

Standards vs. Practice

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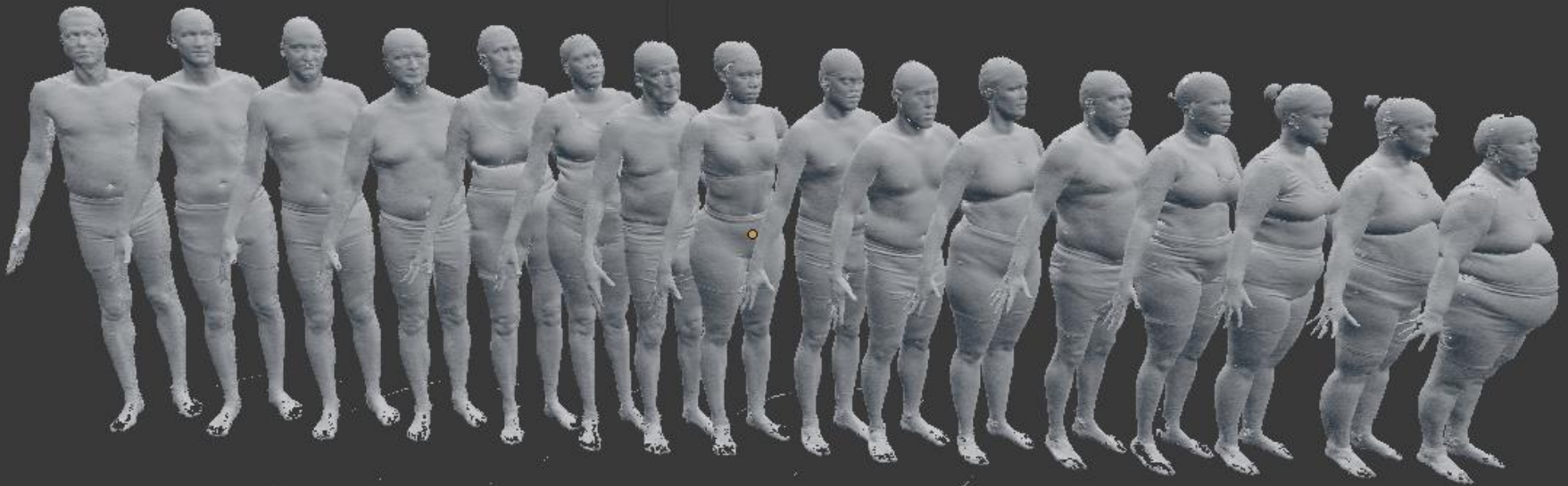
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Anthropometric Differences

All are 90 kg, but range from 1524 to 1984 mm



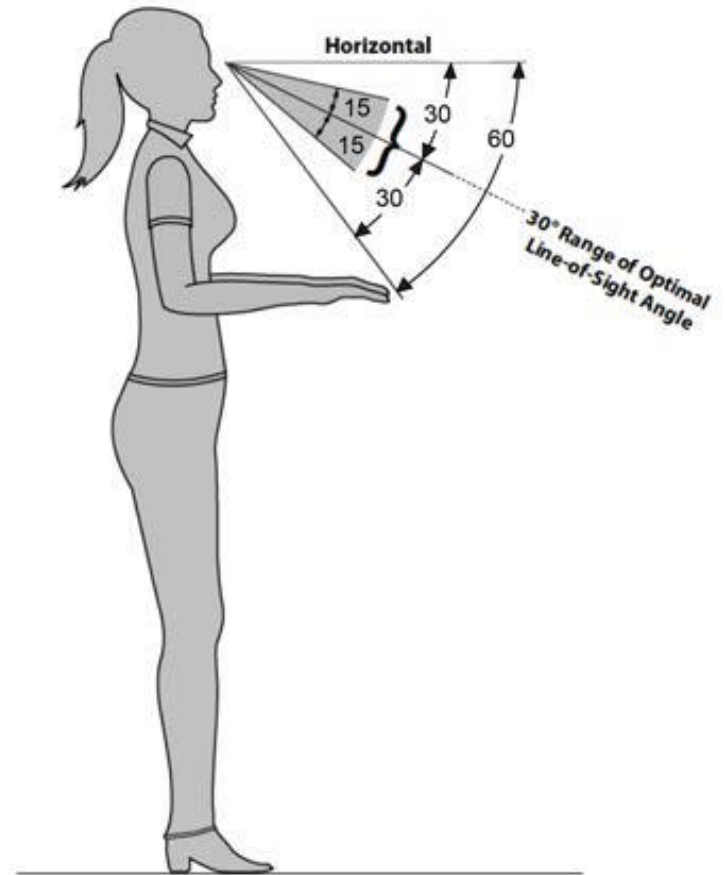
HFES 100-201x Approach

- Using CAESAR anthropometric database like CSA and BIFMA are using
- Comparing 3 statistical methodologies
 - Percentiles
 - Virtual Fit Test
 - Cases



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Sitting vs Standing Setup...



Psychophysical Protocol Research

- Lin, Catalano, and Dennerlein (Human Factors, 2016)
- What is the setup protocol for a standing desk?
- n=20 adults
- 4 sessions of 45-min each, sitting & standing
- Looked at position of monitor, keyboard, mouse, desk, sternum
- Interrupted 4 times in each session to reset location of work tools to extreme locations
- Measured preferred location and consistency

Psychophysical Research Results

- Standing
 - Keyboard was closer to their body
 - Desk height was lower than elbow height
 - Monitor was lower than their eyes
 - Monitor was adjusted with greater upward tilt
- Consistency
 - Participants made less adjustments over the four sessions
 - Participants had less variation of placement over time

Additional Considerations

- Should we look at different setup protocols than we are used to today?
- What about social aspects of sit-to-stand?
- What about cognitive aspects of sit-to-stand?
- How can technology help us?
 - Integration
 - Reminders and nudges