

3d-printed hand prostheses function in adolescents with congenital hand amputation: A case series [Funcionalidad de prótesis de mano impresa en 3d en adolescentes con amputación congénita parcial de mano: Una serie de casos]

Dote J.

Nahuelhual P.

Cubillos R.

Fuentes G.

Zuniga J.

Objective: To describe the effect of the 3D-printed Cyborg Beast prosthesis on upper limbs function in adolescents with congenital hand amputation. **Clinical Cases:** Five patients aged between 12 and 17 years, with congenital hand amputation were selected. All patients were from the Teletón Institute in Santiago, Chile. The patients were trained for prosthesis use in four sessions. Hand function was evaluated without prosthesis, at 1 and 4 months of use with the modified Bilan 400 points scale, and upper limb function perception was evaluated with the ?Upper Extremity Functional Index (UEFI)?. At 1 month and 4 months of use, the percentage change for hand functionality for the unaffected limbs was between -11% and -4%; and -9% and -2% for the affected limb. The percentage change for the upper limbs perceived function was -62%. **Conclusions:** The use of the 3D-printed Cyborg Beast prosthesis was not a functional solution for the 5 patients included in this study. Future research is needed to improve the functionality of these types of 3D-printed hand prostheses. © 2020, Sociedad Chilena de Pediatría. All rights reserved.

3D-printed prosthesis

Congenital upper limb differences

Upper limb function

adolescent

Article

case report

child

clinical article

congenital amputation

hand amputation

hand function

human

modified Bilan 400 points scale

school child

scoring system

three dimensional printing

Upper Extremity Functional Index