LOG OF MEETING
DIRECTORATE FOR ENGINEERING SCIENCES

SUBJECT: Meeting of the ASTM Play Yard Mattress Fit & Firmness Task Group Call

DATE OF MEETING: 29 March 2018

PLACE OF MEETING: Virtual (teleconference)

LOG ENTRY SOURCE: Hope Nesteruk (ESMC)

COMMISSION ATTENDEES: Hope Nesteruk (ESMC), Suad Wanna-Nakamura (HSPP), Steve Harsanyi (ESHF), Keysha Walker (EXC)

NON-COMMISSION ATTENDEES: Contact ASTM for attendee list.

SUMMARY OF MEETING:

Scope

Task group agreed on the scope and goals:

1) Investigate issues of fit, firmness, and thickness of play yard mattresses
2) Develop performance standard(s) to address potential entrapment between mattress and flexible play yard side

Discussions

A. Performance test for gap

a. Australian standard

Discussion:
Hope has tried to reach out to a college is Australia, with little success. There was a brief discussion, with general consensus that the test is not very clear. Some read it as the mattress having to touch the side. Several tasl group members will try reaching out to colleagues in Asia/Australia to try to find more information about how the test is performed.

b. Small head probe

There were questions about the pass/fail criteria; however, those remain unclear. The group things that we should test a variety of play yards, including configurations both thought to be "safe" and "unsafe," and see what the performance of the probe suggests. Because the group does not have any indications that existing play yards are "unsafe," The group thought we would need to create our own hypothetical "unsafe" play yard/mattress combination. One task group member thought she knew of a play yard she considered to have a too-large gap; however, after the meeting contacted the task group lead and said that play yard was unavailable.

c. Infant face anthropometry

	Smallest	
Forehead width (0-5m)	6.7 cm	2.6 in
Biocular width (0-5m)	6.8 cm	2.7 in
Intercanthal width (0-5m)	2.1 cm	0.8 in
menton-sellion height (0-3m)	5.3 cm	2.1 in
Naison-menton height ("newborn")	5.8 cm	2.3 in

Naison: Intersection of the frontal and nasal bones

Sellion: Deepest point of the nasal root depression
Menton: Chin tip
Intercanthal: roughly inside corners of eyes

Farkas, L.G. (1994). *Anthropometry of the Head and Face.* New York, NY: Raven Press.
Forehead width: Table A-I-2,
Biocular breadth: Table A-III-1
Intercanthal width: Table A-III-2
Consumer Product Safety Commission (1986). *Size and Shape of the Head and Neck from Birth to Four Years.* (https://deepblue.lib.umich.edu/handle/2027.42/114)
menton-sellion height, pg 93

Young, J. W., *Selected Facial Measurements of Children for Oxygen-Mask Design.* Federal Aviation Agency, Office of Aviation Medicine, 1966.
Naison-menton height

Discussion:
The numbers above were discussed. The question was asked about the age range, because these were said to be smallest measures in the youngest category. Hope said she would update chart with exact age range with the meeting notes (done, see above). *There was some discussion about the exact hazard to be addressed: positional asphyxia or rebreathing. After some discussion, the task group revisited the agreed upon scope of group, which included addressing "potential entrapment between mattress and flexible play yard side." Therefore, rebreathing will be tabled for now.*

d. Newborn CAMI

Newborn CAMI Measures
Upper Arm: 1.5"
Shoulder: 2.2"
Head length: 4.5"
Chest depth: 4"
Head breadth: 3.8"

Discussion:
The numbers above of CAMI measure were based on caliper measures of a newborn CAMI at the CPSC lab. The task group agreed we should bring a newborn CAMI to our hands-on meeting.

e. Other ideas for a new probe?

Discussion:
One task group presented some potential probe ideas based on infant facial anthropometry. One was a weighted cylinder, the other a hemispherical probe. Potential areas for refinement include the weight or force to use, should it be the weight of a child's head or something more representative of a child with strength to move.

B. Other discussions/Questions to ponder

Zero gap: *Could we move to no gap? Some thought it might be possible, but others expressed concerns that it would make it harder for existing product with no known issue to pass a standard.*
Flexible sides: *Should there be a maximum "flexibleness" of the side (or minimum tautness)?*
Maximum mattress thickness: *Do the flexible sides mean there still should be a maximum thickness, even if we define a performance test. One person said they felt we should not have unlimited thickness with mesh products.*

Next steps

1) At the April/May ASTM subcommittee meeting, task group will have a working meeting with samples of play yards and thicker mattresses.