Project: A lifelike and functional passive prosthetic hand for infants:

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Organizations/ Programs:
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Background/Rationale: For infants and small toddlers with congenital upper limb deficiencies, terminal devices mainly provide either cosmesis or functionality, but not both.

Design/Methods: An elastomeric, alloy-wire-reinforced hand was fabricated using additive manufacturing to allow independent positioning of the digits. A clinical pilot in-home evaluation was conducted on a child with upper limb loss.

3D printing prosthetic hands lets infants do more and looks better

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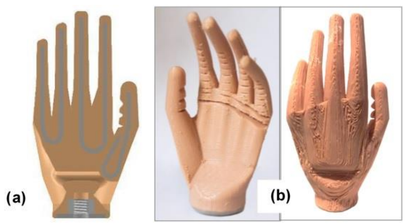
What we learning/Results:

The participant child was comfortable while using the prosthesis for various tasks. The parents were satisfied with the hand's function and cosmesis, and addressed some limitations of the previous prosthetic hands used by their child.

Figures/Graphs/Pictures:



Discussion

This hand design encourages early prosthesis use and facilitates child's development through a functional, lifelike device that may be customized rapidly with a reasonable cost.

Conclusions/Next Steps

This proof-of-concept lays the foundation for the development and refinement of customized prostheses for infants.