

This transcript is the uncertified transcript of the California Department of Public Health (CDPH) Human Stem Cell Research (HSCR) Advisory Committee meeting held on November 30, 2010. This transcript has not been reviewed for accuracy and has not been approved by the CDPH HSCR Advisory Committee.

Moderator: Ahmad Shabbir
November 30, 2010
09:00 am PST

Coordinator: Welcome and thank you all for standing by. At this time all participants will be on a listen-only mode until the question and answer session for today's call.

I would also like to inform all participants this conference call is being recorded. If you have any objections you may disconnect at this time.

I would now like to turn today's conference over to Professor Greely. Thank you. You may begin.

Henry Greely: Thank you very much. Well welcome. Thanks for coming back. We haven't seen each other for about 18 months at least collectively which has been a long time. Time has slipped away.

I think I hope productively for - productively and ethically for California stem cell research.

We might as well - now there are a couple of people around the edges of the rooms who may not know everyone so let's do introductions, committee members first and then guests, staff and guests.

Hank Greely, Chair of the Committee Law Professor here at Stanford.

Otoniel Martinez-Maza: Otto Martinez-Maza. I'm a member of the UCLA AIDS Institute.
And I serve on the UCLA ESCRO as well.

David Magnus: David Magnus. I'm Director of the center here and a member of SCRO and
the committee.

Samuel Cheshire: Samuel Cheshire, Professor of Pediatric Neurosurgery here at Stanford and a
member of the committee.

Henry Greely: Are you able to hear us Elliot?

Elliot Dorff: Yes I am. That's fine.

Henry Greely: And introduce yourself. You're next.

Elliot Dorff: I'm Elliot Dorff. I'm a conservative rabbi and I have a doctorate in philosophy
and I teach philosophy at the at the American Jewish University in Los
Angeles.

Henry Greely: Now your political views (unintelligible).

Elliot Dorff: Oh I'm happy to tell you them but that's - I don't think they're relevant.

Henry Greely: State staff?

Heidi Mergenthaler: I'm Heidi Mergenthaler with the California Department of Public Health
Human Stem Cell Research Program.

Amber Christiansen: I'm Amber Christiansen with the State of California Department of Public
Health.

Henry Greely: And guests?

Molly Havard: (Molly Havard). And I'm (with Stanford).

Mario Garcia: I'm Mario Garcia IRB SCRO Manager...

Henry Greely: With?

Mario Garcia: Stanford University.

Sarah Cho: (Sarah Cho with Stanford).

Shannon Smith-Crowley: And I'm Shannon Smith-Crowley with the American Society for Reproductive Medicine.

Henry Greely: All right now we are anticipating...

Geoffrey Lomax: Got one more person.

Henry Greely: Oh yes Geoff. I forgot. How could I forget the elephant in the room? Sorry, the bear in the room?

Geoffrey Lomax: That's better. Geoff Lomax, California Institute for Regenerative Medicine.

Henry Greely: We are expecting some more members. We currently have four physically present, one on the phone line which is short of our necessary quorum.

So until we get a quorum we won't be able to take any action but I think we can have some discussion as well as some informational presentation.

I think our first item on the agenda is approval of the meeting minutes. I had just one question about the meeting minutes which is more a reflection of my aging brain than anything else.

This meeting on May 21, 2009, our most recent meeting. Where was it held the law school? This is the one at the law school, okay?

Woman: Oh yes.

Man: Is that the one at Stanford Law School? It wasn't...

Woman: It was the phone call.

Woman: Teleconference.

Man: Oh was that right?

Henry Greely: There was a physical presence. David and I were a physical presence.

David Magnus: That's right. At the law school, that's right.

Henry Greely: So if we could just for the sake of my peace of mind amend it note where it was held or how it was held. But otherwise I had no corrections or additions to the minutes.

Anyone else have changes, corrections, addition, subtractions, multiplications, divisions to the minutes? Is there a motion to approve the minutes?

David Magnus: Can we approve them without a quorum?

Henry Greely: He's right. So we'll put off formal approval of the minutes until we have a quorum. But it's nice to know that those of us present have no other changes to the minutes. Is there a report from the staff?

Heidi Mergenthaler: Yes we would like to talk just a few minutes about the CDPH human stem cell research legislative review.

Bertram Lubin: Find where to park my car. I didn't get in. I'm sorry.

Henry Greely: Dr. Lubin has arrived. His car is double parked.

Bertram Lubin: Disabled spot right...

Man: There is a...

Bertram Lubin: ...can somebody come with me...

((Crosstalk))

Henry Greely: Well hold - I've get somebody who's going to come out with - did you bring your permit with you?

Bertram Lubin: I don't have - I didn't get one.

Sam Cheshier: Here I have one. I have one I don't use.

David Magnus: We've - or I - we've got a bunch of them.

Henry Greely: Oh really? Okay.

Woman: Could I get one also?

Man: Sure.

Man: Slick entrance.

Bertram Lubin: I've been here but circling around trying to find a...

Henry Greely: Oh I'm sorry Bert.

(Crosstalk)

Henry Greely: We should have given you better directions. We didn't think you're coming. I didn't think you were coming. Glad to see you.

Man: And this is for...

Henry Greely: Elliot I don't know whether you heard all that. Bert just showed up but his parking permit hasn't so getting him legally and ethically parked.

Elliot Dorff: Okay.

Henry Greely: And then he will be joining the meeting. And given that I think maybe we should tap dance for a few minutes until Bert gets here after having legally parked because I'm sure as co-chair he would be interested in the report from the staff.

Woman: Okay sounds good.

David Magnus: You need to actually put that in your car.

Woman: Yes I'm going to.

Henry Greely: Okay good.

Woman: Thank you.

Henry Greely: How's the weather down there Elliot?

Elliot Dorff: Cold actually. It was 40 degrees when I left the house this morning and windy also. So it's a sunny Southern California day but I'm afraid not a warm one, you know.

But I come from Milwaukee originally and this is nothing. This is I remember Januarys and Februarys that did not get above zero so, you know, what can I tell you? What's it like up there?

Henry Greely: Forty degrees would be a little warm for up here right now.

Elliot Dorff: I see.

Henry Greely: A couple nights we've had frost on part of my lawn but it's been so close to 32 that I live on a hill and part of the lawn is on a slope and part of it's flat and only the flat part has gotten frost.

Elliot Dorff: Oh.

Henry Greely: This colder air kind of rolls down off the hill and...

Elliot Dorff: Right.

Henry Greely: ...pools on the bottom. So we've been having lows here on campus right around 32.

Elliot Dorff: Wow.

Henry Greely: My daughter just came back from her first bit of her freshman year at the University of Montana...

Elliot Dorff: My goodness.

Henry Greely: She flew in from Thanksgiving when she left Missoula, the low that day was going to be minus 10. She tells that she's still happy out there but we'll see come late February.

Elliot Dorff: What did you teach her that she's so happy? Tolerance I guess.

Henry Greely: I think strong desire to get away from home.

Elliot Dorff: I see. Yes, that is called normal.

Henry Greely: I'd like to visit her anytime between November and April given those temperatures.

Elliot Dorff: Right.

Bernard Lo: Hi Hank?

Henry Greely: Yes.

Bernard Lo: It's Bernie. I'm up - on the call. I get stuck on the wrong line for a minute.

Henry Greely: Oh I'm glad to have you here. We are tap dancing right now because Bert is parking his car in a...

Bernard Lo: I understand.

Henry Greely: ...legal spot but that means we will have a quorum as soon as Bert gets here.

Bernard Lo: Okay and one warning, I have to duck out around 10:15 for another meeting and will rejoin around 11:00 something.

Henry Greely: Elliot actually has to duck out in about 12 minutes right?

Elliot Dorff: Right.

Henry Greely: So the only official action we will take before we lose our quorum although we're expecting a couple more people so we should get back up to a quorum.

The only official action we will take as soon as Bert walks in the door is take a vote on the approval of the minutes of our last meeting as currently amended to say where the meeting took place because I found it disconcerting that I couldn't remember.

So Bernie I take you're not going to be here physically?

Bernard Lo: No, not unless you can tela-transport me.

Henry Greely: We'll work on it. Have you seen Star Trek the most recent version where the transporter beam is brand new and there is substantial concern about how effective it may or may not be?

Not as good of course as galaxy quest transporter beam. I wish Bert would come back so he could cease this monologue here.

Man: He's here.

Henry Greely: Ah, there he is, good. All right let the record reflect that the tap dancing has finished.

Man: We should approve the minutes before...

Henry Greely: We now have Bernie Lo on the line and Bert Lubin physically present at the meeting so there are seven of us, a quorum.

I want to return to the agenda item of the minutes of our previous meeting of May 21, 2009. There's a motion to approve those minutes with an amendment indicating where the meeting took place. Is there a motion to that effect?

Elliot Dorff: So moved.

Henry Greely: Is there a second?

Fred Gage: This the second and this is from Rusty Gage. I've been - I was on mute for a long time. They finally released me so...

Henry Greely: Oh.

Fred Gage: I've been listening but I'm on board now.

Radhika Rao: Hi Hank. This is Radhika. I'm on board too.

Henry Greely: Okay great. Well this is an unexpected pleasure. I'm - we're now up to nine so I'm glad you're all on. I can't imagine Rusty that they put you off mute. I instructed them to keep you on mute for the whole meeting.

Fred Gage: Nice try.

Henry Greely: Oh well. So we've got a motion on the table, motion moved and seconded to approve the meeting minutes for our last meeting, all in favor say aye.

Man: Aye.

Woman: Aye.

Man: Aye.

Man: Aye.

Henry Greely: Abstentions? The minutes are approved. We're now moving to a report from the Department of Public Health. Heidi go ahead.

Heidi Mergenthaler: Oh, the legislative CDPH Human Stem Cell Human stem cell research legislative review on embryonic stem cell research was just recently posted to our Web site.

So I thought I take just a few minutes to kind of summarize and go over it a little bit. But for more details you can always go on our Web site and look at some graphs and charts and that sort of thing.

As you know SCRO committees are required by statute to review human embryonic stem cell research in California annually and report on the status and disposition of these research projects to CDPH.

We are required to biennially compile this information and produce a legislative review.

Statute also requires that research that involves assisted oocyte production also provide certain written components on human subjects in oocytes which we also must aggregate and provide.

So the first review which we just released was for the reporting period January 1, 2007 through June 30, 2008, an 18 month period.

We had 15 SCRO committees report on 244 human embryonic stem cell research projects from 16 institutions.

And of those 16 institutions ten were public and private universities, three were research institutions, and three were hospitals and medical centers.

And we had no research projects report that they were using human oocyte retrievals for research purposes.

The status for - on these projects was that 94% of the projects were still in progress at the end of the reporting period, 5% were terminated early or closed, and 1% of the projects had been completed.

There were no unanticipated problems or unforeseen issues or serious instances of investigator noncompliance.

And I just want to note that the 5% that terminated early does not imply that there was some sort of non-compliance. That would be no research renewal for the funding or the researcher just ended the project early. So that's what that 5% is.

The status and activity of research projects was further determined using designated list of eight types of research that was commonly cited in stem cell scientific literature.

And by far - oh and I also wanted to note - a note that the research types are not mutually exclusive and project types can fall into multiple categories.

But by far the largest one was almost 98% of the human embryonic stem cell research that was reported to us was conducted in vitro.

Almost half involved human embryonic stem cell research in vivo, 7% were deriving new human embryonic stem cell lines, 5% involved the use of human embryos.

Three percent were SCNT, 3% used or planned to use human oocytes. And less than 1% involved parthenogenesis and we had no clinical trials reported.

So moving onto the research project activities, we had to use the research project title because we don't have abstracts included in our reporting forms.

We used the research project titles to determine more specific information about the goals or focus of research project activities.

And we found that 53 were cell mechanisms of action related. And of those 39 or 57% were nervous system related and 20% were cardiovascular system related, and then 64 were disease related research projects, 25% were on specific conditions such as Alzheimer's, diabetes, Parkinson's....

But of course I have to point out that project titles are limited by the amount of information. And the disease specific and cell mechanism data could only be based on these project titles. So they don't capture all projects for disease and cell mechanism categories.

And based on the - just the analysis of project titles the research focus could only be categorized for 26% or 64 of the reported projects.

So if you want more detailed information on the legislative review again, it's posted on our Web site. Look at the charts and the graphs and all of that.

We're still continuing to collect annual reports from the SCRO committees. And our next biennial legislative review will be this spring, spring of 2011. And that's it.

Henry Greely: Okay could you remind me what were the relevant dates that this last review covered?

Heidi Mergenthaler: January 1, 2007 through June 30, 2008.

Henry Greely: Okay other questions for Heidi about the review?

So Heidi I have a more general question about the Department, the role of this committee, et cetera.

Have there been any changes given what we know of course is a devastating budget deficit for the state?

Heidi Mergenthaler: At this point there are no changes. We're still - (hi). We're still fine as far as the committee goes. We still have funding and we want to continue.

Of course this legislative review as we show some of the information that we're getting, we continue to need your abilities and advice in making changes to guidelines so based on some of the information that we might be collecting through these reports. So there's a need for the committee. And I think the department recognizes that we still have the funding so we're going to continue.

David Magnus: And one thing to also keep in mind I mean it's hard to know there may be other changes but CIRM theoretically goes out of business in four more years or so. And at that point the guidelines that we've got is going to be it for California. So that - so I think that actually also speaks to the importance of keeping on top of things as we go forward.

Henry Greely: Do we know of anymore, any pending legislation that would be relevant to our issues...

Heidi Mergenthaler: No.

Henry Greely: ...at the state level. Other questions for Heidi? Just had another member of the public enter. Would you mind introducing yourself?

Lehoa Nguyen: Legal Council from the Department of Public Health.

Henry Greely: Okay.

((Crosstalk))

Elizabeth Blackburn: And also this is Liz Blackburn. I've just joined a few minutes ago too.

Henry Greely: Hello Liz.

Elizabeth Blackburn: Hello.

Henry Greely: So we actually have a very full committee here.

Man: That's great.

Henry Greely: But excuse me, what's your name?

Lehoa Nguyen: Lehoa Nguyen.

Henry Greely: Okay.

Lehoa Nguyen: That's L-E-H-O-A, last name N-G-U-Y-E-N.

Henry Greely: Okay well welcome, always glad to have another lawyer in the room. I may be the only one can say that.

((Crosstalk))

Woman: Right.

Henry Greely: But the next thing on our agenda is a report on the current status of stem cell research in California from the perspective of CIRM and Dr. Geoff Lomax. Geoff the floor is yours.

Geoffrey Lomax: Thank you. And I don't know if -- I did a short set of bullets. I don't know if it got circulated to people on the phone but individuals around the table have copies. So this is the...

Heidi Mergenthaler: We'll have to post that on our Web site when we get back.

Geoffrey Lomax: Okay.

Henry Greely: Is this the three pages that...

Geoffrey Lomax: No it's just - it's a two-pager. I did send - I think you have a copy?

Henry Greely: Yes. I don't know if you any way of quickly forwarding it around the committee. But regardless hopefully the report is clear enough where the absence of the memo will not be detrimental to folks who don't have it.

So and yet another prodigal returns. We're joined by another committee member, Dr. Stock.

Geoffrey Lomax: So this report really is, I think it's consistent with what's reflected in the meetings from the last meeting where we're sort of walking through changes that I've - through our regulations which tend to be I think somewhat minor.

They're more instrumental. They're really most of the changes since, you know, 2007, 2008 have been informed really by sort of feedback from our grantees.

So we think that's valuable in the sense that we're actually trying to sort of take something that was, you know, untested and refine it to a level where it, you know, supports both research and the objectives of sort of both our institute and the broader objectives of the Senate bill which is obviously doesn't ensure that the research is being conducted safely and appropriately in California.

So I'll go through Point 1 which is just a short set of changes that - and some of these we touched on last time. And some are new. I'll just walk through them again.

First of all our regulations were amended to include the use of all embryos that were created using in vitro fertilization for reproductive purposes.

And I think in this committee's infinite wisdom you always had a definition that focused on the use of embryos.

You had a definition that sort of captured the idea that you never intended to regulate non-IVF materials from a standpoint of payments if this was - if it was a payment issue.

But so I think it was very clever how you sort of said oocytes, I think you used the term research, you distinguished between research oocytes and use of oocytes and reproductive purpose.

I wish we had the benefit of that distinction a few years ago but we didn't. But again in part because of your lead we were able to make the case that we should have a sort of consistent approach.

And I think the other point is that allowing the use of all embryos that are no longer needed for reproductive purposes is entirely consistent with NIH guidelines as well.

So we're pleased that that's in place. The only difference between now and when I first reported on this, when I first reported on this it was in the process of being finalized through the Office of Administrative Law. That regulation is now final.

So we're all on the same page in terms of what embryos may be used in research. So that's a good change and that's an important change.

Moving to Section 100070 which is - that's the section which I think your Section 7 which where we sort of create categories of research that are subject either to an active review by an oversight committee or perhaps some type of notification process.

We've - and again, I think this is where there's a - there's some sort of subtle differences in the guidelines versus our regulations which is we have - used to require notification of any research involving the derivation of a pluripotent stem cell line. So that would have captured any work at all doing - with iPS say to create an iPS cell. Operationally that's what's important here.

There would be a notification requirement for a SCRO committee. We actually decided that, you know, that that was - the necessity of that notification was not clear.

So what we did is we decided to really look at, focus on, you know, the research specifically where the somatic cells that are being used to do a stem cell line derivation are identifiable.

And the thinking there was that the Oversight Committee should be aware of any human subjects research that's going on in a CIRM grant.

Now I think, I believe that you don't have the same requirement in the state guidelines. And I think that that difference is in my view fine because, you know, what CIRM is doing we're sort of actively managing grants and we're trying to make sure that the grants award - we're - in the process of actively managing and funding grants we need to have assurance that all required reviews and approval both under federal human subjects law and state requirements are in place prior to the issuing of a grants award.

So part of, you know, the value we see in that notification process is that we get a sort of positive verification from the Oversight Committee that the human subjects piece of that award is covered and specifically that the IRB review is in place we get a copy of that review.

So I'm not sure that I think that requirement is kind of more of an instrumental requirement that we like to see because of the way we manage awards. And again I'm not sure it's something that was contemplated in the state legislation or whether it's even something that you all feel the need to be involved with because it - again it is covered under federal guidelines and you're not a granting agency, so hope that was clear but it's a bit long-winded.

So the other part - thing I did want to point out and I don't think I mentioned this last time but it - I did notice it when I was again sort of going back and

doing a re-review of our rules versus the state guidelines, we do have in Section 100090(a) we do have a set of - we've kind of done a - there's a subtle difference in consent requirements.

As you, I think we're all aware that the guidelines and this - the regulations require the consent of both gamete donors in the case of an embryo donation for research.

And at some point over the last two years we've clarified that we will accept the use of embryos for which there was anonymous sperm donors contributing to the embryos if those embryos were created prior to the date of the guideline, the regulations taking effect.

And the idea there was that, you know, our understanding is that the embryos created at that point in time were created in accordance with the established rules policies and regulations and that there were embryos for which there could be no - sperm donor could not be identified due to the, you know, anonymous donation and that those materials, you know, sort of historic materials if you will, we didn't want to disqualify them for research use.

So again, but to highlight that I think it's a - I sense I'm not sure how it - that plays out in the state guidelines but it's something that I don't think we touched on last time in terms of differences.

The most recent amendments which are have yet to be approved by the governing board but I anticipate will go through was the inclusion of lines derived under the Australian licensing program as, you know, acceptable without committee review.

And you know, again our intent there is always to try to create, if we feel there's an active sort of process oversight licensing regime out there - a mechanism, then it doesn't seem necessary for the oversight committees to accumulate a lot of - duplicate work if we're comfortable from the get-go that the lines have been derived appropriately or responsibly.

I actually think the Australian system is very impressive. I was able to, you know, review the process for five specific lines and actually go through the paperwork.

And the thing that I actually as a kind of a footnote that I, you know, we it's funny because we've never talked about it but I thought it was very interesting is they had a process for first - a first level of consent for the use of the embryo in research and then a - if the embryo was used - if the attempt was made to derive a stem cell line and that derivation was successful they then had a second consent to actually allow the use of the embryonic stem cell line to move forward into research.

And it, you know, I just thought that was very interesting way to really make sure donors are really clear on sort of the steps in the process.

So we've - we're moving forward as you may be aware there's also some clinical grade lines that are - that CIRM's making available. And they were, you know, derived under this system as well.

So it's useful for us to - in the sense that we're both helping, try to bring lines forward to our grantees if we know they've, you know, been derived under a licensing scheme that's, you know, appropriate.

So I think with that I'll stop there. I mean I think again they're fairly minor. A lot of these issues have been covered and the deviations, the substantive deviations are pretty minor.

Henry Greely: I would note on the Australian lines our guidelines provide that anything that you approve in accordance with the regulatory code is automatically and acceptably derived for our purposes.

Section 6(a)(1) we talked about stem cell lines approved by recognized authorities. We listed NIH, the UK, two UK entities -- Canada, Japan and then after it'd be approved by CIRM in accordance with the California Code of Regulations.

So if you approve Australia we approve Australia.

Geoffrey Lomax: Actually just a point of clarification on that. It's - sorry the section that's cited however there is a section that it's now in the more recent draft regulation we have.

So it hasn't changed over. What that - that's a slightly different - it's a slightly different process. Section...

Henry Greely: Yes.

Geoffrey Lomax: ...100081 is - those are lines that were derived before the date of the regulation...

Henry Greely: Okay.

Geoffrey Lomax: ...and were - we acknowledged that they have some type of deficiency that they can't meet the acceptably devised standard.

Henry Greely: Right, okay, my mistake.

David Magnus: And that's what (f) was intended to capture.

Geoffrey Lomax: That's what (f)...

David Magnus: ...attempted to say and blanket anything CIRM says is okay.

Henry Greely: So if we want to follow you with respect to the Australian lines we would have to amend...

David Magnus: Section 6.

Henry Greely: ...6(a)(1) to add the Australian authority.

Geoffrey Lomax: Correct.

Henry Greely: Thanks for that clarification. I misunderstood. Other questions for Geoff?

Well again I'll ask a couple of other questions. I see Bert's hand. Bert go ahead.

Bertram Lubin: I like the presentation you made Heidi about the groups. And I wonder if CIRM has done, you know, group but in terms of those kinds of categories (unintelligible).

Geoffrey Lomax: Yes.

Bertram Lubin: Even without getting into the details of disclosing somebody's research would be of interest especially with the articles in the Sacramento Bee recently (unintelligible). That might be of value.

Geoffrey Lomax: There are - I mean we can I can - let me direct some stuff back to. The - there's actually quite a bit of work going in to characterizing the grant portfolio around sort of types of diseases, systems of, you know, along the lines in which they were in which they were, you know, nervous system versus...

Bertram Lubin: Because they would be fairly similar I would assume. And anybody that funded in the state of - I mean in the state of California they would go through these SCROs and then you'd get that information I'd check to see others...

Geoffrey Lomax: Yes.

Bertram Lubin: ...do match up.

Geoffrey Lomax: Well I suspect actually there'd be quite a bit of double counting in there too so which is - I don't think is, you know, again we're-- it's broad strokes. We're trying to get a sort of general...

Bertram Lubin: You are right.

Geoffrey Lomax: But I was sort of as the numbers are being sort of ticked off everything sounded sort of consistent. But, you know, having not done a side-by-side.

Henry Greely: Yes it could be a useful way to double check how well people are reporting.

Bertram Lubin: Right.

Henry Greely: People have reported to you and not to us that could be...

Bertram Lubin: Right.

Henry Greely: ...appropriate but it...

Bertram Lubin: Yes.

Henry Greely: ...could also be a sign of misreporting.

I've seen now that the FDA has approved its second IND for human use of human embryonic stem cell derived research with ACT.

I wonder if -- has CIRM been involved in either the Geron or the ACT human trials?

Geoffrey Lomax: I think there's been some discussions about how CIRM, you know, what role CIRM could play if any.

My understanding is the date though we haven't actually, you know, been involved as a sort of funding entity or any sort of regulatory capacity.

Henry Greely: Certainly to the extent the Geron trials were happening in California and the California sites where they presumably have gone through SCRO review under our guidelines as well as through IRB review.

Bertram Lubin: Are they reporting in vivo clinical trials?

Henry Greely: Earlier dates.

Bertram Lubin: Oh yes.

Woman: Yes.

Bertram Lubin: That's true, that's true, sorry.

Henry Greely: And I don't know whether ACT plans to do any other trials in California.

Bertram Lubin: What's the ACT studies?

((Crosstalk))

Henry Greely: Macular degeneration.

Bertram Lubin: Okay, fine.

Henry Greely: Early, you know, strongly genetic form of macular degeneration.

And then Geoff one other question for you and I understand your ability to answer this may be limited.

But something David pointed out, the longevity of CIRM, what is your understanding of what CIRM's status is going forward?

Geoffrey Lomax: Well I think the five year time horizon is roughly accurate.

Henry Greely: Does the time go from when it was adopted or when it was finally allowed by the courts to go and do a - to sell bonds?

Geoffrey Lomax: It's from the point of - it's ten years from when the bonds were first sold.

Henry Greely: Okay.

Geoffrey Lomax: And then obviously you've got a period of time afterwards where it's the period of time which you have authority to do the bonding. And then there's always usually bonding up to three years forward.

So in theory it's sort of five to seven years. There's, you know, if you've been reading the news there's talk about, you know, the initiative, you know, the viability of initiatives. That's anyone's guess.

So, you know, as a staff person I sort of - I think sort of five year time horizon. And then I think, you know, that's good solid point.

I mean if should there, you know, to what extent will there be any sort of framework in place for, you know, California guidelines. But because obviously our regulations would only cover research we fund so there would be after us...

Henry Greely: When were the first bonds sold?

Geoffrey Lomax: 2007.

Henry Greely: That was sort of my thought as well...

Geoffrey Lomax: Yes.

Henry Greely: ...that's when the litigation finally...

Geoffrey Lomax: Yes.

Henry Greely: ...concluded.

Geoffrey Lomax: I think it was late in 2007.

Henry Greely: But that would imply ten years...

Man: Right.

Henry Greely: ...2017. Then if you add in a couple more years for the bonds sold, the funding from bonds to work their way through the research system...

Geoffrey Lomax: Yep.

Henry Greely: ...you may be looking at more like 219 - 2019.

David Magnus: I don't think that's right. I think it was before 2007. It approved - it was approved in 2004 or...

Geoffrey Lomax: Sorry it was 2006.

David Magnus: Yes '06, that sounds right.

Geoffrey Lomax: Yes. Litigation wrapped up in...

David Magnus: And then in terms of the buy there's two issues. One is whether there's going to be some wrap-up stuff and so whether CIRM will exist. But the big issue in terms of the regulations is whether they're funding any research.

And so my understanding is that that things are - and so actually are things proceeding at pace in terms of their rate of pay out so that by 2016 the bulk of the research dollars that are being distributed would be - it would be done or is there sort of carryover?

Geoffrey Lomax: Well I think that - I mean if you've listened to the - there was the - this was the discussion at, oh gosh, it was a few ICOC meetings back. So there was sort of a - there was kind of a thought given to the ICOC at that level like there's sort of two scenarios.

One which is, you know, steady rate where you sort of burn down. There's another sort of scenario where you can - you would stretch it.

David Magnus: Yes.

Geoffrey Lomax: ...and I - I'm completely missing the details here obviously. But that was something that was a fairly extensive discussion...

David Magnus: Yes.

Geoffrey Lomax: ...at a board meeting.

David Magnus: Well I think the reason why is even if it does wind up stretching it out a little bit and the payout rate winds up declining which would be from my point of view I think a good thing in some ways because I think the cliff that we're all facing is kind of frightening. But so I like the idea of trying to cushion the blow from that.

But even if that happens the reality from a regulatory point of view, not only are we going to be hit at the point where it ends but in terms of funding of stem cell research in California as NIH funding becomes a bigger part of portfolios as the CIRM funding starts winding down even if it's an existence but a lower level and that's - and also especially as private funding and with the move to clinical trials those are almost all private funding.

So I think we're starting to see more - we're going to start seeing that. You know, in the early days when CIRM first started funding I know from my SCRO experience, you know, it was CIRM and everything else.

I don't see that now I'm saying...

Henry Greely: For those of you on the phone David is saying CIRM with his hands spread wide and everything else is very closely together.

David Magnus: But now I'm over - I think we're already seeing something where I don't have any data and how to keep track of it. But I'm guessing that it's closer to 50/50 now.

And in certain important domains like the clinical trials I suspect that's going to virtually all be falling under our guidelines and not the CIRM guidelines.

And I suspect that that ratio is going to continue to go in the other direction going forward.

Henry Greely: One of the interesting things about that I think is that, you know, again it depends on how the science plays out. But we also have already seen and I suspect will continue to see iPSCs...

David Magnus: Yes.

Henry Greely: ...play a bigger role. And our regulatory scheme or guidelines with respect to iPSCs are more limited...

David Magnus: Yes.

Henry Greely: ...than our guidelines with respect to hESCs.

David Magnus: Yes.

Henry Greely: So things may look quite different both in terms of who's funding it and in terms of what regulatory scheme applies to it.

David Magnus: Right.

Geoffrey Lomax: You know, I think just since you sort of opened that door of conversation if I just may chime in there. I mean because this is an interesting issue.

I know - Bernie I know it's an issue that you've raised a number of times and it's - well I mentioned - I mentioned it simply because it's come up in conversation a number of times from parties from out of state is that, you know, certainly under our regulations and then also under your guidelines are the sort of consent requirements do differ from NIH in terms of derivation of human embryonic stem cells.

And obviously, you know, in terms of kind of enforcement of that we have a more - we have an active role as again, because through our compliance program we're sort of actively doing it.

And I think it's an interesting sort of something to think about for this committee in terms of if you have a strong view on, you know, that requirement to what extent there's an opportunity to encourage or otherwise sort of advocate derivation in accordance with the California guidelines as opposed to NIH guidelines even though NIH may be doing the funding and the works going on in California.

I think that's, you know, kind of one of those issues that sort of hangs out there where there is a point of, you know, what's your view and, you know, how do you want to handle that.

I mean obviously we're very supportive of your position and we're actively doing that in the context of our grants. But that's not 100% of the picture. And as you've sort of suggested it may be a smaller piece of the picture over time.

Henry Greely: And of course there remain uncertainties about NIH funding. The current lawsuit is going to be - the appeal gets argued next Monday before the DC Circuit.

However that gets resolved change in political control the House of Representatives may have or may not have some ramifications for what happens with NIH funding. And so the NIH issues are to some extent up in the air.

Bertram Lubin: So it's just something to add to the iPS and, you know, (unintelligible) manipulating an iPS spin-off from a - somebody who obtained it from somebody who had a genetic disorder. You try to correct it in vivo. And then you do something with it - I mean in vitro and then do something back in the patient, you know, and where does that get reviewed?

The expertise on IRBs is not going to be strong in those areas. And the question is that they're going to have something that...

Henry Greely: Yes.

Bertram Lubin: ...we had another (opening). So I think that opens up a whole new thing. And I know we've discussed over the years cord blood but in this state with the Portantino Bill that was passed, the public cord blood banking, there could be public cord blood banking...

((Crosstalk))

Bertram Lubin: ...Clare Pomeroy's program is given less things to try to coordinate this. And that's not stem cell work but it is therapeutic work. And it has some value to it.

It would be the only state actually in the United States where money was actually given to support the program of public cord blood bank. Whether this could be wanting to have something new on that and a value on how it's done, that's worth (unintelligible).

I'm not saying you need it so much but I know about it a lot and it's something worth considering.

Henry Greely: Anyone on the phone have questions for Geoff?

Fred Gage: Yes, this is Rusty. I - you know there's another part of it. You're mentioning cord blood. For iPS cells the somatic tissues that are able to be reprogrammed is broadening. And in particular it looks for both direct programming and reprogramming, cord blood may be a source of cells.

How does that complicate the discussion if cord blood would not be used as a therapeutic cell delivery system but rather as a source of a reprogramming to iPS cells or to some other reprogrammed cell?

David Magnus: The one things I like about the way we've adjusted our guidelines is the actual - to me the derivation itself, the use of any somatic cells, the use of tissues and the derivation of cord cells from them don't raise to me issues that are unique from other kinds of bio banking issues and so are best handled by the existing regulatory apparatus that we've got for derivations, so our IRBs and so on.

But when you use those iPSCs to place them into nonhuman animals or when you do put, you know, new - fundamentally new kinds of cell types into humans in clinical trials that's where you start to get some of the issues where SCRO expertise is really relevant and important. And that's essentially what our guidelines require. So it's the uses of them, not the derivation or creation of the lines which I think is the right approach.

Henry Greely: Other comments or questions on the phone?

Bernard Lo: Yes Hank this is Bernie. So I'm taking off my CIRM hat and probably also taking off my CDPH hat but really putting on my sort of institutional SCRO chair hat.

And, you know, Geoff very nicely I think laid out the differences between the CIRM regulations and the CDPH guidelines.

And one thing that we've been thinking a lot about is the second bullet under his one on the first page, the 100070(c) with regard to research with somatic

cells to derive iPS lines or direct reprogramming for that matter and subsequent use of iPS lines.

And, you know, a number of our researchers have been I guess flummoxed by the differences between the CIRM regulations and the CDPH guidelines.

I was wanting to ask whether those of you at other institutions have felt this to be an issue with your researchers or not?

David Magnus: I don't think that's been a problem for us. I mean that's - our guidelines are more permissive right? So the 100070(c) which creates basically a set of fairly complicated requirements under which the research can go forward, ours just basically say that's not something that requires SCRO review.

In practice, individual SCROs can always decide that they want to apply the CIRM standards to all research. So if they want to do that and then require investigators to do that - any individual SCRO can certainly do that if that's what they choose. But the state basically is just silent on having any regulations on the actual derivation itself.

I - again, I think that's I think being more permissive there is better. And especially with an eye to what we talked about before going forward where we're going to be a bigger piece of that pie going forward. I think having it more permissive eventually what will happen is the CIRM guidelines will eventually fall out.

It makes sense for CIRM to be more restrictive. You're, you know, CIRM's paying for it. But saying that everybody does iPS research in California has to meet these extra hurdles over and above the federal regulations I just don't think is justifiable.

Bernard Lo: And those of you from San Diego or Los Angeles, your thoughts?

Otoniel Martinez-Maza: Similar for us at UCLA. I don't think it's been a problem particularly. We essentially defaulted to the CIRM regulations for the most part in our ESCRO.

Fred Gage: Likewise for San Diego, I believe for most of the institutions here.

Bernard Lo: So I'm sorry so you folks are requiring notification of your SCRO for purely in vitro research with de-identified somatic cells?

Otoniel Martinez-Maza: Yes.

Bernard Lo: You are? Okay.

David Magnus: So are we...

Bernard Lo: Okay.

David Magnus: So that is back what we're doing to make it easier.

Henry Greely: But should, you know, when and if the CIRM funded projects go away then presumably SCROs will adjust to the lower standard or different standard, the less intrusive standard of the - of our committee's guidelines.

Man: Right.

Bernard Lo: And there's probably a lot of enthusiasm from and investigators to take that course I would think.

(Man): Yes.

Henry Greely: Other questions or comments for Greg - for Geoff about Geoff's presentation from the phone or in the room?

Let me open it up now to members of the public both in the room or on the phone. Anybody have any other comments on this agenda item?

Mario Garcia: I have one comment. I'm curious Geoff about the Bio Time lines...

Geoffrey Lomax: Yes.

Mario Garcia: ...and whether you could comment on those at all from CIRM's perspective. Have you figured out if they will be on the registry?

Geoffrey Lomax: So we won't - well Bio Time lines were lines that were derived - specific lines that - I presume you're referring to the announcement.

So those lines were derived in 2005. They're lines that were derived in a manner where they were intended to be GMP compliant. So it's a - the later set of lines just to be clear because the Bio Times have a history of derivation or the lines that they're using.

They're using lines that were - I forget the name of the company that they've acquired. But so these are lines that were done in 2005. They were done in accordance with the licensing requirements which I described earlier, the Australian licensing requirement.

So we wouldn't actually put them on a registry. The only lines we register are lines that have been CIRM derived under our regulations so that we can give people a list of lines that meet that particular - you know, there's a particular - there's one provision in the regulations which say if it's CIRM derived then it's acceptable. That's what the registry is intended to capture.

Since this wasn't CIRM derived, rather it was derived someplace else it would either have to be determined to be essentially derived by an oversight committee.

In this case we know it was derived under the Australian rules. So we're in - we're on a trajectory I believe to sort of say those are fine.

So really I think operationally the question is between now and the time - the regulations are actually, you know, the ink's dry and it says, you know, how do we handle that. I've put in a query, my hope would be that if the board views this - can view this provision favorably which would be in a week's time that would be sufficient for them be able to send out a note page to our grantees that the board has acted favorably and for sort of the purposes of this agreement you can consider them acceptably derived.

I've put in a - obviously I've asked our council whether that's an appropriate course of action. So I haven't had a reply on that.

But that would be my hope because I think that's a reasonable way to move forward given sort of the issue and the precedent hearing and everything else.

So hopefully you will hear from us in a couple of weeks on the status of those - of the specific lines that were - provided they were done under the licensing arrangement.

And Bio Time, not all Bio Time lines have been derived in accordance. So wouldn't be - it would be the ones that were referred to in the recent statement that we sent.

Henry Greely: Okay. And do you think the likely timetable for that is?

Geoffrey Lomax: Well the board meets next week. So if - next - a week from tomorrow. So if they approve amending that I would hope in the next, you know, shortly thereafter I'd be able to - we'd be able to make this announcement.

But I - again, I want - need to sort of verify that there isn't a sort of procedural problem with that course of actions.

Henry Greely: But if things go well sometime in December?

Geoffrey Lomax: Yes.

Henry Greely: Of 2010?

Geoffrey Lomax: Of 2010.

Henry Greely: Okay other questions or comments for Geoff on the line or in the room?

Woman: (No).

Henry Greely: Go ahead. I thought I heard somebody on the phone start to say something.

Elizabeth Blackburn: Oh I just said no, no more questions or comments.

Henry Greely: Okay. Seeing and hearing none let's move to the next agenda item.

And I should say in terms of our agenda it doesn't have a lot on it today. And it is my expectation and hope that we will not - this meeting will not go to its full 1 o'clock period.

But we really only have one other agenda items specifically on consideration of amendments due to revisions, amendments in our guidelines to as a result of revisions to the CIRM regulations.

Some of those have been suggested in a handout that we've - or the issues have been raised in the handout we've got. And a few more may have come up as a result of this meeting.

In addition to that we will I think have a last implicit agenda item of new business if there's anything else anybody wants to bring up.

But I think we're down to new business of unknown significance and the revisions is our only remaining agenda items.

So I think maybe the best way to deal with the proposed revisions is to go through the three page handout that we've received. Heidi, did you prepare this or Amber?

Heidi Mergenthaler: Amber.

Henry Greely: Okay Amber do you want to walk us through this or...

Amber Christiansen: Sure I can. And I was really trying to point out through the issues that actually when Geoff came this summer we chatted about some of this and also to help stimulate other...

Henry Greely: All right, so basically you were looking for places where changes in CIRM's regulations potentially had some consequences for our guidelines right?

Amber Christiansen: Right. So if we start with - so Section 2(e) that was - there aren't necessarily considerations for that. That's just pointing out some of the changes that we made the last meeting.

Moving on to Section 5(a) then...

Henry Greely: Well let's hold that for a second.

Amber Christiansen: Oh okay.

Henry Greely: So Bernie you expressed, you know, your question I think expressed some doubt about whether it's a good thing for us to have a different definition of covered research with respect to iPSCs than the CIRM definition.

Is that something you want to follow-up on or are you content with the differences?

Bernard Lo: I think I'd like to - I mean I think what Amber's going to do sort of looking at the differences and then I think we should look at whether any differences are okay or whether we should try to either clarify or narrow the differences. So...

Henry Greely: I take that as a suggestion that I let Amber go through the entire list and then we go back and pick up things that are - that we may care about right?

Bernard Lo: Sure. That's - I think that's fine.

Henry Greely: That sounds good. I'll shut up. Well, I'll try to.

Amber Christiansen: Okay so going...

Henry Greely: Amber breathed a sigh of relief.

Amber Christiansen: So going to Section 2(e) of the guidelines and we'll start with CIRM's Section 100020(c). Now here we're pointing out that the guidelines have a different definition now of covered research, of covered stem cell lines which essentially excludes most research involving induced pluripotent stem cells whereas CIRM retains their same definition.

And then Section 5(a) of the guidelines and CIRM Section 100070(a) has made some - and Geoff you can jump in if you'd like. But they've made some slight wording changes. And so this is just sort of a consideration of whether we would like to also match the wording that CIRM has.

So right now we have research involving the procurement or use of human oocytes as part of human stem cell research, et cetera. And then CIRM also includes procurement or use of human oocytes for the creation of human gametes.

So then in Section (b), again it's a slight wording change so just where we use the use of human embryos. And CIRM has added procurement, creation or use of human blastocysts and embryos.

And then for Section 5(d) we received a public comment about this and about clinical trials involving the use of human pluripotent cells or cells derived from human pluripotent cells may not commence without SCRO committee review and approval in writing.

And then Section 5(d)(2) provides assurance that all covered stem cell lines have been acceptably derived.

So I think there may have just been a minor oversight and when we changed our definition of covered research (unintelligible).

And then Section 5(f) of the guidelines, we'd started to talk about consent with regard to written notification.

So Section 5(f) again, I think this is also part of a public comment we received. And there's just a slight wording difference. The guidelines say refer to the introduction of human pluripotent cells and animals. And CIRM uses introduction of covered stem cell lines in animals.

And then for Section 6(a)(2)(B) of the guidelines and CIRM Section 100080 (a)(2) and Geoff addressed this earlier. And this is just noting that the changes to allowing embryos from IVF donation.

Then for Section 6(f) of the guidelines this is we - I guess we touched on this earlier with regards to whether the guidelines - whether we want to consider including in the guidelines deferring to CIRM for the addition of any future acceptably derived lines.

Section 7 of the guidelines for CIRM Section 100090 they used the proposition 71 cutoff date for embryos with regard to oocyte donor consent requirements.

So this is something we've talked a bit about in previous meetings with whether we want to consider including a statement in the guidelines about encouraging researchers to incorporate informed consent in the research design.

And then these last two points CIRM in Section 100090(a)(4) and 100100 (B)(5) refer to somatic cells being used to develop cells for transplantation into humans, for example cord blood and also refers to consent from the mother for cord blood cells.

Those are just some of the differences that we don't address in our guidelines.

Henry Greely: Okay, thank you Amber.

Of these - and I appreciate the difference - the considerations for committee review you put up with respect to these, are there some that you feel are particularly significant for us to deal with.

David Magnus: Some of the ones marked in blue are the ones that you thought were - should be considered?

Henry Greely: The ones where you put out considerations. But that's not necessarily the same as ones you thought were important.

Amber Christiansen: Well with regard to Section 5(f) we thought it might be - this maybe might be interesting in re-visiting the downstream research issues relating to informed consent in somatic cells.

Henry Greely: Okay.

Radhika Rao: Hank, this is Radhika.

Henry Greely: Radhika?

Radhika Rao: Hi. Yes, so Amber, I thought this was a great list. Thank you so much for doing this comparison.

And I also had some concerns about the question that Bernie was raising on the first - the first question for sort of committee review in blue is, you know, should the guidelines be revised to match the CIRM language with respect to the induced pluripotent stem cell lines in terms of the consistency with CIRM and some of the other subsequent questions that were raised by that. I think maybe we should talk about that. That seems like it's the biggest question before us.

Hello?

Bernard Lo: Hank are we still on the line here or did we get cut off somehow?

Radhika Rao: I can hear you now but there was kind of a gap there.

Bernard Lo: I'm just wondering if - I don't know if the room is hearing us.

Radhika Rao: Oh. Is that you Bernie?

Bernard Lo: Yes, it's me.

Radhika Rao: I can hear you but I can't hear anybody else push.

Fred Gage: Yes I can hear you two and I'm on the line as well. This is Rusty.

Radhika Rao: Rusty.

Bernard Lo: Yes. This is a problem that we had before. They stuck me - there's a public group that can listen but can't talk.

Fred Gage: No but we were talking earlier.

Bernard Lo: Yes.

Radhika Rao: You were talking earlier. And we were too.

Bernard Lo: Yes.

Fred Gage: Yes. I announced my...

Bernard Lo: Yes.

((Crosstalk))

Fred Gage: ...this parking lot where they couldn't hear me for a while.

Bernard Lo: All right, let me try sending an email to Hank and Heidi again.

Radhika Rao: And the other thing I could do I guess is all call in again.

Fred Gage: Yes.

Bernard Lo: Yes that's what I had to do the first time.

Radhika Rao: So what you think we should do?

Henry Greely: Hi, Radhika?

Radhika Rao: Oh yes? There we are.

Henry Greely: And everyone else?

Fred Gage: Yes.

Bernard Lo: Yes.

Woman: Yes we're here.

Henry Greely: Radhika, you broke the machine.

Radhika Rao: I broke the machine.

Henry Greely: And we've been off-line for reasons we cannot understand since about halfway through your first sentence.

Radhika Rao: Okay.

Henry Greely: So if you can take it from the top that would be helpful.

Radhika Rao: Okay. Well my question was just shouldn't we be addressing the first issue that's raised in the, you know, considerations for committee review, namely should the guidelines be revised to match the CIRM language with respect to the issue of the induced pluripotent stem cells and in terms of the, you know, consistency with CIRM and the kind of the problems for the researchers who are trying to understand these inconsistencies?

If they're already going before the SCRO committees because of the CIRM regulations does it make sense not to, you know, for us to not include the iPSC lines?

Henry Greely: Let me suggest right now, let's get a list of things that people want to talk about. So Radhika I've marked that on the list of potential changes, the revisiting the discussion about our - the extent to which we want to cover iPSCs.

Are there other variations here that people are concerned about such as 5(b), the issue of slight language difference there?

David Magnus: I think 5(a) the issue about whether we should cover...

((Crosstalk))

Henry Greely: ...right.

David Magnus: I think that's something that we should talk about. So to me that's - to me looking at this list that's the most significant new issue that's raised by the changes in the regulations that has a pro and a con that should be talked about.

I think there are a few other language things that need.

Henry Greely: 5(b) for example looks like that's a simple language issue isn't it?

David Magnus: Right.

Radhika Rao: Yes.

David Magnus: Right, so that - so the 5(b) - so there's a few minor changes that need to be - to take place. There's some things where I think the language is equivalent and doesn't make any difference. But we can talk about whether like does it make any difference whether you put in cells versus cell lines? I'm not sure that that makes any difference at all but...

Radhika Rao: Right.

Henry Greely: There's two issues under 5(f) I take it are really the same as...

Radhika Rao: Right.

Henry Greely: ...issue as that under 2(e), the issue of iPSCs...

David Magnus: Right.

Radhika Rao: Right.

David Magnus: ..which a year and plus working on. But that's okay.

Henry Greely: We understand, David.

Bernard Lo: You know, that this is Bernie. I just want to sort of signal that I would also favor discussing the issues that both David and Radhika raised.

Henry Greely: Is there anything else that we strongly care about? For example, 6(f) and the porting in of everything that - the potential problem if CIRM approves a cell line source that for statutory reasons is problematic for our committee. Is that something we need to think about? Amber you're making a face. What do you think?

Amber Christiansen: Yes. I mean I know that - I think we talked about it in a previous meeting.

Henry Greely: Yes. We may need to make then, I think perhaps some minor language change there to make it clear that we can't bless anything that CIRM approves that would violate statues. Going into great detail about that might be problematic.

That - so that might be a fairly minor technical one. What about these...

David Magnus: Wait, sorry. Can I ask just a clarification?

Henry Greely: Yes.

David Magnus: So by reference of 10 - of 100081 I thought all this does essentially make CIRM and acceptably - it makes them an acceptably - an authority.

And so things - when we say things are approved by a recognized authority and somebody goes through the petition process at CIRM it makes them comparable to the UK bank and so on.

It doesn't defer to CIRM and say anything that CIRM says is okay for funding. It just treats them like the UK bank. Is that a problem?

Well I'm not sure I understand why that would be any more of a problem than the - using the UK bank...

Henry Greely: I think that...

David Magnus: ...bank.

Henry Greely: ...it's the reference to 100081 may not be accurate. What it is - I think what, if I understood the explanation accurately by virtue of let's just take the UK stem cell bank for example, by virtue accepting anything they might accept, if they have let's say accepted a line created vis-à-vis egg sharing, does that fundamentally violate the statute?

And I don't know the answer to that. I think that's what you're - I think it's - the referenced 81 is actually not the...

Amber Christiansen: Okay.

David Magnus: It's the recognized authority that's an issue and whether it's CIRM or the UK bank which we've been doing for a long time.

Geoffrey Lomax: It's independent of yes if you have an automatic in and there's something in that automatic in provision that violates either the language or the spirit of...

David Magnus: The statute.

Henry Greely: ...1060 is that...

David Magnus: Twelve sixty.

Henry Greely: Twelve sixty. That's a - I thought that's - that's how I translated what I heard...

David Magnus: Is that you - is that the concern?

Amber Christiansen: Well yes or maybe 100080 is more accurate reference.

David Magnus: Yes because then it's really - that sounds right.

Geoffrey Lomax: So there's clearly a potential for 100080 to conflict with the list. And whether one - your view on whether that conflict is appropriate or not is something that's...

David Magnus: Well CIRM has that same issue because...

Geoffrey Lomax: That's right.

David Magnus: Right? So and you decided that not to make any changes with the respect to the UK bank correct?

Geoffrey Lomax: I think at this time given that there's no conflict, if a conflict were to emerge the sense is that to understand that conflict and to be able to weigh any scientific consideration against the - what's intended and (unintelligible) some guidelines, you know, to be able to - it's a balance point I think from a sort of policy discussion.

But it's always that ability to sort of incorporate in sort of the science in a real-time. So given that there's no conflict certainly in existence then we didn't feel the need to try to change anything.

David Magnus: And of course we've been doing that from the beginning with having that same list of recognized authorities.

Is there somebody who's weighed in as legal said that that - that essentially relying on 10 - on 100080 is a problem?

Lehoa Nguyen: Is that problem?

Amber Christiansen: I don't think so. Yeah.

((Crosstalk))

David Magnus: Yes.

Lehoa Nguyen: (Unintelligible) statute trumps regulation. So potential conflict would it create a problem with the regulation itself considering that the regulation itself, in turn will the regulation provide authority?

David Magnus: Which is basically what you're saying that you handled prop - you handled the same conflict with Prop 71.

Geoffrey Lomax: Yes.

David Magnus: But I would say that to me that would make sense because I don't think that the - the thing that this highlights is actually any different from anything else on 100080.

This just says the petition process adds another recognized authority. I mean CIRM obviously can't recognize itself as a recognized authority. So it's different from CIRM in that regard.

But I don't think that this - if this suggests that there's a concern because it's a blanket or something I don't think that's what it does.

Henry Greely: Okay. And it seems to me then that we've got really two issues on the table. I mean I - unless there is disagreement from the committee I think David's made a strong case that this isn't one we really need to take action on right now.

Maybe we should give it a little more thought between now and our next meeting. Maybe we shouldn't but it doesn't seem to be one that clearly requires thought.

We have the difference with respect to iPSCs and the difference with respect to the creation of human gametes. Any other differences on this chart that people want to discuss and potentially take action on today?

David Magnus: I think we should clean up the language.

Henry Greely: Yes.

David Magnus: But I think that's something we have to discuss a lot.

Henry Greely: Right, the cleanup. And I think the language clean up one is mainly 5(d) right?

David Magnus: And 5(f). So we have to clean up the covered cell line. That shouldn't be there.

Henry Greely: Okay. So let's take that, you know, language clean up as the third category. Anything else?

Okay let's take the gametes issue first I think is one that we haven't discussed before really.

Geoff, can you give us some background on why the CIRM regulation includes that?

Geoffrey Lomax: Sure. I think it's really twofold. I mean first and, you know, Bernie I think you should feel free to chime in because this - I think you were - you initiated this conversation which was there was not simply research cut out but actually grantees of CIRM proposing to derive human oocytes through - from non-embryonic sources.

And so the feeling was that this simply to be clear it's kind of a fairly blunt instrument but to be clear that that should clearly fall under the review of the stem cell research oversight committee.

I don't know do you have anything to add there Bernie?

Bernard Lo: Yes I think there are a couple issues that we might want to think about.

One is that current - many - the way consent is obtained for materials for human research often just is consent for unspecified research and doesn't mention sort of specific uses that are contemplated.

And I think it is certainly within the realm of possibility that someone who generally - a woman who generally supports research with human biological materials might if asked, well what would you think about a specific project to derive oocytes on these materials either by direct reprogramming or through an iPS cell from your materials.

And I think the next step would be if someone derived something that looked like an oocyte had the right markers, would the next step then be to try and test its functionality through in vitro fertilization?

And that clearly would raise some concerns about the creation of embryos for research so that having consent - I mean having a SCRO look at that offers the opportunity for them to see whether additional specific consent beyond just the consent for general research or for that matter taking cells that are de-identified and not human subjects research at all under the Federal 45 CFR 46, you would require some additional indication that the donor would have approved.

This is sort of an example of where the traditional common rule regulations as interpreted by OHRP may not fully capture concerns people have about use of materials for sensitive or even controversial issues.

And Hank, you've written about this in other context, I think the genomics context particularly where people may be glad to consent to research quoting without specification but may have concerns or may not have concerns about more specific projects.

Henry Greely: Yes so the implicit creation of human gametes from iPSCs would be particularly controversial, might be particularly controversial or upsetting to some donors right?

David Magnus: If they not - so under our approach right now if the gametes that are created are going to be used to actually create an embryo they would fall under SCRO review.

However, if they're used to create gametes and they're not, they're just - it just remains nothing but long-term research, then under our guidelines that's not required.

And I guess I'm still not - although I can see why some people might be disturbed by that, that's also true for as Bernie and Hank just pointed out, lots of things that arise in tissue procurement and research.

And we have a, you know, there may be ways where the system could be better than it is now.

But we have a system for doing that with IRBs.

I still don't see why the creation of gametes if they're not going to be used to create an embryo require SCRO review rather than just the current regulatory system we've got.

And in particular, SB 1260 which gave us our authority, it was pretty - it's pretty clear from that piece of legislation as mentioned here that the particular concerns that were identified had to do with risks to women for being oocyte donors which don't arise for iPSC research.

So I guess I'm not sure why we ought to change what we've already got.

I can understand the - a heightened concern that the gametes that are created are going to actually be used to create embryos.

But then under our approach that wouldn't receive SCRO review.

Henry Greely: So let's be clear. If the creation of human gametes is coming from use of human embryonic stem cells it's covered by our guidelines...

David Magnus: Right.

Henry Greely: ...it's covered by iPSCs, it's to be created from iPSCs, it's covered by our guidelines to the extent or in the event that those cells are put into nonhuman animals or put into human animals, humans, right?

Other views on this? Other thoughts?

Bernard Lo: If I could just ask a clarifying question. I mean - and since I agree with David, I'm not a particular fan of SCROs versus IRBs, but it - I think an issue is that it's possible the IRB would say this is not human - if it's - if someone's deriving gametes from de-identified tissue, an IRB would not review that because it's not human subjects research.

Radhika Rao: Right.

Bernard Lo: And, I guess my concern is, is that - I mean, should someone, whether it's an IRB or a SCRO have some oversight of that research because it's more sensitive than just doing you know some genomic sequencing and looking at functional markers?

Henry Greely: And so Bernie by saying it's more sensitive, it's the mere creation of the gametes without necessarily them being transferred into either an animal or a human, right?

Bernard Lo: Well - right, or doing purely in vitro work that involves fertilization in vitro.

David Magnus: I think fertilization actually - I think because then it would fall under our regulations as a creation of an embryo - involving the creation of the embryo. So - but what if it was strictly in vitro? You're just creating sperm and eggs, but you're not doing anything to actually create an embryo?

Henry Greely: I mean presumably, it would be the first thing you would do because...

Bernard Lo: Right.

Henry Greely: ...they look like they're sperm and eggs.

David Magnus: Well, there's actually - this research is ongoing, and that's not the first thing they do. The first thing they do is a lot of analysis of the genetics of it, and...

Henry Greely: Yes.

David Magnus: ...there's other stuff they do.

Henry Greely: Well, but now that's in vitro.

David Magnus: Right. So if you're doing in vitro stuff, does that - it might - there might be people who would object to it. I could imagine that, just like any - we know that there are people who object to certain uses of their genetic information. So, I think that is an issue, but it's a general issue that our IRBs have to deal with. It's not clear to me that it's something that is different from the other kinds of issues that arise for IRB, and hence require a SCRO review.

Radhika Rao: But, I thought Bernie was saying that an IRB might not deal - might not be dealing with it, or might be addressing it as a question of you know, not involving human subjects review.

Bernard Lo: Right. It would be exempt. I mean, it's technically exempt from IRB purview as per the common rule interpreted by OHRP.

((Crosstalk))

Bernard Lo: If it's de-identified.

Man: Yes.

Bernard Lo: Yes. Or for that matter, if it was procured under one of these - it may also be under - receive very little oversight saying that they agree to research in general without any specifications, so you know, they can - you know, the researcher can do anything. But, I'm more concerned about the de-identified specimens that you know I think now almost all institutions are just exempt from IRB purview.

Henry Greely: Otto?

Otoniel Martinez-Maza: Why is there a specific concern for gametes if they're not going to be used to create an embryo as opposed to any other form of tissue that you could you know, turn those cells into? I don't - I guess I don't fully understand the specific concern.

Samuel Cheshier: There's less of a technical challenge in making up a real human being from a gamete - from an embryo though.

Otoniel Martinez-Maza: But if you tried to do that, it would be covered.

Samuel Cheshier: Yes. Agreed.

Otoniel Martinez-Maza: So...

Samuel Cheshier: (Made priority).

Man: Right.

Gregory Stock: Yes. I agree with what David is saying. It feels to me like there is sensitivities about - in general about all sorts of aspects of research that we could come up with and that the guidelines were pretty clear related to concerns about women related - it feels like there's a sensitive - any of the truly sensitive realms that you might get into are going to be covered. So, it feels to me to modify the guidelines is - I don't find the case to do that.

Henry Greely: I mean presumably though, the special sensitivity would be people's - the view of some people that eggs and sperm are to some extent, and I don't necessarily mean this word literally, but sacred objects are special even if they are not combined.

((Crosstalk))

David Magnus: But, some of those same considerations - I mean, look at the Havasupai case. Some of those same considerations were wise for genetics research. I mean I think - I just...

Henry Greely: We treated the Havasupai case...

David Magnus: Well, what I - I guess it's a general problem...

Henry Greely: Yes.

David Magnus: ...that IRBs have to deal with and that our regulatory system has to deal with - it's not clear to me that solving that problem for this - it's not clear there's a case for why this particular domain needs to be treated differently from the larger class of things for which people are working to try and do a better job for.

I think to some extent, putting in the - you know, wanting better template language for all biobanking, I think that adding that into the guidelines that we encourage - and that everybody for all biobanking should include the template language that's recommended by CIRMM and by our guidelines of about things so you have better consent. So, I think that would be - that I think should encourage people to have a good consent process when they're going to do biobanking in general. And, that would be certainly true for those I think covering future uses for iPSC. But, that - I mean, I just don't think that that requires you know, SCRO oversight.

Radhika Rao: David, I agree with you on requiring a better template for all biobanking, but here's the issue I think with respect to gametes. I think most people when they donate their tissue are contemplating certain research uses, but I don't think they're realizing or thinking that their tissue could be turned into gametes.

And so I think there's a question partly of expectations that people don't expect that that might be true. And if they'd known that their tissue could be transformed into their gametes, maybe they would have thought differently about it in the first place. But if they - if there's never any mechanism for oversight of that, then - you know, so I think that's the difference with respect to gametes and tissue donation generally.

David Magnus: They also might not have thought that they could be turned into cardiomyocytes. So if they're not - if the gametes aren't going to be actually used to create a blastocyst or an embryo, why is it different than if it's a cardiomyocyte?

Henry Greely: I mean David I'm sympathetic. I don't know how I feel about this issue ultimately. But I do think that more people are likely to be concerned about their cells being made into eggs and sperm than are going to be concerned about their cells being made into cardiomyocytes.

Radhika Rao: Yes.

Henry Greely: That's an empirical guess, but I feel pretty good about that guess.

Radhika Rao: Me too.

Gregory Stock: But the point that David is making, and I would tend to agree is it's not that cells might be made into sperm; it's that that sperm might be then used to create an embryo. So if it doesn't progress to new life in some way, then it's just tissue research.

David Magnus: And can I add just one other scientific fact that I think is relevant to this? I mean, this has been happening already, whether people - and unintentionally, because when you do teratoma formation, when you put hESCs into non-human animals, which is basically what you're going to be doing, it's a more controlled process. When you do this, you're already creating - I mean, sperm shows up sometimes in the - when you actually put hESCs into non-human animals and you create teratomas, you get bunches of stuff.

So actually sperm has already been created and it's been created all along. All we're really - although the only issue is - so - is that that's a controlled process and once you use it to create an embryo, I think there are different issues that arise. But if all you're doing with that is refining an already existing process for deriving those materials, it's - you know, there's a whole bunch of different cell types that right now happen in a relatively undifferentiated fashion and we're starting to do a better job of sorting out the different cell types. This is just one more set of cell types. It's all already occurring.

Fred Gage: I would tend to agree with David's reasoning. Given the fact that the overt statement about ES cells, or iPS cells, is that these are cells that can give rise to every cell of the body, and that would include sperm and egg. So, that's already out there as an expectation of what ES cells can do.

The fact is that that's not possible for certain types of cells, or very efficiently, and that includes gametes, but it also includes various cells of the brain. There are many cell types of the brain that are just resistant to being differentiated in vitro. But, I do think the underlying premise is that ES cells can give rise to every cell of the body and the real concern is the fertilization between the egg. And if the ruling covers that already, then all the others are various cell types - all the cell types that can be derived from ES cells.

Henry Greely: Bernie, let me ask you if I can, let's say that we did make this amendment, and that in vitro research involving derivation of human gametes were covered by the regulation, and somebody wanted to do this using de-identified cells, what sort of SCRO review do you anticipate happening? Do you think in that context, the SCRO would or should ask to go back to look at the original consent if one were available?

Bernard Lo: Well, my - you know, I actually am sympathetic to the approach David suggested of really the issue is encouraging researchers who want to go through this line of research to derive gametes to do it with fresh tissue where people explicitly consented to that. I mean, I agree that more people are going to be sensitive to fertilization of a gamete derived in a lab than just deriving the gamete.

But, it strikes me if you've gone so far to actually derive gametes and then need to sort of switch to a different line or model because you didn't have consent to do the next step, it would not be an efficient way of doing research. And so I think that I would distinguish the incidental production of gametes as part of a teratoma from their intentional production as sort of a main - as the research objective.

So you know, I think the review of the actual derivation of a gamete by a committee is probably less important than encouraging the researchers to think ahead and not just use a line that they happen to have in the lab or easy to work with, but to actually think about the whole chain of steps in a line of research and to derive fresh tissue using a template consent form that really explicitly says you know, although this could possibly used to derive any cell line in the body, we are particularly interested in deriving gametes. And, here's the - you know, the way this would evolve, and it would include in vitro fertilization if we're successful.

I don't think you would have problems finding donors to donate skin fibroblast tissue for that. I mean certainly, women who have infertility problems or are cancer survivors I think would be very interested in specifically that type of research. And so, it's really more a matter of - I mean I agree, we don't want to erect any elaborate new oversight system where it may be overkill for most research, but I think if there's a way - since these are

guidelines and not regulations, if there's a way of sort of making this more kind of an educational recommendation in the researcher's self interest, that may be an approach worth taking.

David Magnus: I would say that to the best of my knowledge, that is in fact what's happening for everybody who's doing that research in California, that I know of. So, I believe in fact they are using fresh material where they've gotten explicit consent as part of the plan, as you indicate.

Henry Greely: Then we could require that through guidelines. We could try to encourage it, although I'm not sure that the guidelines are the proper mechanism to encourage somebody to do that. We could presumably, as an Advisory Committee, pass a resolution encouraging people to do this with fresh consents.

Note though that since this is already in the CIRM regulation, presumably if anybody is doing this with CIRM funding, and I think there are. I think...

Bernard Lo: Yes. There's one researcher, (Asher) from Stanford I believe, who has CIRM funding to do this.

Henry Greely: Renee Reijo-Pera I think has been doing this. Presumably this ESCRO has been or should be considering this under the CIRM regulations. So, it's not creating a - you know, because we're - we've got these two parallel streams, it's not that we would be creating an entirely new regulatory edifice, it would be expanding it from CIRM funded to non-CIRM funded. I'm not adverse to the idea of a resolution or some other statement encouraging people to do this.

David Magnus: My only concern - and this is a concern I have about the CIRM regulations because gametes are inadvertently created in teratomal formation, if

somebody was a stickler about the regulations, you could argue that actually that that consideration should be brought up by every SCRO for every teratomal formation. So I think it was bad idea for CIRM to have included that language, and I think it would be a mistake for us to mirror it.

Henry Greely: Greg?

Bernard Lo: Well, I think one fix that Geoff and I can think about is - you know, it's the intentional creation of human gametes as opposed to - I really think this is a double effect situation where creating as part of a teratoma is really different in saying (a specific gain) number one is to differentiate - is to reprogram to create a - oocytes...

Gregory Stock: A question. Are there situations where the thrust of the work is really not directed at gametes, but there might be a secondary experiment of some sort that would be done which would be intentional? But, were it to involve another layer of approvals that that would not be done, even though it's really only secondary to...

Geoffrey Lomax: Let me just chime in there. Again, because I think - let's be careful to not erect a straw man in the record here. Again, one of the benefits that we have is that we have an ongoing interaction with someone who's having to implement these rules. So, it is - happens as staff here can testify to, all kinds of interesting questions come up which we're able to immediately clarify in real time.

And clearly, the record is absolutely clear that that requirement was put forth covering the intentional creation. And you know, in the - in our infinite wisdom, we should put the word intentional in there. But, the point is we have a mechanism to immediately sort of clarify that situation.

So, I think what's interesting here is you know again given sort of our funding agency infrastructure, you know, we can do that, whereas you don't have that benefit. So, I think the sort of cleanliness and the pristine (unintelligible) have given the context and the role which these guidelines play is actually - it's excellent.

We - and the point too I was going to make earlier on before deferring to Bernie is we just felt it was - from the standpoint of implementation and active implementation of a set of regulations, it was just simpler to go out and just tell people, "Look, if it's on our dime and it involves gametes, review it." And it just from a kind of - from a process level, it just makes things you know, easy.

So, I think that the difference we're getting into there, I think the risk doesn't - isn't a real one, and we handled it.

The other point, just as a point of clarification, I think you know David's right in terms of where the - where your regulations would cover this, but you may want to in Section (b) there say research involving the creation or use of embryos, given that you really want to try to capture both contingencies I believe. So, just you would (catch) - by inserting the language creation in Section (b) there, you would - it would amplify the fix that you're suggesting already exists.

David Magnus: Right. Although 5(a) does cover it, because it does say use of human oocytes and you can't create an embryo without using an oocyte.

Geoffrey Lomax: Yes.

David Magnus: So, it's already covered under (a), but I'd be happy to change (b) as well.

Geoffrey Lomax: Yes. Well some people are working on sperm too, so you know that. Just because you still have to have an oversight (unintelligible) to go with the sperm.

Man: Yes.

Gregory Stock: Yes. I think that the point that you make about the more active involvement of CIRM is an important one because especially if you couple that with David's earlier comment about potentially you know, over time a change in that role as there's gradually less research under that.

Whereas these guidelines are ones that are like - I mean, when are they - when is every - anyone ever going to look at these and say - think, "Oh, we should scale back a little there because it's in inventory in some way." So, it feels to me that we should take the more conservative role because it's something general that's going to put in permanently.

Henry Greely: And, which is the more conservative role in this type of...

Gregory Stock: What David was suggesting whereas we - we don't add a layer in unless it's really necessary.

Henry Greely: So, it seems to me that I've heard three options discussed. One is to leave our guidelines unchanged. One is to change them to conform - change them in a way that makes them similar to CIRMs by adding human gametes. And a third is to leave them unchanged but to have a statement of some sort that this committee encourages people doing this kind of research to get fresh consent

that expressly encompasses - that expressly tells the tissue donors that their tissue may be used for this purpose.

David Magnus: That third option is covered under the -- I mean, I assume we'll come to this later -- is that Section 7 on Page 3 recommendation. The guidelines include a statement encouraging researchers to incorporate informed consent in their research design just to avoid retrospective consent issues.

Radhika Rao: And, the second option Hank, we want to make sure that it's the intentional creation of gametes.

Henry Greely: Yes.

Radhika Rao: Not the inadvertent.

Henry Greely: Actually - yes. Although -- come on, Radhika. As a fellow lawyer, you know we need to be a little more than intentional. I think purposeful or knowing and purposeful because if you intend the natural and ordinary consequences of your action...

Radhika Rao: Right.

Henry Greely: ...that's your motivating purpose.

Radhika Rao: Okay.

Henry Greely: And, I think we're looking at motivating purpose here.

So, I think those are the three options; do nothing, change to be equivalent to CIRM, or have a statement that could just include gametes, or it could be

broader than gametes, encouraging researchers to be more - to tailor their consents - more to use materials for which they've gotten very specific consents, right?

David Magnus: I guess I still see that third one as a separate issue that I thought we were going to discuss separately.

Henry Greely: Well, we could discuss it separately, but it - I think it's significant to the resolution of this issue. I think there are probably people at the table who would not change - people at the table either physically or via telephone who would be in favor of not changing our regulation, but if and only if we had a statement encouraging researchers to...

Gregory Stock: So, it would be very easy to...

Henry Greely: ...have more (unintelligible) on that first.

Gregory Stock: ...just act on that first and look at Number 7 first and see if we want to add that wording, which is wrote for the uncontroversial, and then...

David Magnus: So why don't we - can we do that and say if everyone is in agreement with that point on Section 7 that...

Henry Greely: Well, let's see if anybody else has reactions to my set of alternatives there. Anybody on the phone?

Radhika Rao: Well Hank, I also think it's not an either/or necessarily with 2 and 3. You could do Option 2 and include human gametes - purposeful creation of human gametes, and also do the third option and have a general section encouraging

researchers to obtain specific informed consent generally, since that reaches issues not necessarily encompassed by this.

Henry Greely: Okay. You're right. Other comments?

Well, I think David and Radhika are right. We probably should hold this in advance for a second - a short period of time, and I think it can be short, jump forward to Page 3 and the suggestion that we have a statement. Now whether it's the statement that's in the guidelines, or whether the statement is something separate from the guidelines isn't entirely clear to me. But, have a statement encouraging researchers to incorporate informed consent into research design so as to avoid retrospective consent problems.

And, I would suggest that that specifically mentioned creation of human gametes as one of the examples of a situation where this might be particularly useful. Is there a discussion of that idea?

Man: I think it's a good idea.

((Crosstalk))

Henry Greely: So technically, and you know maybe Ms. Nguyen has some thoughts on this. Any thoughts about whether this should be part of the guidelines or should be somehow a separate resolution or statement of the Committee? Sorry to put you on the spot.

Lehoa Nguyen: Well, I thought I would - (unintelligible) what it sounds like is that it's in conjunction without any...

Henry Greely: It is not intended to have force, right, other than its inherent persuasiveness?

Lehoa Nguyen: Right. But legally, it doesn't make a difference where you put it. But for future planning purposes, it would be essential to eventually turn the guidelines into a more formal regulatory package, and that's a different issue. You might want to have it all together, (unintelligible).

Henry Greely: So if we - you know, if we put it in the guidelines, people would find it more easily. Anybody who pulls up the guidelines would find it. If we put it in the guidelines there is the fear - I would have a bit of a fear that people would either view it as despite you know, language - otherwise view it as binding as the rest of the guidelines.

David Magnus: If we use the word encouraging, I think that's pretty clear that it's not a requirement.

Henry Greely: Otto?

Otoniel Martinez-Maza: Yes. But I think most ESCROs would follow the suggestion.

Henry Greely: Good.

So - which isn't a bad idea.

Otoniel Martinez-Maza: Which is still good. Yes.

Henry Greely: Where would we put it? Where would it fit if we put it in the guidelines? Or - so, what's our consent section?

Geoffrey Lomax: I was just looking at your consent section, if I could chime in there. It gets back to 10(b). It's a blanket requirement (unintelligible) for consent, but it's limited in scope again - it comes back to...

What you'd call covered research.

((Crosstalk))

Geoffrey Lomax: We'd have to think about if you want to limit it or broaden it.

Henry Greely: Or - I mean, but that's part of the guide - that's part of the requirements of the guidelines. We could add the encouraging aspect as a new subsection to 10 - 10 is called Informed Consent Requirements. We could add a Subsection (c) saying "Though not a requirement, the Committee encourages - et cetera.

Geoffrey Lomax: That sounds right.

Man: Okay.

Henry Greely: Discussion of that?

Am I - I trust that I am right in taking silence as an absence of disagreement?

Man: Yes.

Man: Right.

Man: Yes.

Woman: Yes.

Man: Yes.

Henry Greely: Okay. I think before we go to a motion on this, we probably should have an opportunity for public comment, if any, because otherwise the public comment comes too late to be useful. Does anyone in the room who's not a Committee member want to comment on what I suspect will be a motion to add a Section 10(c) encouraging SCROs to consider - encouraging researchers and SCROs to have the consent require - have the consent discuss the specific uses as much as possible, particularly in controversial areas - in potentially sensitive areas such as the creation of human gametes?

Anybody in the room?

Anybody on the phone from the public?

Anybody want to make a motion from the Committee, going back now to the Committee side.

Radhika Rao: Hank, could we add one thing to that, such as the creation of human gametes? I'm thinking another area where this might be particularly relevant is in post-mortem research. Just thinking about - you know for example, creating induced pluripotent stem cell lines, tissue of somebody who has died and you know, kind of all of the issues that raises.

Henry Greely: Other reactions to that?

David Magnus: Sorry, I don't understand. How - we generally don't get consent from dead people, so I'm not sure I...

Radhika Rao: Well, if you could've - I mean, it would - that's why it would've been better if you could try to get the consent when somebody is alive, you know than kind of waiting until the tissue - I mean, I guess that's - in a situation where you may be using post-mortem tissue, wouldn't it have been better if you could've gotten the consent from the person when they were alive, I guess is what I'm suggesting.

David Magnus: Well yes. I don't see any difference between its post-mortem or whether it's you got it from somebody in surgery and now they're gone and we don't know where they are. It's the same issue of the fact that we've got tissue and it's not specific consent. I mean, to me the issue is the issue about whether or not we had a good consent process.

Radhika Rao: Yes. I guess you're right. And, it's the creation of the gametes that we're thinking about - the downstream use.

David Magnus: Right. Okay.

Henry Greely: So the Chair I think will entertain a motion to add a Section 10(c) encouraging but not requiring that....

David Magnus: Researchers incorporate informed consent in their research design for any tissue procurement that might be used for - that might potentially be used for any stem cell research, so as to avoid retrospective consent, paying particular attention to sensitive areas such as...

Henry Greely: Such as creation of human gametes.

Radhika Rao: Gametes.

Henry Greely: There's a motion on that...

((Crosstalk))

Henry Greely: ...to that. Is there a second?

I see a second from Dr. Lubin - President Lubin?

We should note that Bert has been for whatever past sins has been promoted to the Head of CHOC?

Bertram Lubin: Children's Hospital.

Henry Greely: Children's Hospital of Oakland. Right.

Radhika Rao: Wow. Congratulations.

Henry Greely: I think that condolence is an appropriate measure.

Discussion of the motion.

Seeing no hands, hearing nobody on the phone, call the question on the motion. All in favor signify by saying "Aye".

((Crosstalk))

Woman: Aye.

Man: Aye.

Henry Greely: All opposed, say no.

Any abstentions?

That motion to add a new Section 10(c) passes. We may work on the precise wording and punctuation, but at least I think we've given - we know what we've just approved.

This takes us back now to the issue of whether we want to add human gametes similarly to the way that CIRM has, to the kind of research that is covered. We now have an encouragement for people to take that into consideration, but not a requirement. If there's discussion of this issue before - and I suspect we will have a motion on this as well on which we may well have a divided vote. Is there a discussion before - any further discussion before we get to a motion about the idea of now in the current context adding the creation of human gametes to our covered research?

Is there discussion from the public, either present or on the phone?

Bertram Lubin: Just do have any - from CIRM's funding (viewpoint), is this like less than 1% of all the (demand) funded in this particular area? Or is this 20%? What's the...

Geoffrey Lomax: It's very limited. I mean it's a couple of novel grants.

Bertram Lubin: Right. Right.

Geoffrey Lomax: I think the - good - should it prove successful - should there be a...

Man: Sure.

Geoffrey Lomax: ...obviously then you could see (unintelligible), but it's - the point is it's real and hence we sort of waited at a point in time when we were active just to make sure that we had that clearly covered under the scope of review.

David Magnus: But I will say the people who are working in this area are extremely sensitive to thinking through these issues and I think they have a lot of input and (unintelligible)...

((Crosstalk))

Man: At least the one (unintelligible)...

David Magnus: Well, but it's a small community of people that work on it.

Man: Right. That's right, yes.

Henry Greely: Is there a motion then to presumably - the motion would be something along the lines of adding the creation of human gametes to Section 5(a). Does somebody want to make that motion?

Radhika Rao: I'll move, Hank.

Henry Greely: Radhika has so moved. Is there a second?

Elizabeth Blackburn: Second.

Henry Greely: Who's that? I couldn't identify who that was.

Elizabeth Blackburn: I second.

Henry Greely: Okay. That was Elizabeth.

Elizabeth Blackburn: Second.

Henry Greely: Discussion?

David Magnus: We've already - I think we've already beaten this pretty well.

Henry Greely: Any additional discussion?

Radhika Rao: And, we want to make sure it's the purposeful creation.

Henry Greely: Yes. Purposeful I think works.

David Magnus: I think that what we've got. As I've already said, I think we don't need to make this change.

Henry Greely: Yes. I do anticipate a split vote here, so I'm going to ask the - we'll do a voice vote, but we may need to count voices more closely than usual. All those in favor of the motion which would add purposeful creation of human gametes, with appropriate prepositions, conjunctions, et cetera, to Section 5(a), signify by saying yes.

Radhika Rao: Yes. Is it just me?

Henry Greely: All those opposed say no.

Man: No.

Man: No.

Man: No.

Woman: Opposed.

Henry Greely: Any abstentions?

The Chair believes that the voice of the - that by voice vote the motion fails. We can - someone can request a non-voice vote, but I think the - it sounded pretty clear.

Radhika Rao: Yes. I think it was clear.

Henry Greely: Okay.

So, I think the last item - the last significant item, there is a housekeeping language issue or two. There's a return to the question of the scope of our guidelines with respect to iPSC cells. iPSCs. We currently - after a discussion at our last meeting, cover them with respect to their implantation in non-human animals and their use in humans. We do not require SCRO approval for any other (unintelligible) use of iPSCs.

David Magnus: And especially their creation.

Henry Greely: And particularly their creation.

CIRM requires notification...

Geoffrey Lomax: Correct.

Henry Greely: ...of in vitro work - notification for creation in in vitro work. Is that correct Geoff?

Geoffrey Lomax: The hard notification requirement would be if the cells triggered human subjects are identifiable for in vitro work. It's kind of a two tier stand. I don't want to say two tier because that implies hierarchy. There's sort of two options. One option is to notify the SCRO, the other option is simply that an institution - someone - a responsible party can indicate that the work - that the cells conform to several requirements. We just want to know that the material - that they're - we're meeting some standard.

So, we felt it was burdensome to all - it wasn't necessary to have a SCRO, so it's consistent with your reasoning really. We wanted say a relatively small grantee that didn't have immediate access to a SCRO who is using in vitro work with you know, an anonymized cells and reprogramming them to be able to simply state these cells conform - to have a standard and you all mirror that - conform to the federal regulations for anonymizing materials. So, it's a kind of a way of again having someone tell us they're complying with the law, but not having to go to another committee to actually get the stamp of approval.

Henry Greely: So, it's not something that would require Committee action. It would require staff action in receiving the notifications and - researcher action and making the notifications, right?

Geoffrey Lomax: Yes. That's correct. The grantee - actually you know, technically it's the grantee institution is it - declaring to us. And again, I think it's as we have discussed a number of times. It's certainly - that is - it works when you

actually have a relationship with someone. Absent that relationship it's - it just - it's unnecessary.

Henry Greely: I'd suggest there are really two issues here. One is the substantive issue of whether or not we think this should be required. That's something that we did discuss when we made the change in the iPSC - in the guidelines with respect to iPSCs last time. The other is the more procedural issue of parallelism and conformity between the CIRM regulations and the state guidelines, which might be in that - which might be an argument to make the change, even if we thought substantively it wasn't particularly important.

Presumably, and what we've heard from people, seems consistent with this. Most SCROs - well, no. I shouldn't say that. Certainly with respect to CIRM funded research, SCROs are - and researchers are going through this already. So presumably SCROs are - and SCRO staffs are accustomed to it.

Discussion.

David Magnus: I mean, I think we've spent you know, over a year working on this and deciding that we thought we would not require a review of the creation of iPSC lines, but only certain of the uses that raise issues. SB 1260 had a clear goal in mind of what were covered. This is outside of the scope very clearly of what was intended with SB 1260. Moreover, concerns of CIRM are different than the concerns of what we do.

Because we're really saying these are guidelines, and potentially even future regulations for research in the State of California, which is very different from saying we have some funding and here are some requirements we're going to give to you in order to be able to get the money. This is basically saying we're going to set up business in California. You have to jump through hoops that to

the best of my knowledge no other state has. These other states, including states that actually do fund hESC research, do not have restrictions on iPSC research, and most SCROs around the country actually don't do iPSC research.

So, I think - so you know, at worst what's happening now is SCROs can always decide to apply the full CIRM process to any research, whether it's CIRM funded or not. But making that into the guidelines would carry forward forever. And then I also - you know, we've talked about this for a long time. We decided to make that restriction. I'm not sure how many times we're going to have to keep revisiting this.

When we made that change and decided to diverge from CIRM, it meant that there was going to be a divergence between the CIRM regulations and the state guidelines, and that's going to be true if we think this. And so, I'm not sure that we should continue to revisit this issue every time.

Henry Greely: Other discussion?

Bernie, I'm particularly interested in thoughts you might have on this.

Man: Bernie may have went off.

Henry Greely: Or not.

Man: He had to go to another meeting.

Woman: Yes.

Henry Greely: Oh, that's right. That's right.

Was there anybody who was - my impression was that Bernie thought that making this change was worth considering, that may even be weak. It was a good idea. Anybody else in favor of making the change?

Radhika Rao: Well, I thought we should consider it too, but I wanted to hear Bernie's input.

Henry Greely: Yes. I do too. Does anybody remember when Bernie's coming back, if Bernie's coming back?

Woman: He said 11:00-ish.

Henry Greely: 11:00-ish is when he was going off or when he was coming back?

Woman: When he was coming back.

David Magnus: I think some of Bernie's concerns were possibly addressed by passing that other thing though, because Bernie actually was very much sympathetic to the idea of putting something that's really more of an encouragement to have adequate consent for all of these different uses.

Henry Greely: I have an email from Bernie which just says signing off to go to another meeting temporarily.

Elliot Dorff: Hi. This is Elliot. I'm back.

Radhika Rao: Okay.

Henry Greely: Hi Elliot.

Elliot Dorff: Hi.

Henry Greely: We've done lots of good stuff while you were gone.

Elliot Dorff: I'm sure you did. Okay. Sorry I had to miss it.

Henry Greely: Right now, we're kind of hung up in a discussion of whether to change what we did last time and expand our coverage of iPSCs. We're hung up because this most - I think - seems to be most interested in making that change is Bernie, who at 10:42 sent me an email saying, "Signing off to go to - temporarily."

Woman: Right.

Henry Greely: It's about 11:07 - 11:08.

I share I think Radhika's interest in hearing what Bernie has to say on this. Obviously we can't keep our meeting open indefinitely. We do have another agenda item of new business perhaps we could turn to and then come back to this issue, although I don't know whether there is any new business?

And we have a couple of other minor (fixes).

Man: Yes.

Henry Greely: Why don't we turn to the minor fixes.

Man: Yes.

Woman: Yes.

Henry Greely: Here it says identified by Amber. It looks like there's a - well, Section 5(b) - I think this is something that maybe Geoff just recommended. Covered research involving use of human embryos. This is a question of whether we might want to add creation and before use. As David has pointed out that creation of human embryos would require a use of oocytes.

David Magnus: I'm okay with this section.

Henry Greely: On the other hand, this seems fairly benign.

Man: Yes. That was a good change.

Henry Greely: Any thoughts - anybody have any thoughts on adding the in 5(b), covered research involving the addition is creation (unintelligible). Now, I should note the CIRM section says procurement, creation, or use. We should say creation or rather than creation.

Man: Excellent.

Henry Greely: Although...

David Magnus: I'm fine with creation or use.

Henry Greely: Should (then a) reason to be really parallel and say procurement? Do we care about procurement if it doesn't involve creation or use?

(Unintelligible) besides the question of what the heck that would be.

Woman: Yes.

Henry Greely: That's quite a (unintelligible). Procure them for non-use.

Man: Somebody...

Henry Greely: Geoff it's...

Man: Could elect them.

Henry Greely: ...you're language. What's the procurement in there for? To say it's you're language is not entirely fair.

Man: Yes.

Henry Greely: It's the language from CIRM.

Do you see any reason why we should say procurement?

Geoffrey Lomax: I think - you've done a nice job of trying to use less language, and I don't think you lose anything by leaving procurement out. How's that?

Elizabeth Blackburn: But, what about procurement for sale? Does that cover use? But does use cover sale?

Henry Greely: But if it's not research, that's something (unintelligible)...

((Crosstalk))

Geoffrey Lomax: Exactly. I mean in your case, it could - what you could slip into, and unintentionally, is there may be an entity that's collecting them purely for

banking purposes, but not any type of use that was contemplated under statute. In which case, you're expanding the scope where it may not have necessarily been intended. I don't know. So that - so - we do have some grantees that are - that - I don't know if they still are, but at one time were - had proposals simply to collect embryos and not necessarily do derivation. So we - again, just wanted the Committee to take a look at that protocol.

David Magnus: That makes sense, because you might - you can imagine of that being a use, even if it's not research, that's a useful thing. But, it's pretty clear that SB 1260 is really just governing research. Somebody that does an embryo banking that might have a mixed use for reproductive purposes - it's the research uses of it that we would care about, not the fact that somebody's got a - is banking embryos.

Henry Greely: That seems right to me.

Radhika Rao: Yes.

Henry Greely: If somebody wanted to set up an embryo selling business, that's something the State of California might or might not want to regulate. That wouldn't be through...

David Magnus: SB 1260.

Henry Greely: SB 1260 and hence through our Committee.

Fred Gage: Just that if you do, and there is discussion - there are discussions about setting up a bank, there would likely be some research involved in optimizing the conditions for the bank.

David Magnus: But again, research that involves the actual use of the embryos would come under the guidelines.

Well, if you use the research - I mean, any research we're covered, so...

Henry Greely: So I'm - unless anybody feels strongly about it, I think just adding "creation or" is probably sufficient. I'm a little nervous that procurement might A), be unnecessary, and B), give the impression we're trying to go beyond where we want to go.

Man: We're not authorized to go.

Man: Yes.

Henry Greely: Fair point. Any discussion of - again, this is a little awkward to have discussion before a motion, but I think in order to get public comment, it's probably appropriate to ask for a discussion before a motion. Anybody in the public want to say anything about adding "creation or" to use of human embryos?

Man: Yes.

Shannon Smith-Crowley: Shannon Smith-Crowley, American Society for Reproductive Medicine. I share in your concern about the use procurement in terms of what it's used for (unintelligible). So, I think I'd be more comfortable with just adding creation.

Henry Greely: Thank you. Any comments from the public on the phone lines, if there are any public on the phone lines.

Is there a motion?

David Magnus: Move we change it to creation or use of human embryos.

Henry Greely: Okay. Is there a second?

Man: Second.

Woman: Second.

Henry Greely: Further discussion?

Call for a vote. All those in favor say "Aye".

Man: Aye.

Woman: Aye.

Man: Aye.

Henry Greely: All those opposed? Abstentions?

Bertram Lubin: I just want an abstention (unintelligible) discussion again.

Henry Greely: Dr. Lubin abstains on the grounds that he wasn't here to listen.

Motion passes. Thank you.

All right Bernie, are you back on yet?

No.

So other technical things?

David Magnus: We need to change - there's a couple places in the guidelines - there's a couple of language changes that need to take place where we use covered cell lines inappropriately, and that needs to be changed.

Henry Greely: It needs to be changed to human pluripotent cell lines?

David Magnus: Yes.

Henry Greely: Okay.

David Magnus: And - so, those changes need to happen.

Henry Greely: And, we believe that's in 5(d) and 5(f)?

David Magnus: Correct.

Henry Greely: (Unintelligible).

David Magnus: It's 5(d)(2)...

Henry Greely: 5(f).

David Magnus: 5(f)(2). And then Geoff pointed to me that actually along the same lines, we might need to in Section 10(b) erase somatic cells or human tissue from the first paragraph and from one.

Henry Greely: And - I'm sorry David. Run that through me again.

David Magnus: "In addition to any other statutory requirements or sections of these guidelines, the following provisions shall apply when covered research involves donation of gametes, embryos, or derivation of new covered cell lines." It shouldn't be somatic cells or human tissue I think. I think that's right, isn't that?

Geoffrey Lomax: That was...

David Magnus: It's something Geoff suggested.

Geoffrey Lomax: I mean, I noticed - it does seem like it might introduce confusion, because you're...

David Magnus: (Unintelligible)...

Geoffrey Lomax: Because the definition of covered cell line is embryo derived cell line, I'm not clear where the cells and tissues come in.

David Magnus: Right. So, we would want to eliminate those two things, because they're not really relevant.

Geoffrey Lomax: And then it - that seems to reinforce then why you'd have a recommendation subsequently saying - encouraging this type of consent...

David Magnus: Right.

Geoffrey Lomax: ...for cells and tissue.

David Magnus: Right.

Geoffrey Lomax: Otherwise, it would create kind of a disconnect.

David Magnus: Right.

Henry Greely: Okay.

Geoffrey Lomax: You can see I clearly spend too much time reading these...

Elliot Dorff: And, what was the - where was the first set of changes?

Henry Greely: The first set of changes could be in 5(d)(2) and 5(f)(2), where we currently use the language “covered stem cell lines”, and because of the changes we made last time, with respect to iPSCs, it should say human pluripotent stem cell lines.

Elliot Dorff: Yes. Okay.

Henry Greely: I think we have two different proposed changes. I think that probably calls for clarity two motions. The one motion with respect to changing covered stem cell lines to human pluripotent stem cell lines in 5(d)(2) and 5(f)(2), and then a second on 10(b). Let’s stick with the first one. More discussion on that?

Quick discussion?

All right. In seeing none, the Chair would entertain a motion.

David Magnus: Move to make these - that change. We could change...

Man: Second.

David Magnus: ...over to human pluripotent.

Henry Greely: Moved and seconded. Further discussion?

All in favor say yes.

Man: Yes.

Woman: Yes.

Henry Greely: Opposed say no.

Any abstentions?

That motion passes unanimously.

Now, the second motion goes to Section - second issue goes to Section 10(b), our consent requirements, and the proposal as I understand it is to delete the words somatic cells or human tissue. Is that correct?

David Magnus: Right.

Henry Greely: So, the Section (b) would read “in addition to any other statutory requirements of sections of these guidelines, the following provisions shall apply when covered research involves donation of gametes, embryos, or donation of new covered stem cell lines if donation or derivation occurs after the effective date of these guidelines.” Correct? Discussion from either Committee members or public on that?

Man: (Unintelligible).

David Magnus: Somatic cells. I knew somebody was going to raise that. I was hoping nobody would think of that.

Henry Greely: (Unintelligible) new covered stem cell line?

David Magnus: Well, the SCNT part would, and so the question is do we want to specify the consent from the somatic cell donors or human tissue donors, or the creation of covered cell lines. That would be the argument for leaving it as it is.

Henry Greely: Yes. But probably leaving it as it is - you know, we've got - we could use somatic cells for one of two things. For SCNT, which I think people view as relatively sensitive. For iPSC, which we have previously at least decided is not that sensitive.

David Magnus: Right.

Henry Greely: And if we just say somatic cells, that implicitly covers both; whereas, we're really only concerned about one of them, right? It's a great question.

David Magnus: Yes.

Henry Greely: Is there a non-cludgy way to fix it? The somatic cells for the purposes of SCNT?

David Magnus: Okay.

Henry Greely: So Dr. Lomax?

Geoffrey Lomax: So one other way you could cover that is in the definition of covered research and just make it a more explicit definition that means research that derived a human embryonic stem cell line, or SCNT.

David Magnus: It does that now.

Geoffrey Lomax: Covered research does?

David Magnus: Yes. I think so.

Geoffrey Lomax: But, you have to refer to another definition before you get there.

David Magnus: Yes. That's true, but it does still say -- where is it? I have to find out where we have it.

Geoffrey Lomax: I'm just suggesting for simplicity you might - I think operationally you...

David Magnus: A product of SCNT. That's in the definition of covered stem cell line.

Geoffrey Lomax: Yes. I guess I'm just suggesting why not just tackle it right in the definition of covered research, since that's what you intended to do, and it just gets somebody there in one step.

Gregory Stock: Doesn't it automatically call out from the creation aspect...

David Magnus: Well it - under the definitions now, it's covered because covered research is research that derives a covered stem cell line, and covered stem cell lines means a culture derived human pluripotent stem cell population derived from an embryo or a product of SCNT. So...

Gregory Stock: Either no further action would be (unintelligible).

David Magnus: Well, so here's the question. So just leave it as it is, including the language of the somatic...

Gregory Stock: No, I'm not saying (unintelligible)...

David Magnus: Well, the problem is that 10 is the informed consent requirements, so although if we leave somatic cells and human tissue in there, because we actually refer to it with regard to new covered cell lines, it would only apply to the - so as it is is fine. It only applies to the use of cells for SCNT purposes, and not iPSC, because of our definition of covered cell line. So the language that we (unintelligible) is fine; it's just that somebody reading this, not paying careful attention to the definitions, might think that it applies to iPSC.

Gregory Stock: Or anything else (unintelligible)...

David Magnus: Or anything else (unintelligible). So, it's - so you'd have to be very careful about the meaning of covered stem cell line in order to be able to understand what was said there. Because I think what's being said is correct. It's just you have to be very careful about your reading of it.

Gregory Stock: And you're saying if you do the deletion, then actually we're incorrect in that we're...

David Magnus: We'd be basically ignoring the part where you - if you took somatic cells (unintelligible) SCNT, we'd be leaving that part out of the informed consent requirements.

Henry Greely: As it stands, it'd be otherwise known as cloning, which is a term - known to some people as cloning, which is the reason we think some donors might be concerned about it.

Man: Right.

Man: Right.

David Magnus: So, I guess I withdraw my view. I think we should leave it as it is, even though it might be potentially misleading when it's actually accurate.

Gregory Stock: If you do that though, then I would suggest that even though it would be duplicative, you would add some sort of modifier in the covered research to indicate at this point, so that there would be no confusion...

David Magnus: I think that sounds reasonable.

Gregory Stock: ...(unintelligible). So, you'd essentially repeat some of the language earlier to indicate that you're limiting it to things that are...

David Magnus: I think that's helpful.

Henry Greely: So, we could say - I mean, would it be appropriate to say somatic cells or human tissue for the purposes of somatic cell nuclear transfer?

Man: Yes.

Henry Greely: Yes.

Geoffrey Lomax: Can I ask you one question. And I don't mean to beat on this. It's only because I literally have had extensive conversation - it does create long discussions, as you know we've - I'd like to hope we're all working together. And, I end up in conversations about our regulations and the guidelines, because fortunately we have a lot of really thoughtful people out there that are working on covering everything.

Was there any consideration given to stating that covered research means research that derives a culture derived human pluripotent stem cell population from an embryo? Again, it's those two having separate terms that are disconnected but relate to each other. It's just that process of trying to you know, understand what everything means. It makes it harder, and I'm just wondering why they're separate - why they're (unintelligible)?

David Magnus: We're actually speaking of two - we're trying to be helpful, but I think here it states where the duplicativeness might not be bad. Whereas instead of just saying coverage should mean (unintelligible) derived covered stem cell line, I still want to keep the definition of a covered stem cell line, but we could add to this covered research means research that derives, and the specify everything.

And the other thing - they say the same thing twice, but that way we're covered...

Geoffrey Lomax: That's fine. Yes.

David Magnus: So, I would be - that sounds reasonable.

Geoffrey Lomax: Then it just focuses people on what you want, which is the...

David Magnus: Yes.

Geoffrey Lomax: ...that SCNT and (unintelligible)...

((Crosstalk))

David Magnus: (Unintelligible) same thing said twice.

Gregory Stock: And, you could even refer explicitly to that paragraph so that there's no confusion that those wander apart. Then, that'll be a flag if there is any change ever made.

David Magnus: So, that's another potential change.

Henry Greely: So what - so specifically, what's the proposal?

David Magnus: So the proposal - so, there's two separate proposals that require two different votes. One is that we change 10(b) at two places. Like at - in the - that first paragraph and then also under one, where it says the same thing. So, the first proposal is to change that to say somatic cells or human tissue for the purposes of SCNT, both spots.

Henry Greely: Right.

David Magnus: That's one change. And the other change is - yes, because it is horribly - to say you know, here's what a covered cell means. That doesn't say anything, and then covered research means, and it doesn't say anything. And then you have to do the third definition to figure out that we essentially think the covered research means research that derives a cultured derived human pluripotent stem cell population from an embryo or product of SCNT.

Henry Greely: So specifically now, you're at which section?

David Magnus: Definitions. Section 2. First page. Under definition of covered research. "Covered research means research - a human pluripotent stem cell population derived from an embryo or a product of SCNT." I think we don't need to go into (unintelligible).

Geoffrey Lomax: I think that - that's just a huge help. It just totally.

Henry Greely: Okay. Let's take the first one. Let's take an amendment to Section 10 first.

Man: Okay.

Henry Greely: So amending Section 10(b) to add after somatic cells or nuclear tissue - or somatic cells or human tissue. The language for purposes of/or somatic cell nuclear transfer?

David Magnus: Yes. For (unintelligible)...

Henry Greely: For somatic - do we define SCNT earlier anywhere? Yes. We do.

Okay. For SCNT. Discussion from Committee members or the public about that?

Is there a motion to make that addition for SCNT? I see David - do you make that motion?

David Magnus: I make that motion.

Henry Greely: Bert seconds it. Further discussion?

All those in favor say Aye.

((Crosstalk))

Man: Aye.

Man: Aye.

Henry Greely: Those opposed.

Abstentions?

The motion passes. I should note that there are six of us in the room, so if I hear even one aye over the telephone...

Man: Aye.

Radhika Rao: Aye.

Henry Greely: I heard more than one. I only need to hear one.

Elliot Dorff: Okay. No problem. It was just overwhelming approval. That's the point, right? But one thing by the way, the first time...

Henry Greely: Overwhelming approval.

Elliot Dorff: How do you like that?

The first - and let me just point out that SCNT is first mentioned in Definition 2(e), where it's not defined, and it is defined in 2(m), so we probably should move the definition to 2(e).

Henry Greely: Actually, I think that's okay because the definition section...

David Magnus: They're alphabetical.

Henry Greely: ...it's alphabetically done. It's read as a whole. It's mainly important for everything that follows Section 2. I take your point.

Elliot Dorff: Okay.

Henry Greely: But, I think it not I think worth it...

Elliot Dorff: Okay.

Henry Greely: ...to take it out of alphabetical order for that purpose. I mean, it's awkward, but I do see what you mean. People - somebody reading that in the definitions doesn't have to go very far in the definitions to see it defined. Although, what the heck. I mean, we can just spell it out there.

Gregory Stock: Oh, but it's standard practice to jump forward and it's alphabetized. I don't think there...

Man: Yes.

Henry Greely: I don't feel strongly about it. I guess I would not change it at this point, but if you feel strongly about it, that could sway me.

Elliot Dorff: The other thing you could do is just simply spell it out in 2(e). “From an embryo or a product of somatic cell nuclear transfer that is capable of...”

Gregory Stock: Or just say see below.

Elliot Dorff: Yes. But that I think would be sort of awkward, don't you? I mean...

David Magnus: So, let's just spell out somatic...

Henry Greely: So, let's just spell it out. Do you want to ask a motion for that?

David Magnus: Well we can - but since we're going to modify (d) to also include SCNT, can I just incorporate that into one change?

Man: Yes.

Elliot Dorff: Yes.

David Magnus: We want to change D to say “covered research means research that derives a human pluripotent stem cell population derived from an embryo or product of somatic cell nuclear transfer.”

Elliot Dorff: Right.

Henry Greely: And then (e) also spells out somatic cell nuclear transfer.

Elliot Dorff: Right.

Geoffrey Lomax: One thing that's actually useful off that is then you've got - then you're specifying it's human SCNT.

Man: Right.

Geoffrey Lomax: You see, the definition is just generic, and then you've actually narrowed it to human SCNT, which is useful to do.

Elliot Dorff: Right.

Henry Greely: Okay. Let's get a further discussion of those changes. Anybody on the public want to weigh in?

David, would you so move?

David Magnus: I so move.

Man: Second.

Henry Greely: You guys have the motion down? Yes? Okay.

Further discussion?

Hearing none, go to a vote. All those in favor say yes.

Man: Yes.

Elliot Dorff: Yes.

Radhika Rao: Yes.

Henry Greely: Opposed?

Abstention?

That motion also passes unanimously.

Now, I think that's it for the house cleaning - housekeeping changes.

Man: Yes.

Henry Greely: Do we have a question from the...

Shannon Smith-Crowley: (Unintelligible) one more. 5(a) says procurement or use of human oocytes (unintelligible).

Henry Greely: 5(a). Procurement or use of human oocytes, and we declined to add procurement to embryos.

((Crosstalk))

Henry Greely: Procurement of oocytes is central to 1260, I think that belongs (unintelligible), even though it's different from our provision to protect embryos.

Man: Yes.

Henry Greely: Are there other changes people want to propose?

Bernie, are you back?

Still no Bernie. I don't agree to keep the meeting open indefinitely, but I will raise the issue of whether anybody has any new business? If there is none, I

think we close the meeting, or at least – well... Let's see if there's any new business first. Any new business? Any issues people would like to see the Committee get involved in? Isn't necessarily new business calling for action at this meeting, but looking forward to the future? Thoughts about the Committee? The guidelines, et cetera?

Elliot Dorff: Are we going to be subject to reappointment, or not appointment, or something with the new administration? How does that work?

Heidi Mergenthaler: We're not sure yet how that's going to impact the Committee. We have to look into that.

Gregory Stock: What is the sort of prospects for further - what needs to be done going forward at this point and in the near term?

Heidi Mergenthaler: You mean as far as the Committee?

Gregory Stock: Well, yes.

Heidi Mergenthaler: The Committee's charge?

Gregory Stock: Yes. With the Committee's work?

Heidi Mergenthaler: Well, I mean that (unintelligible) mentioned this earlier. (Unintelligible)...

((Crosstalk))

Man: But, I think (unintelligible)...

((Crosstalk))

Heidi Mergenthaler: Oh, okay. And that sort of makes changes, and also when we're getting our data information in from these SCRO reports. We're planning issues that we want to maybe address in the guidelines and you know, we look towards the Committee to discuss recommendations.

David Magnus: And I would think as new developments take place - I know one thing we haven't done, what I think we should - we've never taken up the issue of the Streiffer article. We've never addressed the Bresagen lines. I think we've talked about it a little bit...

Henry Greely: But we have kind of did with the CIRM exemption.

David Magnus: The Bresagen lines are not - oh wait. They're covered because they're - we have the same provision because they're under the UK bank, right?

Geoffrey Lomax: No. What we did - it's - we - it was always because they were - whether they were ever listed as NIH is what (Catherine) - the Streiffer line is not in the...

David Magnus: All the original Bush lines are also in the UK line bank. So, everything that was in NIH was in the UK bank too, as I understand it.

Man: Okay.

Geoffrey Lomax: That may be correct.

David Magnus: So, it's also covered there.

Geoffrey Lomax: Double coverage then.

David Magnus: Yes. So under our guidelines, it's (so approved). So, I guess for a future issue, right now it is covered and is approved, but I think it's worth talking about whether or not we want to create a standard for how to review providence for something, where we actually know there's a problem. Not that we should be fishing for it, but even though that is an approved registry and right now approved, I mean I don't think it would be a lot to set up a sort of - a guideline for saying we recommend that SCROs should ask the question of what the - you know, to provide a justification for use of a line given that it didn't have - given that there was virtually no informed consent (unintelligible).

Henry Greely: Although, this is a fairly limited issue.

David Magnus: It is a fairly limited issue, but I think it would be a good one for us to talk about in the future.

Henry Greely: So, this is a specific one we might take up. Changes? Any changes in CIRM regulations that are relevant to our jurisdiction always raise an issue of whether we want to follow them or not. Changes in technology...

Man: Right.

((Crosstalk))

Henry Greely: ...(unintelligible) IPSCs were a new thing which we then and continue to struggle to react. Bert?

Bertram Lubin: No. I don't want to sound like a broken record on this, but if the state is going to fund cord blood banks, there are a lot of regulations that at the federal level - I'm on the Secretary of Health's Advisory Committee for Blood Stem Cell Transplants, and (unintelligible) oversight (unintelligible) cord blood. Any of

those samples go (unintelligible), the volume that's collected is inadequate to use for transplant, and they're obliged to use them for research.

So, that might be a future issue. I don't know that we need to spend time on it now, but I'd be thinking about that.

Henry Greely: Although presumably, that might be something that the state would have to ask us to...

Bertram Lubin: I agree. I wouldn't...

((Crosstalk))

Henry Greely: But, it does (unintelligible)...

((Crosstalk))

Bertram Lubin: ...(unintelligible) but it might be.

Henry Greely: It seems similar enough to our work that if the state were interested in advice on a cord blood...

((Crosstalk))

Henry Greely: ...research, we could be (unintelligible)...

((Crosstalk))

Henry Greely: (Unintelligible). I think that's probably fair.

Yes?

Shannon Smith-Crowley: Well, you (could) give the American Society for Reproductive Medicine relative to compensation to them and to provide their oocytes for research is that it was ethical to compensate them like any other research subject (unintelligible) compensated for fertility purposes right now, and (unintelligible) prohibition for stem cell research.

So a question I have is that I don't know if in the data you've collected, information is (unintelligible) this lack of compensation is creating a barrier to obtain the requisite materials.

David Magnus: It depends on how you define it. So because of the lack of payment, research donors coming forward and donating their oocytes for research is virtually non-existent. And in (unintelligible) in any other states that have those restrictions, my understanding is - and you were at the meeting talking about that. My understanding is that New York, where they are allowing compensation, actually are starting to procure oocytes. And certainly before Massachusetts puts their restriction in place, ACT was able to procure oocytes.

However, aside from women donating their oocytes for research purposes, there are other sources of oocytes, in particular failed to fertilize oocytes that are excess can also be used for research. And, those have been - those are being used on an ongoing basis for research. So, there are oocytes obtained, but not oocytes from research oocyte donors, if that makes sense.

Gregory Stock: So, that whole issue came up at the time we originally voted on that. I believe our discussion was that it would probably be very (unintelligible).

David Magnus: And SB 1260 actually is explicit on this. This is a domain that we (unintelligible)...

((Crosstalk))

Shannon Smith-Crowley: But, the question is, and this is something that (ASRM) was considering is whether we should sponsor legislation to change the prohibition. Our position is that there are more than adequate protections in current law if you look at the underlying basis that you've got a sufficient patient relationship due to your care unto the patient. And then you're going to have an Institutional Review Board. They're looking at this section to (unintelligible).

This may be something in the future that we would be willing to tackle if this was something where there was a need to change the law that would - you know, if it would help research.

David Magnus: Hard to know. (Unintelligible). So, I think there are oocytes, but they're from this other category. So, I think it's hard to know. I think it would certainly be easier to get oocytes. We'll be interested to see what happens in New York, and whether they - you know, so I think we'll - that'll be interesting to see what happens.

Shannon Smith-Crowley: Is there any (unintelligible) with this Committee (unintelligible) anything that it would be nice to be able to go in and some data rather than just being a - you know, being - you know, going after...

Henry Greely: Is there any data in the legislative report that you could just put up that might bear on this?

Heidi Mergenthaler: No. There was none reported.

David Magnus: There couldn't be because it's in California.

Man: Yes.

David Magnus: There is literature discussing the - what ways in which this prohibition has had an impact. In Massachusetts when there was actually a change in the law from having some oocyte procurement to having none, the states that prohibit it there are. But it - I mean, SB 1260 passed unanimously in both houses. So obviously...

((Crosstalk))

Gregory Stock: But it...

Woman: Did...

Gregory Stock: I mean, if you have two equivalent processes; one for reproduction and one for research, and one is paid (subsequently) and one is not, and it's not a great factor for the donors, the evidence that there is no donation...

Henry Greely: And, one thing has changed scientifically that could bear on the politics, which is iPSC did not exist when SB 1260 passed. I think the vision and concern was that you know, there might be - and SCNT might come into play sooner than it has, and that there might be a huge need for huge numbers of oocytes. The iPSC has largely mitigated that - those sets of concerns. So maybe since we would be talking about a relatively small number of donors, even for research purposes, if that were permissible, maybe that's important

and significant enough change to make a difference in the politics. So I don't know.

Shannon Smith-Crowley: I think the environment is changing also - one of the things that I've been working on is education of legislators and staff. There was a lot of misinformation at the time, and a lot of hysteria. And so, things went through - I think given another time wouldn't have.

Man: Yes.

Henry Greely: We could think about that in - as an agenda item for future meetings. I would be personally a little reluctant for the Committee to get into that position of proposing legislative changes in the legislation that authorizes it. But, it's something we can consider putting on an agenda for the next session.

((Crosstalk))

Shannon Smith-Crowley: (Unintelligible). If you had comments or information where based on your information you felt that this was a barrier, that's all that I would...

((Crosstalk))

Henry Greely: And I think - my understanding and I take it as when we don't have data, we as the Committee, or we as the DPH don't have data that talks about this other than it's (unintelligible). And while we do...

((Crosstalk))

Henry Greely: (Well we do. It's law).

David Magnus: They have data showing that that's zero.

Man: Yes.

David Magnus: That, the number of oocyte donors who come forth for research purposes today is zero. So that's - I mean, if you take that as evidence, that's - potential evidence, that nobody's coming forward in the State of California yet.

Henry Greely: Greg?

Greg Stock: Hank, could you refresh my memory. It was a couple of years ago, but we actually did have a vote on this matter. So if there was - if it's not something that you know - why did we have a vote on it if you had no option?

David Magnus: Somebody wanted to introduce the idea of us essentially repudiating SB 1260, and saying that there should be - that we should do this, and we all agreed that we shouldn't repudiate - not all agreed, but we - by a majority agreed we shouldn't repudiate it, especially at that time. That was also consistent with not only CIRM and the SB 1260, but also the National Academy Guidelines.

Radhika Rao: Yes.

David Magnus: So, it was - I would say it was a very different period. It was just starting. iPSC wasn't on the scene. Nobody knew where this was going and what the need would be, so I do think things have changed significantly since then.

Henry Greely: You know, I don't when our next meeting will be, but in preparation for the next meeting we could float this around and see if a significant number of Committee members want to put it back on the agenda for discussion.

Other new business?

Dr. Lo, are you back?

Alas - apparently not.

Well, we do have this lingering issue of whether to change back our treatment of iPSCs, and it's sad - I think to me is if Bernie was the main person interested in that - Radhika you mentioned, and I agree with you - I would've like to have heard Bernie's discussion of it, but I think we may have to put that off for another meeting, unless people want to discuss that further in Bernie's absence.

Radhika Rao: No. I think we should put it off until another meeting.

Henry Greely: Okay.

Bertram Lubin: And we could have a conference call meeting...

Henry Greely: Yes.

Bertram Lubin: ...on that issue alone without having a formal let's all drive and get together.

Henry Greely: We could.

Bertram Lubin: Just set up a time.

Henry Greely: Drive or fly in some cases.

Bertram Lubin: Right. (Unintelligible).

David Magnus: Well, let's - I mean, Bernie has - we have talked about this with Bernie present in past meetings, so it's not that we haven't heard him weigh in on this issue before.

Henry Greely: But certainly you know, if he wants to bring it up again, that - we could talk about it again.

All right. Is there any other business?

The Chair would point out that there is lunch available. And for those of you who are on the telephone, the lunch isn't very useful.

I'd like to express my appreciation again, and I'm sure the Department's appreciation for people taking the time, particularly those of you who traveled, which I think is Greg and Otto, although coming from the East today is almost as bad.

((Crosstalk))

Henry Greely: Yes, 880 is a pain. But for those of you who traveled to come to this, and our appreciation for everybody who's committed time to this effort. I think we're doing something useful.

Man: We are.

Henry Greely: I appreciate your help. And for those of you in the public who appeared, thank you for also helping us try to make this research go forward in the most ethical and most appropriate way.

The Chair will gladly entertain a motion to adjourn.

Elliot Dorff: I'll move.

Henry Greely: Is there a second?

Man: Yes.

Henry Greely: All in favor leave or hang up.

Elliot Dorff: Okay.

Henry Greely: Thank you very much folks.

Elliot Dorff: Thank you Hank.

Woman: Thank you.

Elliot Dorff: All right. Bye-bye.

Woman: Thank you.

Woman: Bye-bye.

((Crosstalk))

END