

Dr Horton

MEDICAL  
SCIENCE  
CONF

SL III MC-1508/1

TIME: 19:05 CDT 38/00:05 GMT

9/2/73

PAO This is Skylab Control at 5 minutes Greenwich mean time into day 246. We expect to acquire the spacecraft through Hawaii in a matter of about 20 seconds or so. We'll keep the line up for Hawaii, the stateside pass and for the Canaries. Standing by for the air-to-ground.

CC Skylab. We're AOS Hawaii for 7 minutes

SPT Okay. We're with you, Story.

CC Okay, Owen, and the rest of you, we're interested in what experiences you've had with the light flashes this mission.

PLT I've seen some. I only see them when I shut my eyes, and the only time I do that is when I'm doing M131 or when I'm going to sleep. And sometimes I might see five of them in 10 to 15 minute per - 10 minute period, and some of them I maybe see one from the time I shut my eyes to the time I go to sleep. They come in at random directions. Sometimes they're just a big burst of light like a - like a Roman candle, sometimes they make a streak, sometimes they're very well-defined and outlined and sometimes they're just sort of a blur so it's pretty random, I guess, Story, and I usually am going to sleep between 3 and 4 o'clock our time, and it's a matter of somebody figuring out where the spacecraft was at the time, I guess.

CC Okay. Understand you have seen diffuse events as opposed to the streaks and points such as lightning behind a cloud.

PLT Yeah. I think I've seen just about every kind of light flash there is. I wouldn't ever say that there's one that covered the whole eyeball, but I would be able to say that there have been some that went streaking across and in my vision and have created sort of blur on either side of it, you know.

CC Okay. Something else other crews noted too, was that they had to be dark adapted before they could see them. Not just close their eyes, but they had to have, oh 15 or 20 minutes of dark adaptation.

SPT I might make just a comment in addition, Story. I've seen the sorts of streaks and flashes that Jack mentioned, but I have seen it with my eyes open, after being dark adapted, say for an S063 run. On several occasions I've noticed it with my eyes open. I have also never seen one cover the whole field of view, but it is, oh, perhaps 5 or 10 percent of the field of view not like a single line or just a bright point. It tends to be larger than that. Over.

CC Okay. Thanks, Owen.

PLT It can also show up at any portion of the eye. I mean any quadrant. It doesn't have to be in one place.

7 LIGHT  
FLASHES



SL III AC-1508/2

TIME: 19:05 CDT 38/00:05 GMT

9/2/73

It might be in toward your nose or way out towards the outer edge.

CC Okay.

SPT One eye or the other.

CC Okay. They should occur when you're at the high latitudes and be unrelated to the SAA, for example, have you noticed any correlation between them and the latitude you're at?

CDR I'm talking for myself now, but I don't think so. Most of us just dive into bed and don't have much thought of it, then we see two or three of them before we drop off to sleep and that's about it.

CC Some night now, would you like to go to bed an hour and a half early with a pad that gives the times when you're above 40 degrees latitude?

CDR I don't know. I guess so, if it's good science. If that's what you all think is worth the time, we'll sure do it.

CC Okay, and how do they compare with your Apollo 12 experiences, Al?

CDR I think they're less frequent and I've noticed in the - back in 12 if I were to watch them for 2 or 3 minutes, I'd see maybe one every 20 or 30 seconds. Here I don't notice them more than one a minute, perhaps, or maybe one every 2 minutes. I also have seen more diffuse ones here, similar to the ones Jack described where all of a sudden you'd think you've just seen a light and I generally open my eyes to look to see if there has been a light, then I realize that it was one of these events.

CC Okay, and before we move on to the hemoglobin, hematology, is there any more on that?

CDR No, we've talked about recording them, but it's just the most inopportune moment to do it, you know, we're getting ready to go to bed. You hate to stop, get up and write down on a sheet of paper, so you tend to just omit them.

CC Yeah, you're sure right there.

CC Okay, moving on to the hematology and hemoglobin, some very interesting things that we saw on Skylab II that we just found out, really after you launched, and that is that the SL- II crew, the red blood cell mass was down around 15 percent at R plus zero and that did not increase at all til at least beyond R plus 13, and that's one reason we've been very interested in your hemoglobin measurements on board. We're interested in why more red blood cells were not manufactured to bring that red blood cell mass up. It was not hemolysis or red cell destruction,

LIGHT  
FLASH

HEAD

SL III MC-1508/3  
TIME: 19:05 CDT 38/00:05 GMT  
9/2/73

but it was a lack of production.

SPT Are you confident now that the capillary blood is giving a reliable measurement, or is the instrument that we have to use still not of a - without much confidence. Over.

CC Owen, we think that will be extremely useful data. Now, at first it was questioned because you were getting about 02 grams percent higher than the hemoglobin values that you had preflight, which is unlikely. Preflight you were running about 14-1/2 and inflight you were running about 16-1/2, and we first thought that maybe that was due to dehydration, but probably not. You may have a bias in the instrument, similar to the refractometer, and what we're going to do to go back and get that good data is on the ground, you're going to run some hemoglobin measurements here and the lab will be doing it at the same time, and we hope to get a calibration on you and the instrument on the ground.

SPT Okay. You're going to want to bring this instrument back then.

CC Well, I haven't seen any specific plans for that. That is a definite possibility. That or using a flight fidelity on the ground.

SPT Yeah, well, if there's any question about this instrument, why you better bring up another one and bring this one home.

CC Okay. Good point there. We'll be going LOS here pretty shortly, and we'll pick you up over Goldstone in 3 minutes.

SPT Okay now, I've not got the refractometer modified yet, although I plan to do it tonight. However, if all I'm going to do it to shift the zero biases, is there any point in making the modification. Why not just shift everything by 11-1/2 percent, or 11.5 points?

CC Sounds like a good idea. Stand by 1.

CC We'll see you over Goldstone.

PAO We're in between station contact out of Hawaii and prior to Goldstone. The spacecraft communicator in this case on the medical science conference is Dr. Story Musgrave. Standing by for communications through the Goldstone tracking site.

END OF TAPE

HELD