotic from this, should be  
5 dropping. And right here we don't see that. And  
6 again this pH value is then followed out for 24  
7 hours and we don't find any changes in that.

8 I know there's a lot of information on this.  
9 Do you have any questions on this before I move  
10 on?

11 THE COMMISSIONER: No, that's fine.

12 A Okay. One of the other studies that we have done,  
13 and this one is in press right now. This will be  
14 coming out published later this year. And this  
15 may be why the prior presenters may not have been  
16 aware of this. As you know, when we publish  
17 something, once it's in press or once it's been  
18 submitted, we can't really divulge it until it  
19 comes out in print, otherwise we sort of violate  
20 the ethics of medical science publications.

21 But what we have done here is we actually  
22 took volunteers and we got them into an exhausted  
23 acidotic state. So we had them do a series of  
24 anaerobic exercises and we validated with their  
25 blood work that they were acidotic, and that was  
26 to simulate things like fighting with a police  
27 officer or fleeing from them, or something like  
28 that. We then exposed to 15 seconds of the Taser.  
29 And again our exposures have gone from five  
30 seconds to ten to 15, sometimes longer than that,  
31 on all of our studies because again we're trying  
32 to see if there's any changes with prolonged  
33 applications. And again what we're finding is  
34 that we were able to cause acidosis by having them  
35 go through that series of exercises, but then  
36 application of the Taser on top of that for 15  
37 seconds did not worsen that acidosis that is  
38 already present. So I think that that's a key  
39 point to remember. So again you may have heard  
40 testimony earlier in the week that we only do our  
41 subjects at rest and that's not true. And again  
42 this will be published later this year.

43 This one I will just spend a very brief  
44 amount of time on. This was a retrospective  
45 study. Basically you can't do an ethical study  
46 utilizing volunteers, human volunteers with mental  
47 illness. And so the best that we can do to

1           extrapolate data from that is in a retrospective  
2           format.

3           What we did here was we garnered police  
4           calls, and again this is in the United States.  
5           But we garnered police calls involving emotionally  
6           disturbed persons, and what we filtered out for  
7           was any time their behaviour met the standard in  
8           the United States of the officer on the scene  
9           being able to use deadly force against them to  
10          stop that encounter. We measured how often a  
11          Taser was utilized and how often it was  
12          successful, and that was 45 percent of the time.  
13          So that's almost one in two, which is a very, very  
14          significant finding. And this is out in the  
15          *American Journal of Emergency Medicine*. It came  
16          out last year. So you can find that.

17        THE COMMISSIONER: And maybe you'd just better explain  
18          that further. What does your 45 percent  
19          represent?

20        A        Okay. The 45 percent represents that 45 percent  
21          of the time the Taser was used to successfully end  
22          that conflict when justifiable deadly force could  
23          have been used otherwise. So in other words, if a  
24          Taser had not been at the scene, these are cases  
25          where, for instance, somebody is having an  
26          emotional disturbance and the police officers show  
27          up and maybe they have a knife and they threaten  
28          the police officers with the knife. In the United  
29          States, and I'm not sure if it's the same as in  
30          Canada, that would be a justifiable encounter  
31          where the police officers could use deadly force  
32          if they felt they were threatened by that person  
33          with that weapon. Forty-five percent of the time  
34          the Taser solved that problem without them needing  
35          to go that direction.

36        THE COMMISSIONER: And is one to infer that 55 percent  
37          of the time a weapon was used?

38        A        55 percent of the time --

39        THE COMMISSIONER: A firearm was used?

40        A        -- some type of weapon was used.

41        THE COMMISSIONER: Some type.

42        A        Not necessarily a firearm. Not all of these  
43          resulted in death. We only filtered for the cases  
44          that could have resulted in death, and which ones  
45          the Taser actively solved. So in some of these  
46          also I'm sure the baton was used. We didn't  
47          examine that. Pepper spray may have been used.

1           It may have been, you know, just whatever,  
2           tackling the person or distracting them or  
3           something like that. And some of these, yes, did  
4           result in firearm fatalities.

5           Do you have any further questions on that?

6           THE COMMISSIONER: No, that's fine.

7           A        Okay. I would also like to just spend a brief  
8           amount of time on this one that was presented in  
9           two different medical forums. This was again our  
10          exhausted adult population. We did measure EKGs  
11          before and immediately after, and then followed  
12          their EKGs out for a period of 24 hours on these  
13          exhausted adults, and this was after the 15-second  
14          exposure.

15          The reason I point this out is again, and  
16          you're aware of this, that you can't do the EKG  
17          because of the electrical artefact during the  
18          exposure. But some of the testimony that I've  
19          seen suggests that application of a Taser would  
20          cause somebody to have a funny rhythm that might  
21          persist for a few minutes afterwards, and we are  
22          not finding that, and we're not finding that in  
23          people who are physically exhausted or acidotic.  
24          That's what this work represents.

25          The second study on this page that I will  
26          call your attention to is one where we took our  
27          volunteer subjects and the question we asked is  
28          what happens when a Taser is combined with someone  
29          who is under the influence of alcohol? At least  
30          in the United States that's a very common  
31          occurrence. I'm going to say at least two-thirds  
32          to three-quarters of our encounters involving  
33          Taser also involve some type of intoxication and  
34          most likely alcohol is one of the easiest things  
35          for our population to get.

36          So what we wanted to do was take our study  
37          subjects. And again these were not young healthy  
38          recruits. I think our oldest person in this study  
39          was into their mid-fifties, a variety of different  
40          health problems. We used a certain protocol to  
41          get them intoxicated to a level of at least 0.08  
42          and the average intoxication level of the  
43          volunteers was 0.11. After that, we subjected  
44          them to 15 seconds of Taser application and again  
45          the probe position was in a variety of different  
46          places. This was either across the chest, it may  
47          have been across the back, it may have been across

1 the extremities. We simulated real world  
2 applications of these devices.

3 And the only thing that we were able to find  
4 from this, and again this is being written up  
5 right now and going through the peer review  
6 process, but the only thing that we were able to  
7 find with this is that prior to the Taser even  
8 being applied, is that our findings are consistent  
9 with what is known on the alcohol literature, and  
10 that is alcohol consumption to an extreme causes  
11 people to slow down their respirations. And that  
12 makes complete sense if you think about people  
13 becoming intoxicated and then what they want to do  
14 is go home and sleep and they tend to snore and  
15 those types of things. So it is a respiratory  
16 depressant, alcohol is, in and of itself. We did  
17 not find anything that was significant  
18 physiologically when combined with exposure to a  
19 Taser.

20 One of our other studies that we looked at  
21 here. This was an interesting one because I know  
22 you've heard of the condition "excited delirium"  
23 earlier today. And just before I get too far  
24 afield on that, I know there's debate among  
25 medical folks on whether excited delirium does or  
26 does not exist. I've been asked this question  
27 many times. I have seen the condition that is  
28 described as excited delirium. I've taken care of  
29 many patients with this before. I've had some of  
30 them die in my care. So in my mind there is no  
31 question that that condition exists.

32 We can talk about the semantics of it,  
33 whether you want to call it "excited delirium" or  
34 "extreme delirium", or something like that. But  
35 that condition with those factors does exist in  
36 medicine. And anybody who will tell you that it  
37 doesn't exist because it's not in the DSM-IV or  
38 it's not in the ICD-9 codes, is probably they're  
39 making a semantic argument but they're not making  
40 a valid argument, and I'll give you an example of  
41 this.

42 We utilize at our hospital a billing system  
43 where in order to bill somebody for their hospital  
44 visit, I have to choose a code that is recognized  
45 by the International Classification for Disease.  
46 One of the codes that is not in there is stab  
47 wound to the chest. And the reason I know this is

1 because a few months ago I took care of this  
2 gentleman who had a stab wound to the chest, and  
3 as I'm trying to give him a diagnosis, it won't  
4 let me diagnose that as a legitimate diagnosis.  
5 Now, you can't tell me that stab wound to the  
6 chest doesn't exist, because this guy had a knife  
7 sticking out of his chest. So what I had to  
8 diagnose him with was "Penetrating trauma,  
9 thorax", and that's what the ICD-9 code shows for  
10 "stab wound to the chest".

11 In the same vein that these other entities  
12 may not say the words "excited delirium" but they  
13 do say "delirium with paranoid features", "extreme  
14 agitation with psychosis", "drug-induced  
15 delirium", those are all legitimate diagnoses in  
16 the ICD-9 codes, and again if we're going to  
17 debate about the semantics - I'm going off a  
18 little afield here, but I just wanted to make sure  
19 you understood that - that in my mind that does  
20 exist. We may just argue about the semantics of  
21 it.

22 This study was designed specifically to look  
23 at one factor of excited delirium, or whatever you  
24 choose to call that, and that is you may have  
25 heard that in many cases folks with this sort of  
26 extreme agitation or excited delirium often  
27 present with very elevated core temperatures.  
28 It's not uncommon for them to come to the  
29 emergency department and have temperatures of 107  
30 or 108 degrees Fahrenheit in these conditions.

31 What we wanted to find out was if you apply a  
32 Taser to somebody and it causes their muscles to  
33 contract, one of the prime mechanisms for  
34 generation of body heat is contraction of your  
35 muscles. So when you go out and exert yourself or  
36 you shiver, those are all forms of contracting  
37 your muscles. We wanted to know does that  
38 contribute to causing temperature elevation and  
39 perhaps contribute to an excited delirium piece of  
40 the condition here?

41 What we did is we had them swallow one of  
42 these devices here on the left, these little  
43 purple pills. They're very small and they just  
44 kind of go through your GI tract and they're in  
45 there for about 72 hours. Within this pill is a  
46 micro-transmitter. It measures core body  
47 temperature every five seconds and shoots the

1 reading out to this device that they wear on their  
2 belt. And so the volunteer was asked to swallow  
3 this pill, wear this device for the next 24 hours,  
4 and then at some point during that 24-hour period  
5 we exposed them to a 15-second taser discharge.  
6 We're able to time-stamp exactly when we give the  
7 discharge, so we know on the temperature readout  
8 when we collect this data afterwards what that  
9 looks like. And when we run this through, we  
10 found zero core temperature elevation in  
11 association with the Taser device exposure. And  
12 so this is also in press right now. It's coming  
13 out in the *Journal of Forensic Science* later this  
14 year.

15 A couple of other areas that we have had to  
16 take a look at, and I think they were sort of  
17 legitimate questions that came up. But we wanted  
18 to see if what we had done to date was all of our  
19 exposures had involved, you know, the assumption  
20 that deployed probes from a Taser are sort of the  
21 worst-case scenario. What we were seeing was a  
22 lot of criticism that while we think that perhaps  
23 the drive-stun, which is that contact method of  
24 application, is perhaps worse than deployed  
25 probes. And that's simply because you're  
26 concentrating the focal area of applied  
27 electricity. And so we were wondering if that is  
28 true, and so we've embarked on some drive-stun  
29 studies to see if any of our parameters change  
30 with that.

31 These two have been presented and in fact  
32 we're going to be presenting another one later on  
33 this year in Toronto. But basically prolonged  
34 Taser drive-stuns, and these are 10- and 15-second  
35 drive-stuns, we're not able to find worrisome  
36 changes in serum biomarkers for physiologic  
37 damage. All of those things that we check, and  
38 again we're looking before and after, and we  
39 follow them out for 24 hours.

40 This other one is quite interesting as well.

41 One of the --

42 THE COMMISSIONER: Just excuse me.

43 A Yes, I'm sorry.

44 THE COMMISSIONER: When you say, "change in  
45 physiology", we all know the effect by reason of  
46 the videos and so on, when you use it in the probe  
47 mode on --

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1 A Yes.

2 THE COMMISSIONER: -- the muscles --

3 A Yes.

4 THE COMMISSIONER: -- and the person falls. By the use  
5 of your term "change in physiology", I take it  
6 you're meaning that doesn't happen?

7 A No. That's a good question. Let me just explain.  
8 What I am meaning by the term "physiology" here is  
9 concerning not the fact that it may cause pain or  
10 it may cause your muscles to contract. What I'm  
11 meaning here is that we are examining for  
12 physiologic changes at the microscopic level that  
13 would be associated with a bad outcome, death,  
14 injury, those types of things, and we're not  
15 finding that. So when we look at things like  
16 markers for cellular damage, cardiac enzymes,  
17 those types of physiologic biomarkers, we're not  
18 finding changes in those.

19 Did that answer the question?

20 THE COMMISSIONER: Yes.

21 A Do you understand that? Okay.

22 The second study here is that what we looked  
23 at here was a drive-stun specifically to the  
24 shoulder area. And the reason this question came  
25 up is you have a nerve that runs very close to  
26 your neck here and runs down sort of behind your  
27 shoulder. It innervates the heart and then there's  
28 also a very close connection to the spinal cord,  
29 which goes straight up into your brain. There  
30 have been some critics that have said that if you  
31 use this area of the trapezius or the shoulder in  
32 a drive-stun fashion, you can actually cause  
33 damage to some of these nerves here. And you can  
34 either cause people to stop breathing, you can  
35 cause their heart to stop, you can cause them to  
36 have seizures. And again we haven't seen this but  
37 we went to the lab to look at this.

38 This particular study was looking at whether  
39 or not breathing occurs during that type of an  
40 exposure. What I'm going to show you on the next  
41 slide is an actual ultrasound of the person's  
42 diaphragm and the fact that they're breathing  
43 during this ten-second drive-stun to that  
44 particular area.

45 So what you have here is this bright white  
46 line right here depicted by the arrow is the  
47 person's diaphragm. And the diaphragm is a large

1 muscle that sits underneath your lungs. When you  
2 breathe, your diaphragm -- when you take a breath  
3 in, your diaphragm expands downward, and when you  
4 take a breath out, your diaphragm expands upwards.  
5 So when you breathe your diaphragm will move back  
6 and forth in rhythmic fashion.

7 What you'll see here again, and this is an  
8 interesting way of confirming respiration, you  
9 will see the person at rest with the diaphragm  
10 moving back and forth, and then you will see  
11 depicted in some yellow letters here the Taser  
12 drive-stun will be applied. You will see their  
13 diaphragm start to move faster. So I'm going to  
14 play that right now for you.

15 No, maybe I'm not. All right, there we go.

16  
17 (VIDEO PRESENTATION)

18  
19 So this is them at rest. They're breathing  
20 normally, rhythmic movement up and down of the  
21 diaphragm. You will see the Taser drive-stun come  
22 on now. You will see their diaphragm move much  
23 quicker. So they are hyperventilating at this  
24 time. This is a ten-second exposure to that area  
25 we talked about. You will then see the Taser  
26 drive-stun stop right now, and their breathing  
27 goes back to rhythmic pattern. We were able to  
28 reproduce this in all the subjects that took place  
29 in this study. Now, and again just another  
30 interesting way that we're looking at respirations  
31 and we're not finding any changes with that.

32  
33 (VIDEO STOPPED)

34  
35 Now, this is perhaps the newest study that I  
36 want to bring your attention to, because this  
37 information is not known until actually today it's  
38 being presented in San Francisco. So as soon as  
39 I'm done here, I'm going to try and make it down  
40 there to make this presentation. But this speaks  
41 to the big question of whether or not Taser  
42 application across the cardiac axis or vector,  
43 that I know that prior folks have used that term,  
44 can cause any dysrhythmic changes in the heart or  
45 any funny rhythms. And what we're seeing here is  
46 we are replicating the three animal studies where  
47 they were able to generate cardiac capture and

1 even ventricular fibrillation. You'll notice  
2 exactly where we're putting the Taser electrodes  
3 there, the right sternum, and again here at the  
4 apex of the heart, which we know is something  
5 called the PMI, and that's called the point of  
6 maximal impulse of the heart, and you can feel  
7 that on yourself when you feel your heart beating.

8 We have used this vector, and during this  
9 we're going one better than that EKG question that  
10 you asked earlier. Because we can't check an EKG  
11 during exposure, we are actually visualizing the  
12 heart in real time. We're getting a moving image  
13 of the heart and what it's doing on all of these  
14 folks with ultrasound. We're not finding any  
15 evidence of cardiac rhythm problems in humans when  
16 we do this.

17 So again this is a very good example of a  
18 study where animal data diverges from human data,  
19 and I think, you know, you have to sort of look at  
20 those separately, and at the end of the day we are  
21 using these on humans, not animals, and so I tend  
22 to think that the human data is better than the  
23 animal data, and that's especially when you're  
24 looking at this in a comparative fashion.

25 This is the picture we get, just so that you  
26 know what we're looking at. We are looking at one  
27 of the valves of the heart in an ultrasound in  
28 real time as the Taser is being applied. These  
29 two peaks are evidence that the heart is beating  
30 in normal fashion. It's called normal sinus  
31 rhythm. We got this on every one of our persons,  
32 and in anybody who we lost this picture, because  
33 they were maybe moving around, we used the second  
34 picture here and were able to calculate the heart  
35 rate in all of our subjects.

36 So I know that in the animal studies they  
37 were able to record heart rates of 300 beats per  
38 minute. The fastest heart rate we had during an  
39 exposure, and again these are prolonged exposures.  
40 These are not five-second exposures, these are ten  
41 and 15 seconds. The fastest heart rate we had was  
42 156 beats per minute. That person actually came  
43 into the study before any exposure and had a  
44 resting heart rate that was 110 or 120, something  
45 like that. So they were nervous to begin with.  
46 We did not approach any sort of beats per minute  
47 in the 300 range, or anything like that. Again

1 because of these peaks that we're visualizing  
2 here, this can't be anything other than a normal  
3 sinus rhythm. This is not ventricular  
4 tachycardia. It's not ventricular fibrillation.  
5 You can't confuse those two.

6 So this is pretty clear evidence to us in our  
7 lab that we're not seeing this that they saw in  
8 the animals, we're not seeing this in humans. And  
9 again this is brand new data as of today. It's  
10 just hitting the release as of today. So I'm  
11 thinking that anybody who testified previous would  
12 not have known any of this.

13 Some of our current work that we are still  
14 ongoing.

15 We are looking at other devices that are  
16 coming out. So there are other devices that TASER  
17 is manufacturing with different delivery systems,  
18 such as a shotgun delivery device, and things like  
19 that. So we're looking at that.

20 We're also looking at methamphetamine study.

21 We're looking at still continuing our human  
22 studies with various factors such as increasing  
23 their physiologic stress prior to Taser  
24 application to see if we can make a connection  
25 with anything, and again so far we have not.

26 One of the things, one of the examples that  
27 I'd like to give you on this is we really haven't  
28 seen any connection between Taser and an abnormal  
29 heart rate, or Taser and breathing. And so we  
30 have sort of exhausted that portion of our human  
31 data. We don't think we need to be looking at  
32 that so much any more. We think we need to be  
33 looking at other things.

34 One of the things that we're looking at is  
35 whether or not using a Taser causes somebody an  
36 extreme amount of stress. And the way that you  
37 look at that is by measuring their stress  
38 hormones. We are doing a study where we look at  
39 an exposure to a Taser versus exposure to pepper  
40 spray, or if you didn't have either of these two  
41 mechanisms to control somebody, just plain hand-  
42 to-hand ground fighting with somebody. Which of  
43 these three causes the most stress? And what  
44 we're finding is that ground fighting and hand-to-  
45 hand combat and pepper spray have much more  
46 stressful effects on the body when you measure it  
47 looking at stress hormones than does an

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Questions by Mr. Vertlieb (cont'd)

1 application of a Taser. We believe that this is  
2 because the Taser is sort of an instant on/instant  
3 off phenomena. Once it's off there's no residual  
4 lasting effect, whereas pepper spray hangs around  
5 for many, many minutes afterwards. And so do the  
6 effects of grappling or hand-to-hand combat. So  
7 this is still in its preliminary stage. We're  
8 still working on this. I don't have any final  
9 results to present to you on this at this point.

10 I just want to point out as one of my final  
11 slides that there are validation studies of my  
12 work that are coming out. There has been a lot of  
13 folks, and I understand this because I am also in  
14 the scientific medical profession, where you have  
15 to scrutinize things such as industry funding. I  
16 welcome people validating my studies, and indeed  
17 there are folks coming around behind me and doing  
18 just that with other independent funding sources.

19 The nice thing about this for me is that they  
20 are finding the exact same results I am. They are  
21 just about two, maybe three years behind me on  
22 this. But I welcome them to validate that and  
23 they are doing so, because it makes me know that  
24 we're credible and we're presenting legitimate  
25 evidence here.

26 So I will wrap this up, sir, just by saying,  
27 you know, the things I'd like to leave you with  
28 today are that number (1) beware of the faulty  
29 logic that exists out there, and number (2) the  
30 current body of research that is out there that  
31 involves human study on Taser devices has not  
32 shown a connection between Taser and sudden death  
33 events through any mechanism that we are able to  
34 measure known to modern medicine.

35 And I am going to end at this point, and I  
36 would be happy to answer questions, if you have  
37 any.

38 THE COMMISSIONER: Yes, all right. Counsel, do you  
39 wish to begin?

40 MR. VERTLIEB: Yes, thank you, Mr. Commissioner.

41  
42 QUESTIONS BY MR. VERTLIEB, continuing:  
43

44 Q Dr. Ho, you're here today, though, at the request  
45 of TASER, that's why you're presenting here today?

46 A That's correct.

47 Q And Mr. Tom Smith was involved in your process

- 1 about coming here today?
- 2 A Yeah, he called me. That's correct.
- 3 Q Right. And you are from time to time in the  
4 course of all this work paid by Taser as a  
5 consultant?
- 6 A That is correct, for things like speaking  
7 engagements when we go and do educational pieces  
8 and that sort of thing, and it's primarily to  
9 present our work.
- 10 Q And so you were here yesterday. You flew in from  
11 Minnesota yesterday, and you're here today.  
12 You're being paid by TASER to do this work today?
- 13 A Actually, I am not. I am supposed to be in San  
14 Francisco, which is where I'm trying to get to as  
15 soon as this is done.
- 16 Q Okay.
- 17 A So this is a quick diversion up here on my way  
18 down to San Francisco, which is -- I view San  
19 Francisco as purely a research academic endeavour,  
20 and so I do not get paid for the research that we  
21 do.
- 22 Q Now, are you going to be discussing in San  
23 Francisco this human study that you just mentioned  
24 from 2008?
- 25 A If I get there on time, correct.
- 26 Q Has that article been published?
- 27 A No, as I said before, today is the very first day  
28 that you will see that. The way it works in  
29 medicine and science is you develop your project,  
30 you bring your results forward and the very first  
31 venue that you generally put them out to are  
32 things such as medical conferences, which in this  
33 case would be the conference in San Francisco  
34 today. Once it is put forth before all of your  
35 peers, I mean, it's free game to talk about and  
36 disseminate a little bit. But then the real work  
37 begins after that because we have to write up the  
38 final manuscript, so to speak, and then that ends  
39 up going through the peer review process for  
40 publication.
- 41 Q Okay. So what you were just telling us about is  
42 work that's in progress, it hasn't been peer-  
43 reviewed or published anywhere?
- 44 A It's been peer-reviewed to the point to get into  
45 the conference and it has to go through some of  
46 that. It's also been peer-reviewed at my own  
47 institution, but it has not been published yet,

Dr. Jeffrey Ho (Manufacturer presenter)  
Questions by Mr. Vertlieb (cont'd)

- 1 no.
- 2 Q Okay.
- 3 A I will make the point that all of our work that  
4 we've done so far has not failed to be published  
5 for any peer review concerns. So I have no doubt  
6 that this is not going to get in somewhere. We  
7 just have to write it at this point.
- 8 Q All right. So these are some thoughts of yours  
9 you'll be presenting to your colleagues in San  
10 Francisco?
- 11 A Well, they're not just thoughts, they're actual  
12 findings. We're presenting our hard data. You  
13 don't present thoughts at scientific conferences.  
14 You present actual conclusive data.
- 15 Q Now, you mentioned that you're a peace officer.  
16 You're a Deputy Sheriff from Meeker County?
- 17 A That's correct.
- 18 Q Does your police department use Taser?
- 19 A They do.
- 20 Q Now, I just want to be clear about the expertise  
21 that you're bringing here. You're an emergency  
22 room physician, as I understand it.
- 23 A That's correct.
- 24 Q So if someone was discussing delirium, which is a  
25 psychiatric illness, you would defer to a  
26 psychiatrist in a discussion of the subject of  
27 delirium?
- 28 A Oh, not at all. As an emergency physician, I am  
29 the first line that sees all comers with whatever  
30 problem there is, and that includes medical,  
31 psychiatric, whatever the problem is.
- 32 Q Right.
- 33 A So I take care of these people all the time. In  
34 fact, I would actually make the assertion, and  
35 this may be institution-dependent, but at least at  
36 our institution our psychiatrists do not see these  
37 people in the acute phase of their delirium. They  
38 see them after I've stabilized them and they take  
39 care of them as an in-patient.
- 40 Q Okay. Would you defer to a cardiologist in the  
41 subject of the way a heart works?
- 42 A Well, in certain areas, yes, in certain areas, no.  
43 I will tell you that from my specialty emergency  
44 medicine is designed to take care of any critical  
45 problem, actually any problem that presents within  
46 about the first hour or so of care. So for  
47 instance if you came to my hospital in cardiac

1           arrest, I would not be calling a cardiologist to  
2           see you. That would actually be a bad move and  
3           would probably result definitely in your demise.  
4           So I'm the guy that sees you and resuscitates you  
5           and takes care of all of that. So I'm the one  
6           that does know how the heart works under these  
7           certain acute sudden-death circumstances.

8           From a cardiologist's standpoint, and  
9           especially like an invasive cardiologist or an  
10          electrophysiologist, they definitely know how the  
11          heart works, and they do things with it every day  
12          in the lab, but the way that they're inducing  
13          ventricular fibrillation in the lab, the way that  
14          they're taking care of people is on a scheduled  
15          outpatient basis. When they induce ventricular  
16          fibrillation, they are running a catheter up  
17          inside the person and actually touching the heart  
18          with this catheter. So I don't necessarily think  
19          that that means they know anything about how  
20          external current works, because that's not what  
21          they do in the lab. They do it from the inside.  
22          That's a completely different concept.

23        Q       Well, we heard from a cardiologist, he's not doing  
24                it in a lab, he's doing it on real patients.

25        A       Yes. He's doing it in his lab on real patients.

26        Q       Right.

27        A       And that's, I guess, when I use the term "lab" in  
28                that setting I'm not talking about research. I'm  
29                talking about his practice lab. That's where he  
30                does his operative procedures on them.

31        Q       The cardiologist that has been here before you is  
32                a gentleman named Zian Tseng. You know his name  
33                by reputation?

34        A       Well, I can't say I know it by reputation. I've  
35                just seen it in the media.

36        Q       You know he's a cardiologist, electrophysiologist?

37        A       I'm seen him say that, yes.

38        Q       Have you ever thought to pick up the phone and  
39                speak with him about your thoughts on Taser and  
40                his thoughts on Taser?

41        A       Not necessarily, no. I mean, I --

42        Q       Have you ever spoken to him about his thoughts on  
43                the subject?

44        A       I have not. Was he asking to speak with me? I  
45                mean, I'd be happy to call him if...

46        Q       You've never stopped a human heart as part of your  
47                medical work?

1 A Yes, we do.

2 Q Have you?

3 A Yes, in certain circumstances when we have certain  
4 rhythms where we have to use electricity,  
5 defibrillation, cardioversion, even medication, we  
6 can cause temporary stops in the heart rhythm.

7 Q Are you saying that you implant pacemakers in  
8 patients?

9 A No, not at all. I think if I'm giving that  
10 impression I don't mean to say that. What I'm  
11 saying is that there are other things that you can  
12 come in with, other than a need for a pacemaker or  
13 a cardiac arrest. If you come in with a heart  
14 rate, let's say, of unstable ventricular  
15 tachycardia, one of the ways that we're going to  
16 reset your heart to beat normally is to  
17 temporarily stop it with the use of electricity  
18 and allow it to reset itself. So that's what I'm  
19 trying to explain to you is that's my job, I do  
20 that all the time.

21 Q Now, you've talked to the Commissioner at some  
22 length about medical research. What does an  
23 epidemiologist do, to your knowledge?

24 A Well, they are generally folks that are trained to  
25 evaluate trends and statistics, and especially  
26 with regard to public health. They're the ones  
27 that will look at things like if you have a  
28 certain number of cases of, for instance, measles.  
29 They are the ones that are trained to evaluate  
30 whether this represents an outbreak, whether it's  
31 just a spontaneous couple of cases, whether it's  
32 starting to turn into an epidemic. And I know  
33 that there are some that are trained into sort of  
34 tracing it back to a primary event. They can  
35 locate perhaps the initial index patient that  
36 presented with that. That's my understanding of  
37 an epidemiologist, and I'm not one of them.

38 Q Okay. Now, you mentioned earlier testimony about  
39 one of your studies. Dr. Tseng had some caveats  
40 about your 2006 study.

41 A Okay.

42 Q You've mentioned some of the ones he mentioned,  
43 that the vector was across the back and there was  
44 only a five-second application and it was funded  
45 by TASER, I think.

46 A Well, the machinery was funded by TASER. So the  
47 blood work that we had to draw was funded by

1           TASER.

2       Q     He said you had an ECG in 32 of 66 subjects.

3       A     That's correct.

4       Q     But he didn't know why there wasn't an ECG in all  
5           these 66.

6       A     Sure.

7       Q     What is the answer, sir?

8       A     The answer is actually very easy.  It's one of  
9           logistics.  As we were gathering the data, our  
10          intent was to gather an ECG before and after and  
11          then for 24 hours on every subject that went  
12          through there.  The problem with that was we only  
13          had a two-and-a-half-day time period in which to  
14          do this.  And our longest, most time-consuming  
15          event in the data gathering process was the  
16          application of all the EKG pads.  And so we sort of  
17          had to make a critical decision.  Do we try and  
18          get more EKGs on everybody and less in our number  
19          from 66, perhaps, to 25 and get EKGs on everybody,  
20          or should we go ahead and get as much data as we  
21          possibly can on everybody and just do EKGs on the  
22          ones that we have time for?  And that's how we  
23          came up with that 32.  It's also why we have an  
24          odd number of 66.  I've been asked, well, why did  
25          you stop at 66?  Why not stop at an even 100?  
26          Simply because we ran out of time, that's what we  
27          could fit in.

28      Q     I'm just asking because Dr. Tseng had mentioned it  
29           to us and he didn't know why.

30      A     Yeah.  And that's the simple answer is --

31      Q     That's fine.

32      A     -- we couldn't fit in.

33      Q     No, that's fine.

34      A     Believe me, I would love to do a thousand, but we  
35           can't do that.  Not enough time.

36      Q     And Dr. Tseng also mentioned a case where there  
37           had been a gentleman shot with Taser and he  
38           happened to have a pacemaker.  Are you familiar  
39           with that incident?

40      A     I believe I've read the case report.  I'm not  
41           intimately familiar with it.

42      Q     Dr. Tseng was telling the Commissioner that that  
43           was of particular interest because it was the one  
44           time that the actual recording during the Taser  
45           itself was noted.  Do you remember the  
46           Commissioner asked you about that and you talked  
47           about the artefact?

- 1 A Yes.
- 2 Q How have you accounted for that pacemaker case in  
3 your research?
- 4 A I guess I'm not sure of what is your question.
- 5 Q It was apparently a study from Los Angeles.
- 6 A Right. Well, I wouldn't say it was a study. It  
7 was a case report. You have to be a little  
8 careful about that, the difference between studies  
9 and case reports. Case reports report events of  
10 curiosity to physicians, and studies are actually  
11 controlled methodologic processes where you go  
12 through a scientific method, you come to a  
13 conclusion. So, I mean, I think if we're talking  
14 about the same case, the case was reported as an  
15 intellectual curiosity as a case report. It was  
16 not a study.
- 17 Q Now, in terms of studies that were here in British  
18 Columbia and of particular interest to British  
19 Columbians would be deaths that would be proximal  
20 to Taser use, you understand that?
- 21 A Sure. I don't think that's just unique to British  
22 Columbia.
- 23 Q Right.
- 24 A I think that's unique to North America and the  
25 entire world.
- 26 Q We've been told that there were seven deaths in  
27 our province in the last few years proximal to  
28 Taser application. Knowing that you were coming  
29 here, I'm just curious, have you looked at any of  
30 those cases for analysis?
- 31 A I have not.
- 32 Q We were told that in Canada there's perhaps 19 or  
33 20 deaths where Taser was proximal to the death.  
34 Have you looked at any of those cases in your  
35 research?
- 36 A I have not.
- 37 Q On a larger scale, we have heard that perhaps 300  
38 deaths or so in North America where Taser was  
39 proximal, have you looked at that as part of your  
40 research?
- 41 A We do have a project that is involving looking at  
42 that, yes.
- 43 Q That's in progress right now?
- 44 A That's correct.
- 45 Q Earlier at one of your slides you mentioned that  
46 sudden death has been around or known to doctors  
47 for many years going back to the 1800s.

Dr. Jeffrey Ho (Manufacturer presenter)  
Questions by Mr. Vertlieb (cont'd)

1 A That's correct.

2 Q And you mentioned hogtie.

3 A Yes.

4 Q You're a police officer but you would know, I'm  
5 sure, that hogtie, at least here in this country,  
6 is not being used any more. It's not allowed  
7 because of the risk of death.

8 A Yeah, and I think if you look at the data on that  
9 we went through a time period where the perception  
10 was hogtying was the causative aetiology of sudden  
11 death. There have been some studies in the lab on  
12 that that position does not contribute to anything  
13 known again on how you would cause somebody to  
14 die. So that position is actually being allowed  
15 in certain departments making a comeback, so to  
16 speak.

17 What ended up happening was everybody thought  
18 that hogtying - and this goes back to that slide  
19 that I was explaining to you earlier. Initially  
20 hogtying was thought to be the prime culprit,  
21 that's what's causing people to die. So it was  
22 outlawed everywhere. Nobody hogties anybody  
23 anymore. And what happens, people still die. So  
24 that's not the answer.

25 And that's what I'm getting at is that we  
26 also said that about pepper spray, we also said  
27 that about the vascular neck restraint. We've  
28 also said that about prone positioning. Today  
29 we're sitting here discussing whether or not that  
30 applies to Taser. These are bumps in the road of  
31 history where new tactics and new tools come along  
32 and we must look at those, I mean, as a society we  
33 should. But the connections have not been found  
34 there. I think we're not asking the right  
35 questions.

36 Q I just ask you because we're trying to get all  
37 points of view on the subject.

38 A Sure.

39 Q And that's why we're exploring it this way.

40 A Sure. And I guess to answer your question, in the  
41 United States there are many departments now that  
42 do allow that because the literature does not  
43 support that position. And just in addition to  
44 that, those departments that do use that do not  
45 show a higher custodial death rate than  
46 departments that are not using that tactic.

47 Q Dr. Ho, are you aware of any other electrical

1 device that's capable of incapacitation that has  
2 gone to market without independent testing and  
3 government research?

4 A I guess I'm not. I don't stay up on all the  
5 devices that may or may not go to market, and I  
6 certainly don't know what is and what is not  
7 researched out there as far as outside of my own  
8 domain of expertise. I'm not sure if I'm  
9 answering your question, but I'm not sure what  
10 you're getting at, either.

11 Q I just wanted to be clear on this excited delirium  
12 that you mentioned, and I think many would agree  
13 there can be just semantics around it. But in  
14 terms of delirium, are you really saying that you  
15 would know as much about that as a psychiatrist?

16 A Well, when you're talking about true agitated  
17 delirium, I think I would know more about it than  
18 a psychiatrist when it comes to the initial  
19 presentation and taking care of the person as far  
20 as resuscitation, ensuring their safety,  
21 stabilizing their condition. Would I know as much  
22 about it as a psychiatrist perhaps in long-term  
23 care or what's the appropriate disposition of that  
24 person or how long they need to stay in the  
25 hospital for? Absolutely not. I don't hold  
26 myself out to be somebody that cares for patients  
27 that way.

28 Q Now, your studies, you mentioned that people in  
29 some of your studies were subject to exertion of  
30 some sort?

31 A Yes, that's correct.

32 Q And how is that done?

33 A We did a proscribed series of anaerobic exercises,  
34 and what they were it was 45 seconds of push-ups,  
35 as many as they could do, and they were not  
36 allowed to rest in a down position. They had to  
37 rest in an up position. And they had to keep  
38 going until they absolutely just couldn't do any  
39 more push-ups. So that's designed to invoke what  
40 we call anaerobic exhaustion.

41 And let me start over. Before we even  
42 started them on that, we drew their blood so that  
43 we had a measure of what's known as their pH  
44 status. So that before they did anything, we knew  
45 that they were at baseline physiology. We then  
46 had them start their push-up regimen, and  
47 immediately following their push-up regimen, they

Dr. Jeffrey Ho (Manufacturer presenter)  
Questions by Mr. Vertlieb (cont'd)

1 got on the treadmill and ran at eight miles per  
2 hour at an eight-degree incline of elevation, so  
3 it's essentially an uphill sprint on the  
4 treadmill. And they would go for no time limit.  
5 They just had to go until they couldn't keep up  
6 with the treadmill any more. So when they came  
7 off the back end of the treadmill, that portion of  
8 their exercise was done. Immediately following  
9 that we would draw their blood, which would ensure  
10 their pH status to be acidotic, and that's how we  
11 knew that they were exhausted. And we actually  
12 had some very remarkable pH levels, things that we  
13 were not believing that we would see, pHs to get  
14 that low. We actually got them fairly low. And  
15 then we would subject them to their 15-second  
16 Taser exposure, and then immediately draw their  
17 blood work again after that, and that's how the  
18 experiment was done.

19 Q So 45 seconds of push-ups.

20 A Yes.

21 Q And then treadmill. How long on the treadmill?

22 A It's eight degrees of elevation at eight miles per  
23 hour, and they would go until they could not keep  
24 up with the treadmill any further.

25 Q I just don't know how long that would be, would  
26 that be minutes, hours?

27 A Well, I think that depends on -- no, no, not at  
28 all. It depends on your own conditioning. We  
29 probably had some people go as long as two  
30 minutes. Most people didn't go for more than  
31 about 45 or 50 seconds.

32 Q Okay. Now, recently we've seen an article and an  
33 editorial in the *Canadian Medical Association*  
34 *Journal*, a group of doctors at the University of  
35 Toronto have been working at research in this  
36 field. Are you familiar with that research?

37 A With the article or their research?

38 Q With the article.

39 A I'm familiar with the article, yes.

40 Q And have you read the editorial as well?

41 A Which editorial?

42 Q In the same journal.

43 A Is that from Dr. Stanbridge or Stanbrook --

44 Q Yes.

45 A -- or something like that? I have read that, yes.

46 Q So do you agree or disagree with the article and  
47 editorial?

1 A Well, I'm not really sure what -- the editorial, I  
2 think, I felt it was fairly inappropriate for a  
3 deputy editor of a scientific journal to make that  
4 sort of commentary. I got the impression that it  
5 was a fairly biased editorial to begin with, which  
6 I don't believe is the job of a true editor. I  
7 don't agree with his comments in there. For  
8 instance, I believe one of them was talking about  
9 utilization of defibrillators for sudden custodial  
10 death, and again if you remember back to the whole  
11 context of my lecture, that's not the rhythm that  
12 people are having when they die suddenly in  
13 custody. So again we're -- we're focusing on the  
14 wrong problem.

15 With regard to the Toronto article that  
16 you're talking about, that was not a study. That  
17 was more considered what's a meta-analysis. It's  
18 taking a compilation of all the data that's  
19 available and sort of putting it together and  
20 putting it forth in the public sector. I think, I  
21 mean, it is what it is, it's a meta-analysis, it's  
22 not its own freestanding study.

23 Q So let me just read the conclusion just to  
24 refresh.

25 A is this the editorial or is this the meta-analysis  
26 portion?

27 Q No, this is not the editorial.

28 A Okay.

29 Q This is the review article.

30 A Okay.

31 Q

32 Conclusions. Despite many studies suggesting  
33 that stun guns do not affect the heart, the  
34 evidence and studies presented in this review  
35 suggest that in some circumstances stun guns  
36 may stimulate the heart while discharges are  
37 being applied.

38

39 So I think it would be helpful to hear your view  
40 of whether you agree or disagree with that  
41 comment.

42 A Sure. Well, I mean, just on the face of it,  
43 semantically I would agree with that. If you look  
44 at it it's worded, it's crafted very carefully,  
45 it's worded very carefully, "under certain  
46 circumstances" I believe is what the exact quote  
47 is. So again if I went to the lab and I peel away

Dr. Jeffrey Ho (Manufacturer presenter)

Questions by Mr. Vertlieb (cont'd)

Dr. Joseph Noone (Medical experts presenter)

Questions by Mr. McGowan

1 the skin of a pig and I drill down to the chest,  
2 which is one of the studies that they talk about  
3 in there, yes, it's possible to do just about, you  
4 know, whatever it is you want to do. But when you  
5 look at that compared with the human data that's  
6 out there, that's not what we're finding, and  
7 again that's sort of one of my main points here is  
8 I'm a holder of the human data. The human data  
9 that I presented to you on the last slide, again  
10 which is being presented in San Francisco today, I  
11 guarantee you that the folks in Toronto are not  
12 aware of. So their article is being written  
13 without that knowledge. They may alter that  
14 statement knowing that, I don't know, but those  
15 are my comments on that.

16 MR. VERTLIEB: Well, Dr. Ho, we want to thank you very  
17 much for coming. We appreciate you being here and  
18 helping us with some of the information you've  
19 provided.

20 A Thank you for allowing me to present. Thank you,  
21 sir.

22 THE COMMISSIONER: Yes, and I reiterate that. Thank  
23 you for sharing your research with us.

24 A Thank you very much.

25  
26 (PRESENTER EXCUSED)

27  
28 THE COMMISSIONER: We'll take a ten-minute break.

29  
30 (PROCEEDINGS ADJOURNED)

31 (PROCEEDINGS RECONVENED)

32  
33 THE COMMISSIONER: All right. I believe we can  
34 commence. Yes, counsel.

35 MR. MCGOWAN: Thank you, Mr. Commissioner. The next  
36 presenter is Dr. Joseph Noone. He is a practising  
37 psychiatrist in our province and he has come here  
38 today to share his thoughts on a number of  
39 matters, including the topic of delirium.

40  
41 DR. JOSEPH NOONE, a Medical  
42 experts presenter.

43  
44 QUESTIONS BY MR. MCGOWAN:

45  
46 Q Dr. Noone, before we send you off on your  
47 presentation, I am just going to spend a few

Dr. Joseph Noone (Medical experts presenter)  
Questions by Mr. McGowan

1 moments on your background introducing you to the  
2 Commissioner. You were born and grew up in  
3 Ireland?  
4 A That's correct.  
5 Q And prior to attending medical school you served  
6 as an officer in the Parachute Regiment of the  
7 British Army?  
8 A That is correct.  
9 Q After which you attended medical school at the  
10 Royal College of Surgeons in Dublin, Ireland?  
11 A Yes.  
12 Q And you obtained a first place psychiatry medal at  
13 the conclusion of that on your professional exams?  
14 A I believe, that's a long time ago.  
15 Q Yes. You went on to do your internship in  
16 Toronto?  
17 A Yes, I did my rotating internship in Toronto.  
18 Q And tell the Commissioner just briefly about your  
19 residency and post-graduate program.  
20 A After completing my internship in Toronto I was  
21 accepted into the McMaster University Medical  
22 School residency in Psychiatry and I spent  
23 approximately two years there. Because I was  
24 interested in forensic psychiatry, criminal  
25 forensic psychiatry, I then moved to the Clarke  
26 Institute of Psychiatry in Toronto and completed  
27 my residency training there, and graduated as a  
28 specialist in 1980 in Toronto as a psychiatrist.  
29 Q You have a number of honours and awards, Dr.  
30 Noone, I won't take you through them all. But in  
31 January of 2003 you were elected as a  
32 Distinguished Fellow of the American Psychiatric  
33 Association?  
34 A Yes.  
35 Q In terms of your work and employment, currently  
36 you are a Professor of Psychiatry, Clinical  
37 Professor of Psychiatry at the University of  
38 British Columbia?  
39 A Yes, I am. I have been since 1993.  
40 Q You are the Medical Director of the Adult Program  
41 at Riverview Hospital currently?  
42 A That is correct.  
43 Q You are also the Medical Manager of the  
44 Psychiatric Intensive Care Unit at Riverview?  
45 A Yes.  
46 Q And in addition you are the Director of the Code  
47 White training in British Columbia?

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- 1 A Well, certainly in Riverview and for the B.C.  
2 Mental Health and Addictions.
- 3 Q Okay. And just very briefly, what is Code White  
4 training?
- 5 A Code White is a level of training for staff who  
6 have to deal with higher levels of aggression, and  
7 basically it focuses on the whole range of  
8 training but specifically on team interventions at  
9 the higher level.
- 10 Q You also have currently and have for a number of  
11 years obtained a clinical and consulting practice?
- 12 A That is correct, yes.
- 13 Q And just tell the Commissioner very briefly about  
14 your clinical and consulting practice.
- 15 A My clinical practice is mostly in the area of  
16 clinical aspects of violence, so it brings me to  
17 work and consult in such places as Provincial  
18 Corrections, Correctional Services of Canada,  
19 emergency hospital work, and in providing at times  
20 on request consultations to the Coroner's Service  
21 of B.C. In that regard I've testified there on  
22 ten occasions, in that regard, a number of those  
23 were related to in-custody deaths.
- 24 Q You also provide emergency on-call psychiatric  
25 services at the emergency wards of a couple of  
26 different hospitals; is that right?
- 27 A Well, I am on staff at Vancouver General Hospital,  
28 Riverview Hospital and Surrey Memorial Hospital.  
29 The Surrey Memorial Hospital is just so that I can  
30 keep up my own skills in emergency psychiatry in  
31 that setting.
- 32 Q You've throughout your career had a special  
33 interest and some expertise in the forensic and  
34 emergency psychiatry fields, and specifically in  
35 the prevention and management of aggressive  
36 behaviour in healthcare; is that correct?
- 37 A The prevention and management of aggressive  
38 behaviour in healthcare has been my main focus for  
39 the last 27 years of clinical practice.
- 40 Q And do you in your practice come into contact with  
41 people in extreme agitated states presenting both  
42 at emergency wards and in other areas of your  
43 practice?
- 44 A Yes. I see obviously a lot of agitated people in  
45 emergency. I also see highly agitated people in  
46 the Psychiatric Intensive Care Unit at Riverview  
47 Hospital, which is a 15-bed doubly locked unit,

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1           which takes referrals from anywhere in the  
2           province on patients that the general hospital or  
3           secondary system can't manage.

4           In addition I consult to Fraser Regional  
5           Correctional Centre as a consultant psychiatrist  
6           and I am usually asked to assess for certification  
7           or transfer to emergency inmates in that setting.

8           Q     So it's not the case in your practice that you're  
9           isolated in any way from patients presenting in an  
10          extreme state of agitation and --

11          A     No.

12          Q     -- (indiscernible - background noise) long term?

13          A     I see it on almost a daily basis, at least Monday  
14          to Friday anyway.

15          MR. MCGOWAN: Thank you, Dr. Noone. I'm going to  
16          invite you to give your presentation.

17

18          PRESENTATION BY DR. JOSEPH NOONE:

19

20          A     Thank you. Sir, I appreciate the opportunity to  
21          make a presentation to this public inquiry.

22                 About four weeks ago I was asked to address a  
23          few questions from my clinical experience and  
24          background. The questions were: (1) What is  
25          excited delirium? (2) How do you handle people  
26          who are agitated? And I guess that means how do I  
27          handle people who are agitated. And, what force  
28          do you use in that capacity?

29                 I will attempt to answer these questions to  
30          the best of my ability. Basically the context,  
31          bringing it into my own area, the context as I see  
32          for my presentation looks at the understanding,  
33          de-escalating and responding to highly agitated  
34          individuals.

35                 So I think the first question would be what  
36          is excited delirium versus what is delirium, and I  
37          think that has come up a number of times. I will  
38          start with reality, so I will start with delirium.  
39          You may notice I put "excited delirium" in quotes.  
40          That was deliberate.

41                 It is clear that delirium is a bona fide  
42          medical condition. In fact, advanced delirium is  
43          a medical emergency and it is not a psychiatric  
44          emergency.

45                 What delirium is is an acute confusional  
46          state with fluctuating levels of consciousness.  
47          There is usually hyperactivity, although there may

1 be lethargy. There is a rapid succession of  
2 confused, unconnected ideas, and there is often  
3 illusions and hallucinations. Illusions are  
4 misperceptions, visual misperceptions.

5 There are many causes of delirium and in  
6 there's a mnemonic "I WATCH DEATH", it gives a  
7 list of those and I have included that in an  
8 appendix to my report. But the major causes of  
9 delirium that one sees, the most obvious is  
10 related to drugs, closed-head injury,  
11 hypoglycaemia, electrolyte disturbance, acute  
12 psychosis, meaning either schizophrenic-type  
13 condition or a manic or bipolar mood disorder  
14 condition. So there are many causes. And  
15 actually the skill is dealing with the causes to  
16 deal with the diagnosis.

17 As I mentioned, it's a medical emergency  
18 requiring intensive medical assessment and  
19 management, and the goal of treatment is to  
20 reverse the cause or causes. Usually, it's  
21 multifactorial, a number of things come together  
22 in a certain kind of escalating way, and then the  
23 person enters a confusional state.

24 Excited delirium is not a valid medical or  
25 psychiatric diagnosis, and that's not just a  
26 semantic difference. And what I mean by that is I  
27 noted the last speaker indicated that the only  
28 difference was a semantic one. Yes, there is a  
29 semantic distinction to be made, but there is also  
30 the great concern that I have is that this excited  
31 delirium is basically an excuse for anything that  
32 happens, blaming it on the person who may suddenly  
33 die, and not on the people who are delivering care  
34 at that time.

35 A few weeks ago I was in a conversation with  
36 a colleague from law enforcement, and the subject  
37 came up of the airport incident. And immediately  
38 this person said, "Oh, the minute I saw that, I  
39 thought excited delirium." So law enforcement  
40 people are being taught that any agitated  
41 behaviour is excited delirium, whereas delirium is  
42 a very rare condition, even though in some areas  
43 where there is drug abuse it might be higher. But  
44 relatively speaking, it's rare. There's a lot  
45 more acute psychotic presentations in the  
46 emergency than there are delirium. In fact, some  
47 of the delirious patients that I receive at

1 Riverview Hospital are delirious because of the  
2 medications they got in the secondary hospital.  
3 So I think it's much more than a semantic  
4 difference, and it's basically putting police  
5 officers and others into the false belief that  
6 they can actually diagnose any agitation as being  
7 excited delirium, and that then from that they can  
8 do essentially what they want, and that's a  
9 concern to me.

10 It provides a convenient post-mortem  
11 explanation for in-custody deaths, where physical  
12 and mechanical restraints and conducted energy  
13 weapons were employed. There seems to be a lot of  
14 focus on Tasers at the moment, but a Taser  
15 incapacitates somebody long enough for them to be  
16 physically restrained and then mechanically  
17 restrained.

18 The suggestion that forceful prone restraint,  
19 hogtying, are proved to not have any effect on a  
20 person, I think is absolutely unfortunate.

21 So I guess my main concern around the  
22 concept, the, quotes, "excited delirium", is that  
23 it's being used more and more frequently in an  
24 attempt to automatically absolve law enforcement  
25 from any and all responsibility for their  
26 involvement in sudden in-custody deaths, and  
27 that's my concern.

28 Now, the second part of the question was,  
29 what is the best way to treat an emotionally  
30 disturbed highly agitated individual, and that's  
31 what I'll like to speak to now.

32 There is an old police term called EDP,  
33 meaning "emotionally disturbed person". I like  
34 that term. It's descriptive, it's not judgmental  
35 and it describes what you see. It doesn't  
36 describe the aetiology or the causes for it. It  
37 just describes exactly what you see, an  
38 emotionally disturbed person. And I must say,  
39 even though it's an old term, I'm somewhat sort of  
40 very favourable towards it. And older-time police  
41 officers, that's the term they use, and they were  
42 absolutely right all the time. They weren't  
43 making diagnoses, they were just describing a  
44 person. And also it says emotionally disturbed  
45 person, and I think that's important, because  
46 we're dealing with people here, and that can get  
47 lost at times.

1           So how do we, what is the best way to treat  
2 an emotionally acting-out person? First of all  
3 you need to ACT, and the little acronym I've put  
4 here is you need to assess quickly. So when you  
5 meet an agitated person, you've got to assess them  
6 fairly quickly as to what's going on. You may  
7 have to then before you have a lot of information,  
8 you may have to contain their behaviour, because  
9 they're confused, they're frightened, they're  
10 psychotic in some cases. They've got an acute  
11 confusional state going on. And then once you  
12 kind of contain them and assess them, you've got  
13 to treat them specifically for the underlying  
14 condition for which they are disturbed and  
15 agitated about.

16           So what do you look at for the assessment?  
17 You've got to be open-minded. You've got to  
18 consider all possibilities. You've got to be  
19 objective. You've got to genuinely support the  
20 person. You need to remain calm, and you need to  
21 take your time. On a scale of one to ten, you  
22 need to come in at around three or four. You  
23 could always escalate your response, escalate the  
24 amount of control you have, you may need, but if  
25 you go in low, you can usually get compliance. In  
26 my experience, particularly if the staff are  
27 experienced, you can in most cases get compliance.  
28 If you go in at eight or nine, which can happen  
29 and it certainly can happen in a law enforcement  
30 environment, it is very difficult or impossible  
31 then to diffuse the situation. Diffusing has to  
32 occur as early as possible, just like prevention.  
33 And in fact your attitude of power and control, if  
34 you go in at eight or nine or ten, may well  
35 escalate the situation. So that's why where  
36 possible I prefer to work with a clinical team in  
37 the emergency or in a psychiatric intensive care  
38 unit for that reason, you have people who are, or  
39 you are approaching it as a team.

40           In terms of containing behaviour, I think a  
41 trained team is essential. And by that the most  
42 important word is "team". Okay? One on one, you  
43 know, certainly in the mental health area, we do  
44 not approach one on one, or even two on one, or  
45 even three on one in a highly agitated situation  
46 unless we have assessed that we can deal with the  
47 situation with that amount of resources. You

1 can't go in there and then get overwhelmed, so you  
2 have to assess what's going on.

3 If necessary you have to put on hands-on  
4 technique. But how you put hands-on technique is  
5 as important as putting hands on. If you grab  
6 people roughly, they will react. I would react;  
7 you would probably react. So gentle touching, not  
8 touching, showing support, is what will bring this  
9 confused person down to a level where you can deal  
10 with them. They may have to be transported to a  
11 hospital. Usually, if they are highly agitated,  
12 they will be triaged to four-point mechanical  
13 restraints in the emergency department. That's  
14 what usually happens.

15 The specific treatment occurs in the  
16 emergency department. The medical assessment is  
17 done there because by definition this is a  
18 superimposed -- with delirium, a superimposed  
19 condition for which there are medical reasons.  
20 And then at the same time as that's happening,  
21 they usually, you know, the psychiatric  
22 consultation is obtained. So it's usually the  
23 casualty officer and the psychiatrist, emergency  
24 psychiatrist, working together with more focus on  
25 the medical assessment initially because really in  
26 psychiatry we want to make sure that all --  
27 there's an assumption sometimes that all behaviour  
28 is psychosis and it's not psychosis. There's lots  
29 of other reasons for it. And the big mistake we  
30 don't want to make is to treat something as  
31 behavioural when in fact it has a medical cause.

32 And then, based on the assessment by the  
33 medical person or the medical team and the  
34 psychiatric team, treatment is done on the basis  
35 of those assessments.

36 A word of resources, because emergency  
37 hospital departments vary in their ability to  
38 respond to behavioural emergencies. You know,  
39 optimally there should be a range of resources  
40 available, and some of the resources that are very  
41 helpful in this area include what's on the slide:  
42 mobile crisis intervention teams, and Car 87 teams  
43 a Vancouver constable with a registered nurse or  
44 psychiatric nurse to provide onsite assessment and  
45 intervention for mentally ill individuals. More  
46 recently Car 67 at Surrey does essentially the  
47 same thing. They are not 24/7, though, but they

1 are from 2:00 p.m. to 2:00 a.m., with a uniformed  
2 RCMP officer in an unmarked car, teamed with an  
3 experienced mental health worker. Again, you  
4 know, if teams like this can be deployed  
5 effectively, the success rate goes up  
6 tremendously.

7 Another resource that's maybe not used enough  
8 but is used in places are psychiatric liaison  
9 workers. These are experienced mental health  
10 nurses who work in emergencies and are available  
11 to -- they are part of the psychiatric team, but  
12 they work in the emergency and they are extremely  
13 helpful.

14 For example, Surrey Memorial Hospital have  
15 psychiatric liaison workers who are there 24/7,  
16 and even with two staff from 10:00 a.m. to 10:00  
17 p.m., so these are people who do nothing else but  
18 deal with psychiatric emergencies, and obviously  
19 they are extremely valuable, and they usually work  
20 with an emergency response psychiatrist.

21 Hospital-based psychiatric emergency  
22 services. There's a need for brief-stay units.  
23 And the kind of units I am talking about are often  
24 called psychiatric assessment units. Now, there  
25 is one at St. Paul's, there's one at Vancouver  
26 General and there's one at Surrey Memorial. And  
27 they again are a response that's very important.

28 And not wishing to proselytize, but Riverview  
29 Psychiatric Intensive Care Unit, which I am the  
30 director of, is a provincial resource for  
31 psychiatric patients with a high level of  
32 aggression, and it has 15 beds and is a secure  
33 unit.

34 One of the questions I was asked to put my  
35 mind to was the use of a Taser on individuals who  
36 are in delirium. In delirium there is a very high  
37 risk of further medical compromise. The person is  
38 in a highly agitated dangerous state. To Taser  
39 such individuals, and I am speaking now as a  
40 clinician, is contraindicated due to the high risk  
41 of death, in my opinion. I'm not a researcher, by  
42 the way, I'm a clinician, and this is based on the  
43 assessments I've done and the patients I've seen.

44 A comment on RCMP policy 3.2.2 and 3.2.3, I  
45 kind of looked at this and didn't quite understand  
46 it for a moment. But it mentions excited delirium  
47 and the importance for the police to know about

1 excited delirium, which is not a medical or  
2 psychiatric condition, does not exist, and is used  
3 now as an expression to cover any agitated person.  
4 Medically untrained personnel may apply this to  
5 any agitated person and a team intervention using  
6 soft empty hand control in most cases would be the  
7 most appropriate means of restraint, although  
8 individual assessments might dictate otherwise.

9 Talk a little bit about the mental health  
10 approach. In terms of management of aggression,  
11 there's a number of areas, and I've listed them  
12 here: understanding, prevention, de-escalation,  
13 self-protection and Code White intervention,  
14 meaning a team intervention. You always try to  
15 kind of resolve the situation at the lowest level,  
16 but sometimes and you -- but you need resources  
17 for the whole continuum.

18 Code White is a trained team response for a  
19 higher-risk behavioural emergencies involving  
20 patients in health-care settings.

21 Okay. A couple of things about aggression.  
22 Aggressive behaviour does not come from out of the  
23 blue. But when you go to an area first, people  
24 will tell you, oh, never saw it coming, it came  
25 from out of the blue. Usually people that happens  
26 is ones they don't have a lot of confidence in  
27 handling aggression, and I guess they hope that if  
28 they don't see it, it won't happen. But it does  
29 not come out of the blue. It occurs in a  
30 situational interactional way, and usually there's  
31 lots of precursors which allows you to intervene  
32 as early as possible.

33 Violence is interactional. In other words,  
34 there's a relationship between the person who is  
35 violent and the person they're being violent with.  
36 That is not to say, and I'm just saying that's the  
37 nature of aggression and violence, that it's  
38 interactional.

39 And again another way of putting this is it  
40 takes two to tango, or as these individuals say,  
41 "I'm afraid you misunderstood, I said I'd like a  
42 mango." Okay. So it also points to the  
43 importance of communication.

44 The philosophy, this is the healthcare  
45 approach to prevention and management of  
46 aggressive behaviour, is respect and  
47 professionalism. That is the underlying attitude

1 that has to be there. If you don't have that  
2 attitude, then you're not going to handle  
3 disturbed people very well.

4 Not power and control. Power and control  
5 will cause conflict. It will incite the  
6 situation. Now, you may have to use control of  
7 the situation, but how you do it is important.  
8 Again even with hand contact, whether it's done in  
9 a rough way or done in a supportive way, and you  
10 can't fake it. You can't fake respect. Some  
11 people say you can just appear respectful, but  
12 people, even disturbed people, will pick up how  
13 you're treating them.

14 Again communication is terribly important.  
15 Your body language, facial expression, the  
16 distance, how you manage distance, the speed of  
17 movement, and in terms of the verbal, the volume,  
18 the tone, the rate, the rhythm of speech. And the  
19 only way to get skilful at this is to practice it,  
20 you know. And in our training in the hospital we  
21 do a lot of scenarios where we play the scenario  
22 out to get people to develop these de-escalation  
23 skills.

24 You need to assess the level of resistance in  
25 order to determine and justify the level of force  
26 of your intervention. And that's often very hard  
27 to get across to staff that they have to be able  
28 to describe what was the level of resistance.  
29 They're very good at saying what they did.  
30 They're not so good at saying what was happening  
31 when they did it.

32 Don't use a fire extinguisher to put out a  
33 cigarette, I guess is a way of looking at it.

34 The levels of resistance that we teach the  
35 mental health staff in British Columbia, and again  
36 a lot of this is taken exactly from police  
37 information and police training as well, is levels  
38 of resistance: compliant and co-operative,  
39 passively resistant, actively resistant,  
40 assaultive behaviour, or deadly force or potential  
41 deadly force behaviour. Because you really have  
42 to know what that level is before you decide how  
43 to apply any form of force continuum.

44 In mental health we do what's in the green  
45 there, levels 1, 2 and 3A. We do not do what's in  
46 the red, or it looks kind of orange to me this  
47 morning, but we don't, you know. In other words,

1 presence, dialogue, exactly the same as law  
2 enforcement. However, when it comes to hands on,  
3 in empty hand control, we only use superior  
4 technique and strength. You might ask, well,  
5 where do you get the superior technique and  
6 strength? We get it from a team intervention. If  
7 you have a trained team, the amount of risk is  
8 greatly reduced. If you have one or two people  
9 trying to manage the situation, they have to use  
10 much higher levels of force to have superior  
11 technique or strength.

12 We do not use, and it's against our policies  
13 to use pain compliance, that is, pressure points  
14 or painful joint locks. We find it just pisses  
15 people off and they get worse, not better.

16 We do not use impact, whether it's impact  
17 with our fists or our knees or anything else, or  
18 impact with the floor, or impact with a wall. And  
19 we do not use any form of restricted techniques  
20 such as lateral vascular neck restraint and  
21 certain stuns like brachial stuns.

22 We obviously don't use compliance tools, and  
23 in the area of compliance tools I put pepper  
24 spray, batons and Tasers, and Level 5 firearms.

25 So we believe that within the top part of  
26 that we can handle the vast majority of disturbed,  
27 mentally ill or intoxicated or drug-related people  
28 and behaviours.

29 The team, there is always a leader who  
30 directs the intervention. The team perform hands-  
31 on using techniques that we try to not go muscle  
32 on muscle. We try to use what we call gentle  
33 trapping techniques, so you're not in a conflict  
34 with the person. You're just using body position,  
35 balance and attitude to achieve that. So you're  
36 not going in gangbusters.

37 We also have staff members who do not reach  
38 either a team member or a leader level of training  
39 because of age, because of many factors. And we  
40 use them as support people. They're still part of  
41 the team, but they do not get themselves involved  
42 in any physical intervention. They prepare  
43 medication, they clear the area, they settle down  
44 other patients, other staff. They have lots of  
45 roles. But one of them is not actually directly  
46 handling the situation.

47 Just to give you a kind of an idea whether,

1 you know, you might say sort of, so what, you do  
2 it, you know, very gently, but, you know, maybe  
3 it's not going to work.

4 So what I'd like you to look at now is a  
5 comparison of the use of seclusion, which is in a  
6 locked room, in the referring hospitals, these are  
7 general hospitals mostly around the Lower  
8 Mainland, and in the Psychiatric Intensive Care  
9 Unit. Remember they are sent to the Psychiatric  
10 Intensive Care Unit because they believe that they  
11 can't manage them further.

12 Some 55 patients were discharged in late  
13 2005. The total length of stay, this is of the 55  
14 patients in the referring hospitals. These are  
15 general hospitals, including teaching hospitals.  
16 For the 55 patients it was 618 days. You know, in  
17 our Psychiatric Intensive Care Unit, that same 55  
18 patients between them were there for 1,223 days.  
19 So obviously we keep people longer than just a few  
20 days. Our average length of stay is four weeks.

21 Now, looking at the total time in seclusion,  
22 because seclusion is a sort of a control course of  
23 measure to control people, and these will all be  
24 psychiatric patients, they would all be certified  
25 under the **Mental Health Act** of B.C. In the  
26 referring hospital, those 55 patients were in  
27 seclusion for a total of 2,998 hours. The same  
28 patients in the ICU with other patients who were  
29 considered equally aggressive, the 55 patients  
30 totalled only 269 hours even though they were with  
31 us a lot longer. So again it shows the kind of  
32 reductions you can get depending on your approach.

33 The reasons for less seclusion is (1) I think  
34 the most important is attitude, you know, and that  
35 is the hardest to kind of train, to get people to  
36 do. But the attitude is key. The attitude people  
37 bring to their work, they bring to the clients  
38 they see, that drives the expectations, the  
39 expectations of the staff and the expectations of  
40 the patients. We get people who have been three  
41 weeks in seclusion. They come to us, we take them  
42 out of restraints, and some of them never go back  
43 into seclusion during their stay with us. So  
44 we're working with them. We're not working  
45 against them to control them.

46 Our training, we have core training in basic  
47 sort of prevention of aggressive behaviour, and

1 then depending on the risk assessment, we have  
2 risk-specific training, usually two days training,  
3 and then repeated as often as necessary. We also  
4 have practice sessions where we do scenario  
5 training to keep people keep their skills up. And  
6 we have a lot of experience with it, although now  
7 many of us are getting close to retirement age, so  
8 the experience will have to be passed on.

9 I'd like to sort of finish off with two  
10 quotes from law enforcement authorities, who are  
11 very well regarded in their field, or were:  
12

13 Policing is a person to person business. It  
14 is very rare that a technological solution  
15 has really solved anything for police...the  
16 best way is to develop interpersonal skills  
17 and self-defence skills.  
18

19 James Fyfe, 1993, who was a very big name in law  
20 enforcement. Unfortunately, he is now deceased.

21 Another one from Mr. Arenberg, who is the  
22 organizer or director of the National Association  
23 of Chiefs of Police in the United States:  
24

25 Training is needed to give officers skills in  
26 how to verbally approach citizens and  
27 suspects alike. ...it depends on how I stop  
28 you, whether you are going to be co-operative  
29 or resistant.  
30

31 And I think that's an excellent quote because it's  
32 not what you do, it's how you do it that where the  
33 skill is.

34 I would just like to finish up with a  
35 statement, one about using a Taser with highly  
36 agitated individuals.

37 I believe that highly agitated individuals,  
38 even more so if they are in delirium, are at very  
39 high risk of further medical compromise, due to  
40 metabolic, cardiac, respiratory and other  
41 complications. To Taser such vulnerable  
42 individuals would be contraindicated medically due  
43 to the risk of death, in my opinion. That's a  
44 clinical opinion.

45 A further comment on the RCMP policy, 3.2.2  
46 and 3.2.3. I understand the policy dictates that  
47 an individual experiencing excited delirium - it

Dr. Joseph Noone (Medical experts presenter)  
Presentation

1 is now in a policy of a police force - requires  
2 medical attention and must first be restrained.  
3 In some cases there have been delirium, that is  
4 correct. The policy goes on to authorize the use  
5 of a Taser as possibly the most effective means of  
6 restraining the individual. In my opinion, this  
7 policy is seriously flawed for the following  
8 reasons:

9 First, it references excited delirium, which  
10 is not really a medical or psychiatric condition.  
11 The way it's being used, it could be just about  
12 anything.

13 Secondly, medically untrained personnel,  
14 including police officers, may apply this to any  
15 agitated individual, whether delirious or not.  
16 This would be a worrisome development, in my view.

17 Third, a trained team intervention using soft  
18 empty hand control, while working to maintain a  
19 relationship with the individual, in my opinion,  
20 provides the safest and most effective way of  
21 restraint and transportation.

22 The use of a Taser on a small number of  
23 highly agitated individuals who are really in  
24 delirium, is strongly medically contraindicated,  
25 in my view.

26 The majority of highly agitated individuals  
27 who come to the attention of the police are  
28 suffering from alcohol or drug intoxication or  
29 withdrawal, and/or exacerbation of a major mental  
30 illness, especially schizophrenia or bipolar mood  
31 disorder. The Tasing of these compromised  
32 disorganized individuals could well be interpreted  
33 at least as discrimination. Such an approach  
34 basically dehumanizes the serious and persistently  
35 mentally ill in the community and could be  
36 perceived as a perpetration of abuse on this  
37 group.

38 In terms of the policy, it could be said the  
39 RCMP did everything by the book. The problem is,  
40 the book is wrong.

41 So I think that's a terrible policy. I don't  
42 know who wrote it. It must have been a committee.

43 I think that's all I have to say. Thanks.

44 THE COMMISSIONER: Counsel, have you any questions.

45 MR. MCGOWAN: I do have just a few, Mr. Commissioner.

46  
47

1 QUESTIONS BY MR. MCGOWAN, continuing:  
2

3 Q You spoke about the increased risk of an adverse  
4 consequence from the application of a Taser or an  
5 additional insult to somebody who is in delirium.  
6 Does that apply to other emotionally disturbed  
7 individuals, as well?

8 A Sorry, I don't quite...

9 Q You don't like the term "excited delirium".

10 A Well, no, I don't particularly like the term  
11 because I see the way it's being used.

12 Q Okay, fair enough.

13 A I just don't like the use of it. I mean, it's  
14 like a Taser. A Taser is a tool. What's  
15 important is what are the rules around its use. A  
16 shovel is a tool, as well. You can dig a hole or  
17 you could hit your neighbour on the head with it,  
18 you know. So, you know, I think we have to look  
19 at the use of techniques and the use of  
20 strategies. And, you know, as excited delirium  
21 seems to have gone off the board, in my view, and  
22 I think in a very serious way because it's only  
23 bought into by TASER International and by law  
24 enforcement, and that's a worrisome alliance, in  
25 my view.

26 Q Do you see that the concept of excited delirium or  
27 the term "excited delirium" as being at all useful  
28 to policing in British Columbia, the way it's  
29 being used currently?

30 A The way it's being used, not at all. In fact, I  
31 see the opposite. Now police and law enforcement  
32 are getting the idea that they can diagnose  
33 anybody as having it. So it becomes a kind of a  
34 ready-made excuse. So if the person dies, they  
35 die because of their, quotes, "delirium". They  
36 didn't die because, you know, you were doing  
37 forceful prone restraint, or you were hogtying  
38 them. I mean, the last speaker spoke about that  
39 all these things have been now proven to not be a  
40 problem. That's absolute nonsense clinically, you  
41 know, hogtying, you know, positional asphyxia,  
42 these are all factors. Again, there's many  
43 factors, but they're all factors and, you know, to  
44 say that they were used but, you know, and now  
45 they make no difference, I don't accept that. I  
46 wouldn't accept that.

47 Q Does a person die from delirium, Dr. Noone?

1 A Well, again there's some semantics in the  
2 question. They die from the causes of the  
3 delirium. They don't so much die from the  
4 delirium, they die from the factors that cause the  
5 delirium. What can happen, though is all these  
6 factors can come together and can crescendo. And  
7 then the person is highly vulnerable, and they can  
8 die in that state.

9 What the difficulty is is saying what were  
10 the factors and what weight can one put on various  
11 factors. I think the only way to do that is look  
12 at all the factors and if it results in an in-  
13 custody death, then the Coroner Service can sort  
14 out what were the factors and what various weight  
15 might or might not be done. Because ultimately in  
16 the use of force you're looking at an assessment  
17 of that particular case in terms of reasonable  
18 force or not reasonable force.

19 Q What would you say to a police officer, Dr. Noone,  
20 who is weighing the possibility of using a Taser,  
21 considering that decision in the face of an  
22 emotionally disturbed person or an extremely  
23 agitated person?

24 A Well, it depends on each situation. It depends on  
25 the level of resistance, okay? If the resistance  
26 was deadly force that the person was using, then  
27 of course they would have to respond up to a  
28 similar level. If the person was just at the  
29 state of presence or dialogue and you say, as the  
30 RCMP policy seems to say, that may be the best way  
31 of bringing them to the emergency, I wouldn't  
32 agree with that. Because what that does, it takes  
33 a compliance tool up to the level of just beneath  
34 dialogue. That's way too far, you know, that  
35 doesn't make any sense to me.

36 I mean, to use Tasers for deadly force, I  
37 don't have a problem with it. To use them for,  
38 you know, severe assaultive behaviour, I don't  
39 mean just shaping up like they're going to fight  
40 with you or something, but serious assaultive  
41 behaviour where they're actually assaulting, I  
42 could see on individual situations where that  
43 might occur.

44 When I started looking at this area first, I  
45 would have probably said there could be some  
46 instance of active resistance where that might  
47 also happen. Having read this information, I am

Dr. Joseph Noone (Medical experts presenter)  
Questions by Mr. McGowan (cont'd)  
Deputy Chief Ken Allen (Law enforcement presenter)  
Questions by Mr. Vertlieb

1 of the opinion that to some extent this Taser  
2 business has got out of hand and therefore I would  
3 restrict it to assaultive behaviour and deadly  
4 force. I would not take it below that, from my  
5 perspective.

6 Q Dr. Noone, have you got any personal or financial  
7 interest in this debate on one side or the other?

8 A None whatsoever. I'd just like to see proper care  
9 of mentally ill individuals who are in crisis.

10 MR. MCGOWAN: Those are my questions, Mr. Commissioner.

11 THE COMMISSIONER: Dr. Noone, thank you so much for  
12 this presentation. It takes a lot of trouble to  
13 prepare this and to come here and it's very much  
14 appreciated.

15 A Thank you very much, sir.

16

17 (PRESENTER EXCUSED)

18

19 THE COMMISSIONER: Can we go right ahead or do we need  
20 a break?

21 MR. VERTLIEB: I think we should just take a break for  
22 a few minutes, please.

23 THE COMMISSIONER: All right, five minutes.

24

25 (PROCEEDINGS ADJOURNED)

26 (PROCEEDINGS RECONVENED)

27

28 THE COMMISSIONER: I understand that we can commence  
29 once again. Yes, Counsel.

30 MR. VERTLIEB: Next we have Deputy Chief Ken Allen from  
31 the Greater Vancouver Transportation Authority  
32 Police Service.

33

34 DEPUTY CHIEF KEN ALLEN, Law  
35 enforcement presenter.

36

37 THE COMMISSIONER: Welcome, sir.

38

39 QUESTIONS BY MR. VERTLIEB:

40

41 Q Sir, we have with all of our presenters taken them  
42 through briefly background. You are the Deputy  
43 Chief of the Police Service. Tell us about your  
44 career in policing.

45 A I have been associated to law enforcement for  
46 nearly 41 years. I was 29-and-a-half-year member  
47 of the RCMP, and have worked in the transit

Deputy Chief Ken Allen (Law enforcement presenter)  
Questions by Mr. Vertlieb  
Presentation

1 enforcement role since late 1996. My career in  
2 the RCMP spanned mostly general duty enforcement.  
3 I did plainclothes investigations as well. I  
4 spent four years as an instructor in Regina  
5 instructing three-and-a-half of those four years  
6 in Firearms and the Use of Force.

7 In 1978 to 1982 I was involved with the  
8 Emergency Response Teams in the Province of  
9 British Columbia since 1974 and served on the  
10 National Special Emergency Response Team in Ottawa  
11 for six years in my career.

12 I retired as a Staff Sergeant out of the  
13 RCMP.

14 I first joined what was then BC Transit  
15 Security as a Special Provincial Constable in a  
16 Patrol Sergeant Supervisor role. Approximately a  
17 year later I was promoted to the Operations  
18 Manager's position and looked after the entirety  
19 of the operations of the department and the  
20 Special Provincial Constables in that role.

21 In 2004 when we became a designated policing  
22 unit I was appointed to the position of Deputy  
23 Chief Officer of the Greater Vancouver  
24 Transportation Police Service and have function in  
25 that role since that time.

26 MR. VERTLIEB: Now, we understand you have a  
27 presentation to make that you would like to embark  
28 on so please feel free.

29 A I do.

30 THE COMMISSIONER: Yes, thank you, sir.

31  
32 PRESENTATION BY DEPUTY CHIEF KEN ALLEN, GREATER  
33 VANCOUVER TRANSPORTATION AUTHORITY POLICE SERVICE:

34  
35 A The GVTAPS takes the issue of Taser use very  
36 seriously, and that's why we're here today.

37 The GVTAPS is quite a new policing agency.  
38 It's proud and professional, responsible and  
39 accountable organization. We operate by the book.  
40 It's an open book.

41 We are grateful for the opportunity to speak  
42 to the inquiry, to contribute what we can clarify  
43 on our position.

44 My presentation today will cover three main  
45 areas. The first will be the history and  
46 background of GVTAPS. Second will be our policy  
47 and the use of Tasers, and how it was developed

1 and what it contains. And third our response  
2 under the **Police Act** to the events of the past  
3 month relating to concerns raised in the public  
4 about our Tasers, use of Tasers.

5 The GVTAPS supports the work of the Braidwood  
6 Inquiry and its review of Taser use policies. We  
7 are happy to contribute to this inquiry on Taser  
8 use policies. We have been advised by the office  
9 of the Police Complaint Commissioner that our  
10 participation and review of policies and processes  
11 is appropriate and can be done without  
12 jeopardizing their investigation into specific  
13 incidents.

14 We have taken the extra step of responding to  
15 the Braidwood Inquiry's request for the files on  
16 individual incidents and documents. Documentation  
17 has been provided to the Commission Counsel this  
18 morning.

19 We also respect the role of the Police  
20 Complaint Commissioner and his ongoing  
21 investigation into the individual incidents over  
22 the past ten months where Tasers were used by  
23 GVTAPS officers. We will therefore not jeopardize  
24 the progress of the investigations of the Police  
25 Complaint Commissioner by making premature comment  
26 or appearing to make any prejudicial conclusion  
27 about the individual incidents under  
28 investigation. By doing so we are confident that  
29 we can participate fully in this inquiry process  
30 while protecting the integrity of the Police  
31 Complaint Commission process.

32 I will just give you the history and  
33 background of GVTAPS. GVTAPS is a designated  
34 policing unit in B.C. The service became fully  
35 operational on December 4th of 2005. Our mandate  
36 is to preserve and maintain the public peace, to  
37 prevent crime and offences against the law, aid in  
38 the administration of justice and enforce the laws  
39 of B.C., primarily directed towards any criminal  
40 activity or breach of public peace that could  
41 affect the safety or security of transit  
42 passengers, employees or property, and conducting  
43 investigations and enforcement operations with  
44 respect to any unlawful activity on or around  
45 transit vehicles or other transit property.

46 GVTAPS provides policing service to the  
47 entirety of the transit system, primarily

1 concentrating our efforts to the SkyTrain. We  
2 also have a squad of officers who focus on bus  
3 service.

4 The governance structure of GVTAPS is unique  
5 in that the Police Board is a blend of senior  
6 police executives and three civilians representing  
7 TransLink and the public. This is different from  
8 other municipal police boards, which are made up  
9 strictly of civilian appointees. As one of its  
10 duties, the Police Board approves all policy for  
11 GVTAPS.

12 The SkyTrain covers a distance of 51  
13 kilometres and has 39 stations.

14 In 2007 there were over 295 million passenger  
15 boardings in the transit system, 73 million of  
16 those on SkyTrain. This translates into roughly  
17 220,000 boardings per day on SkyTrain.

18 The SkyTrain stations are a unique work  
19 environment in that they are strictly concrete and  
20 steel with narrow platforms and restricted  
21 entrances and exits. They have automated trains  
22 travelling through on a guide way that contains  
23 600 volts of electricity. Most of the stations  
24 have multiple levels of stairs or escalators  
25 leading to the platform. This creates challenges  
26 in dealing with police incidents and executing  
27 arrests. The officer not only has to take into  
28 account his own safety and that of the person he  
29 is dealing with, but also that of the travelling  
30 public and other transit employees.

31 The nature of the work environment is such  
32 that officers most frequently work in areas of  
33 high concentration of passenger movement. This  
34 may impact on choices that they employ in the Use  
35 of Force spectrum in effecting arrests.

36 Our establishment strength is 156 sworn  
37 officers, approximately half of which have a high  
38 level of policing experience along with 41  
39 civilian staff. GVTAPS officers have the same  
40 authority under the **Police Act** as other municipal  
41 police officers. This authority includes  
42 enforcement of all laws relating to offences under  
43 the **Criminal Code**, the **Controlled Drugs and**  
44 **Substances Act**, **Immigration Act** and all provincial  
45 statutes, including issuing violation tickets for  
46 transit-related infractions.

47 Our officers have met all the same training

1 standards as every municipal police officer in the  
2 province and qualified through the Police Academy,  
3 which includes certification in Firearms and Use  
4 of Force.

5 To give the Commission an idea of the scope  
6 of the work we do, in 2007 we opened 43,000 files  
7 and made over 23,300 arrests. This included 666  
8 arrests for outstanding warrants, 92 arrests for  
9 weapons associated to robberies, 143 related to  
10 assaults with weapon, and 619 for drug-related  
11 offences.

12 The second area I wish to address is the  
13 issue of our policy on Tasers. My submissions  
14 will address two separate areas. The first is the  
15 development of the policy, and the second is the  
16 content of the policy and reporting requirements.

17 The first development, the policy came into  
18 effect in May of 2007 and it was developed based  
19 on common practices within municipal police  
20 agencies in B.C. This policy was approved by the  
21 Police Board, which as you will recall in our case  
22 is unique in that it includes four senior police  
23 executives.

24 During this time selected personnel commenced  
25 their Taser training, which included training in  
26 the policy.

27 Starting in July of 2007, trained officers  
28 were authorized to start carrying Tasers.  
29 Currently 93 police officers are trained and  
30 authorized to carry Tasers and the GVTAPS has 20  
31 Tasers in their inventory.

32 Since we started using them, Tasers have been  
33 deployed on ten occasions. Starting this year we  
34 track incidents where the Taser is drawn but not  
35 deployed, and so far to date there have been six  
36 occasions when this has occurred.

37 THE COMMISSIONER: What is the "this"? Six times what  
38 happened?

39 A On six occasions this year the Taser was drawn but  
40 not deployed.

41 Second is the content of the policy. Here,  
42 Mr. Commissioner, I will draw your attention that  
43 you should have two versions of two separate  
44 policies before you. And the policy that I want  
45 to draw to your attention is the Use of Force  
46 policy that on the top in the grey shaded area has  
47 the effective date of March 28th, 2005 and on the

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1 extreme right of that, just below, is a Board  
2 directive dated May 12th, 2008.

3 THE COMMISSIONER: I'm not sure I have that, but...

4 MR. VERTLIEB: We have a new one for you. This is  
5 brand new, Mr. Commissioner, you wouldn't have  
6 seen it before.

7 THE COMMISSIONER: All right. I have it now, thank  
8 you.

9 A The second policy is the Taser policy and that in  
10 the top area is effective date May 7th, 2007.  
11 Below that is revised April 18th, 2008 with the  
12 Board directive May 12th, 2008. And you will  
13 notice under section 2 of policy there is a yellow  
14 highlighted area highlighting the words "actively  
15 resistant". The word difference in both documents  
16 is the inclusion of those two words.

17 I don't intend taking you through these  
18 policies in detail, as you have them in front of  
19 you. But there are a few points I would like to  
20 make.

21 THE COMMISSIONER: Just so I grasp this, Officer, what  
22 is the date and the yellow, the words "active  
23 resistant", how do they relate?

24 A There was a previous policy that was effective on  
25 May the 7th. This new policy was brought into  
26 effect by way of Police Board directive on May the  
27 12th, 2008.

28 THE COMMISSIONER: Oh, I see.

29 A Which included the words that are highlighted in  
30 yellow.

31 THE COMMISSIONER: Oh, I see. So that on May the 12th  
32 last the policy was modified to include the words  
33 "active resistant"?

34 A That's correct.

35 THE COMMISSIONER: All right.

36 A I would be pleased to answer any additional  
37 questions the Commission may have about these  
38 policies.

39 The first deals with the language of our  
40 original policy, which allowed for Taser in  
41 situations where someone is non-complaint. As you  
42 are aware, Mr. Commissioner, last month some  
43 concerns arose about this language and we have  
44 addressed this. The Police Board determined that  
45 the words "non-compliant" should be removed from  
46 the policy. It is our understanding that they did  
47 this because the potential for there to be

1 confusion created by the use of this terminology.  
2 The concern was that the term, "non-compliant"  
3 could be construed to mean non-payment of fares by  
4 the public.

5 At the Police Board's monthly meeting earlier  
6 this week at which I was present, in response to  
7 some concerns raised about a potential void left  
8 in the policy creating a potential officer safety  
9 issue, the Board decided to substitute the words  
10 "actively resistant" for "non-compliant".

11 The versions of the policy you have, Mr.  
12 Commissioner, which they revised May 12th, 2008  
13 have this most recent language in them.

14 While I can't speak for the Board, I believe  
15 that they accepted that this void in the language  
16 of the policy did create the potential for an  
17 officer safety issue, particularly in light of the  
18 difficult and unique environment in which we  
19 operate, and that's the reason they decided to  
20 include the words "actively resistant" in the  
21 language of the policy.

22 The other section of the policy I want to  
23 briefly address is the provisions dealing with  
24 what happens when a Taser is deployed. Section 15  
25 in the Taser policy imposes duties on the  
26 individual police officer which include notifying  
27 the Emergency Health Services, notifying a  
28 supervisor and completing the appropriate reports  
29 which include the Use of Force report.

30 The policy also imposes duties on a  
31 supervisor attending at the scene where a Taser  
32 has been deployed and those are in section 16. I  
33 will go through those points under section 16:

34  
35 It is the duty of the patrol supervisor upon  
36 attendance at a Taser deployment the  
37 supervisor will

38  
39 (1) ensure that the subject is examined by  
40 EHS (Emergency Health Services) as soon as  
41 possible;

42  
43 (2) if reasonable, photograph any injuries to  
44 the subject, photograph the scene, prepare a  
45 sketch of the scene, including any applicable  
46 measurements;

1 (3) take possession of the Taser, expended  
2 cartridges and probes, if applicable, and  
3 place in a temporary exhibit locker unless it  
4 can be immediately turned over to the  
5 Inspector Support Services;  
6

7 (4) request SkyTrain station closed-circuit  
8 TV tapes or other available tapes, if  
9 applicable;

10  
11 (5) ensure witnesses are interviewed and  
12 written statements are obtained;  
13

14 (6) notify the Inspector Support Services the  
15 Taser has been seized and provide the number  
16 of the temporary exhibit locker where it is  
17 stored; and  
18

19 (7) ensure the member has completed the  
20 required reports and that such reports are  
21 reviewed by the supervisor and then forwarded  
22 for further review in accordance with the Use  
23 of Force Policy.  
24

25 In addition to what is contained in policy,  
26 it is important to emphasize that in each and  
27 every instance where a Taser is deployed we do a  
28 complete and thorough internal review of the  
29 incident to determine whether there are any  
30 policy, training or disciplinary issues which  
31 arise. I can advise the Commission that each of  
32 these ten instances where Tasers were deployed by  
33 GVTAPS members resulted in an internal review to  
34 ensure consistency with policies and training.  
35 This is separate from the external review which we  
36 asked for and which was ordered by the office of  
37 the Police Complaint Commission.

38 The final area I wanted to address in this  
39 presentation is our response as an organization to  
40 the media attention paid to the GVTAPS use of  
41 Tasers.

42 As a result of concerns raised in the public  
43 about our use of Tasers, we immediately took a  
44 number of proactive steps. First we arranged a  
45 meeting with the Office of the Police Complaint  
46 Commissioner and asked that an investigation be  
47 ordered into all instances of Taser use by GVTAPS.

Deputy Chief Ken Allen (Law enforcement presenter)  
Presentation  
Questions by Mr. Vertlieb (cont'd)

1 Second, we asked that this investigation be  
2 conducted by a police agency external to our  
3 organization, and third we also asked that the  
4 findings of that investigation be assessed by the  
5 Chief of Police of a third agency external to both  
6 GVTAPS and the investigative agency.

7 Finally, we met with the Police Board and  
8 made immediate changes to our policy on Taser use.  
9 We will continue to monitor the effectiveness of  
10 this policy and make further changes as required.

11 We have taken advice and acted with great  
12 care to ensure our presentation here today could  
13 be conducted in a manner that both serves the  
14 purpose of this inquiry and preserves the  
15 integrity of the Police Complaint Commissioner  
16 investigation. Thank you.

17 THE COMMISSIONER: Well, thank you very much. We may  
18 have a few questions also.

19  
20 QUESTIONS BY MR. VERTLIEB, continuing:

21  
22 Q Officer, how many members are there on your Police  
23 Board?

24 A The Police Board, there are seven Police Board  
25 members.

26 Q So four are police and three non-police?

27 A That's correct.

28 Q I just want to be clear on the policy because it  
29 seems that it's changed very recently. The policy  
30 that we were originally provided was a policy from  
31 May of 2007. And I just want to read out that  
32 policy and then we can discuss the policy that was  
33 changed in the last couple of weeks or so. So the  
34 policy up until very recently said that:

35  
36 A Taser may be deployed by a qualified  
37 officer to gain physical control of a non-  
38 compliant, suicidal, potentially violent or  
39 violent subject...

40  
41 Et cetera. Now, that was the old policy.

42 A That's correct.

43 Q And the new policy has been changed so that the  
44 words "non-compliant" is taken out and it's now  
45 "active resistance"; is that correct?

46 A That's correct.

47 Q But before doing that, in April you took out the

1 words "non-compliant".

2 A The Police Board directed that the words "non-

3 compliant" be taken out of the policy, yes.

4 Q So what happened is the policy for quite a long

5 time allowed Taser to be used for a non-compliant

6 person, correct?

7 A That's correct.

8 Q And then in April of 2008 the policy was changed

9 so that you could no longer Taser somebody who was

10 simply non-compliant.

11 A The terminology or the word "non-compliant" was

12 taken out, that is correct.

13 Q And then on Monday you've changed the policy to

14 now allow for "active resistance" as a

15 justification for Taser?

16 A That's correct.

17 Q So why would it not have been sufficient to have

18 Taser use when someone was potentially violent?

19 Why did you need to add "active resistance"?

20 A I can't speak directly for the Board, although I

21 was present during the discussions in which this

22 arose. The Board felt that there was an area that

23 there may be use for the Taser that was not a

24 necessarily a potentially violent situation, but

25 one where there was active resistance, and the

26 nature of the event called for intervention at

27 that level.

28 Q So let's just discuss the scenario. Say

29 apparently there are these fare blitzes, there's

30 something called a fare blitz that takes place?

31 A Yes, that's correct.

32 Q And what is a fare blitz?

33 A It's normally conducted within the fare-paid zone

34 of a station, and passengers that enter into the

35 fare-paid zone, their fares are all checked.

36 Those that do not have a fare are either contacted

37 directly by a police officer or directed by a

38 police officer, by a SkyTrain attendant who has

39 been checking the fares in conjunction with the

40 officers at a fare blitz, and a violation ticket

41 is written up for not having a fare.

42 Q So take the scenario, you're running a fare blitz,

43 and someone is in the fare-paid zone, follow?

44 A Mm-hmm.

45 Q And somebody sees the police during this fare

46 blitz and turns and runs.

47 A Mm-hmm.

Deputy Chief Ken Allen (Law enforcement presenter)  
Questions by Mr. Vertlieb (cont'd)

1 Q Would your new policy allow you to deploy Taser as  
2 that person was fleeing?

3 A It would depend on extenuating circumstances  
4 surrounding why the individual was fleeing, what  
5 information the officer has available to him at  
6 that time, what would create the escalation in the  
7 use of force to that level.

8 Q Well, I'm just really referring to a scenario that  
9 we've been canvassing. Well, let me put it this  
10 way. The scenario put to you in your previous  
11 policy would Taser have been justified simply for  
12 a person running away from the police during a  
13 fare blitz?

14 A No.

15 Q I'm having some trouble with that. Part of the  
16 information we were given by your Authority were  
17 some extracts from some of the events. And we  
18 were told of an event where a subject ran from  
19 officers during a fare blitz, no proof of fare  
20 paid while in a fare-paid zone. Taser deploys as  
21 subject fled. An internal review conducted saying  
22 that was within guidelines. Now, I thought  
23 perhaps that was the old guideline and you would  
24 say that the new guideline would not allow that.  
25 Have I misunderstood?

26 A We fully support the inquiry that's before us here  
27 in the use of Tasers and the policy associated to  
28 that. This ventures into an area that deals with  
29 one of the investigations that is currently being  
30 conducted by the external investigation as ordered  
31 by the office of the Police Complaint  
32 Commissioner, and my comments to any one of these  
33 particular investigations could prejudice that  
34 investigation that is currently underway.

35 Q So based on this new policy, if --

36 THE COMMISSIONER: Let me just intervene for a moment,  
37 sir.

38 MR. VERTLIEB: Sorry.

39 THE COMMISSIONER: Let's just give the example of you  
40 do have someone in that zone who is being checked  
41 and upon it being discovered that he didn't have a  
42 ticket he turned and fled, and you have nothing  
43 more than that. Under your new policy would you  
44 call that "actively resistant"?

45 A Not in itself, no, Mr. Commissioner.

46 THE COMMISSIONER: All right. And obviously it's not  
47 suicidal or potentially violent?

Deputy Chief Ken Allen (Law enforcement presenter)  
Questions by Mr. Vertlieb (cont'd)

- 1 A That's correct.  
2 THE COMMISSIONER: All right, thank you.  
3 MR. VERTLIEB:  
4 Q Can you tell us, please, about the data tracking  
5 that your force does for Taser?  
6 A Yes. We use the provincially mandated police  
7 reporting system of PRIME, and all occurrences are  
8 entered into that information management system.  
9 And we can retrieve all of the information with  
10 respect to Taser use from that source.  
11 Q When was Taser first introduced?  
12 A In our department in July of 2007.  
13 Q And what review or investigation was undertaken by  
14 your force before the introduction?  
15 A I think I need some clarification on the question  
16 you're asking.  
17 Q Well, what investigation or review did you conduct  
18 before deciding to go with Taser as a tool?  
19 A With regard to the use of the Tasers or in  
20 carrying the Tasers?  
21 Q Yes, in regard to deployment of them in the force.  
22 Did you get any --  
23 A We looked at the policies that other agencies had  
24 created, we looked at the particular environment  
25 that we work in and working within the Use of  
26 Force continuum, our policy was created based on  
27 that.  
28 Q As to the Taser sign out, how do you do that? How  
29 do you control who has one of the weapons?  
30 A Each Taser is signed out through the Watch  
31 Commander's office, and the serial number of the  
32 Taser is recorded on sign-out and it's checked  
33 back in when it's brought back into the office.  
34 Q Are cartridges tracked?  
35 A I can't accurately speak to whether the cartridges  
36 are tracked individually or not when they're  
37 issued. They have a tracking system within them  
38 when they're fired that does provide for that. If  
39 the Taser is deployed, there's a tracking system  
40 built into the Taser itself which records every  
41 time the Taser is turned on.  
42 Q We've heard about that. Are the cartridges  
43 tracked in any way against reported use?  
44 A Yes, they are. And that is part of the  
45 supervisor's role is to attend to the scene and  
46 seize the expended cartridges as exhibits.  
47 Q But you're not sure if the cartridges are checked

- 1 out when they're taken?
- 2 A I cannot recall offhand whether or not they are in  
3 fact checked out.
- 4 Q Let's move to training. How many hours is the  
5 training for a police officer with your force?
- 6 A Pardon me?
- 7 Q How many hours is the training?
- 8 A For the users it's an eight-hour course, and our  
9 policy directs that they will be re-certified a  
10 minimum every two years.
- 11 Q Every two years.
- 12 A That's correct.
- 13 Q Is that --
- 14 A That re-certification is a four-hour re-  
15 certification. The individual re-certifies within  
16 that four hours, they would receive that  
17 certification. If they require further training,  
18 they receive that at that time.
- 19 Q And is it every two years based on 24 months,  
20 or...
- 21 A 24 months, that's correct.
- 22 Q Do you have any policy on multiple deployments of  
23 the Taser?
- 24 A Again I would ask for clarification on your  
25 question.
- 26 Q Well, we've heard that the shot lasts five  
27 seconds. Is there any policy on multiple  
28 triggers?
- 29 A No, there is not. That's depending -- there is no  
30 policy on that, that would depend on the  
31 circumstances under which it would be deployed.
- 32 Q Do you train for any circumstances where officers  
33 should avoid using the Taser?
- 34 A No.
- 35 Q Do you train people in this term "excited  
36 delirium" which we've heard about?
- 37 A The term is used. We don't do any training,  
38 specific training with respect to excited  
39 delirium.
- 40 Q What are your officers told in training regarding  
41 the potential dangers of Tasering a subject?
- 42 A the biggest thing is the individual involuntarily  
43 collapsing to the floor, and the surroundings  
44 under which they use the Taser to ensure that  
45 there's no explosive material in the vicinity.
- 46 Q You're now keeping track of the times the Taser is  
47 deholstered, taken from the holster?

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- 1 A Yes, that's correct.
- 2 Q And who reviews that?
- 3 A That would predominantly be the officer in charge  
4 of the operations in tracking to view which  
5 officers are using it, under written circumstances  
6 of why it was taken from the holster.
- 7 Q Is there any procedure in place for detecting a  
8 use which is not in compliance with policy?
- 9 A Each deployment is investigated internally, or not  
10 investigated internally but is reviewed internally  
11 to ensure that policy procedures and training have  
12 been adhered to. With respect to taking it out of  
13 the holster, it depends on the circumstances that  
14 would be recorded.
- 15 Q Why did you change to now want that data kept?
- 16 A It was just another source of information that we  
17 wanted to be able to track, particularly with the  
18 controversy with the use of Tasers we wanted to be  
19 able to track to see how many times they would  
20 have been taken from the holster, not used, and  
21 what's recorded with respect to what occurred when  
22 that occurred, when the Taser was taken from the  
23 holster, whether compliance was met or some other  
24 circumstances took place during that encounter.
- 25 Q Moving on to the subject of downloading from the  
26 Taser, do you have the software to download data  
27 from the Taser?
- 28 A That's correct.
- 29 Q And is the data downloaded?
- 30 A Yes, it is.
- 31 Q And how often?
- 32 A Every time that the Taser is deployed it's  
33 downloaded.
- 34 Q And what happens then?
- 35 A Again it's a review of that information to  
36 determine whether policy has been met with respect  
37 to the information that's there, whether training  
38 is required, and we download both the internal  
39 information from the Taser with respect to the  
40 duration that it was fired, the number of times it  
41 was fired, and the video and audio-recording from  
42 that Taser.
- 43 Q So is that data compared with reported use?
- 44 A Yes, it is.
- 45 Q And so are you confident that you are catching any  
46 unreported use of the Taser?
- 47 A We have not had any incidents where that has been

1 identified.

2 THE COMMISSIONER: I wonder if you could help me with  
3 this. I am told that a parallel organization to  
4 yours, the Transit Police Authority in Toronto,  
5 don't find it necessary to have either a firearm  
6 or a Taser on their person. Could you tell me  
7 what type of crime it is that you are anticipating  
8 meeting?

9 A That we are anticipating?

10 THE COMMISSIONER: Yes. What actual crime is it that  
11 you are meeting?

12 A We encounter the same criminal element in and  
13 around the SkyTrain and the transit environment  
14 that the jurisdictional police encounter. We have  
15 robberies, we have armed robberies, we have  
16 persons that carry firearms on their person,  
17 persons that have been found on the system with  
18 body armour and fully loaded weapons, reports of  
19 shots fired in and around stations. We attend and  
20 assist jurisdictional police agencies in close  
21 proximity to the stations within a couple of block  
22 area, in dealing with all of the criminal  
23 incivilities that they, too, deal with.

24 THE COMMISSIONER: Now, I'm wondering where your people  
25 are positioned, on the train, in and about the  
26 platforms?

27 A They ride the train, they do mostly it's riding  
28 the train, getting off, making patrols around the  
29 stations, like I say, within approximately a two-  
30 block area of the station to make sure that the  
31 environment around the stations is as safe as we  
32 can possibly provide so that our persons that are  
33 using the transit system can come and go to the  
34 systems in relative safety. There has been many  
35 instance where there has been robberies and  
36 assaults occur on patrons who have left the  
37 SkyTrain or buses, or coming to the SkyTrain or  
38 buses in the surrounding communities in which they  
39 are making their way to that transit system.

40 THE COMMISSIONER: All right, that's most helpful.  
41 Anything further?

42 MR. VERTLIEB:

43 Q Is it the case that your police authority is the  
44 only transit police authority in Canada to carry  
45 weapons, including Taser?

46 A We are the only police agency associated to  
47 transportation in Canada. The Toronto Transit

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1           commission, they are Special Provincial Constables  
2           working under the direction of the Toronto Police  
3           Department, but there is no other armed policing,  
4           fully police recognition agency that works with  
5           transportation systems in Canada.

6           Q     So your force is the only one in Canada that  
7           carries firearms and Tasers?

8           A     That's correct.

9           Q     For transit.

10          A     For transit. And we are unique in respect to the  
11          jurisdictions that we travel through. Most of the  
12          other transit systems do not have the multiple  
13          jurisdictions that we encounter here in the Lower  
14          Mainland.

15          MR. VERTLIEB: Thank you very much.

16          THE COMMISSIONER: Officer, I am very happy that you  
17          were able to come and your presentation is very  
18          much welcomed. Thank you for the time.

19          A     Thank you, Mr. Commissioner.

20

21                   (PRESENTER EXCUSED)

22

23          THE COMMISSIONER: Now, Counsel, first of all, I  
24          understand that we can't have this room next week,  
25          and accordingly on Tuesday we are now where?

26          MR. VERTLIEB: We are at the Federal Court, which is  
27          701 West Georgia.

28          THE COMMISSIONER: Federal Court, 701 West Georgia.  
29          And can you give us an indication, I know it's  
30          very much in flux, but can you say anything about  
31          who will be present on Tuesday?

32          MR. VERTLIEB: yes. We are expecting to have two  
33          physicians, Dr. Charles Kerr, the cardiologist,  
34          and Dr. Mike Janusz, a heart surgeon, and then  
35          Staff Sergeant Joe Spindor from New West Police  
36          Department in the afternoon, and perhaps somebody  
37          else.

38          THE COMMISSIONER: Thank you very much. Adjourn, then,  
39          until Tuesday at 10:00.

40

41                   (PROCEEDINGS ADJOURNED TO MAY 20, 2008 AT  
42                   10:00 A.M.)

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