

Supplemental Information

Appendix A

Case 1-4: Prostheses



Case 1: Woman with wrist disarticulation. Her hand was cut off during the war (+/- 25 years ago). A 3D-printed prosthesis was made for her, with holes for ventilation. She uses the prosthesis for grabbing things, supporting her dominant hand, getting dressed, cooking and esthetic purposes. (Photos with kind permission of the patient.)

Case 2



Case 2: Woman with transradial amputation. She lost her arm due to a snake bite for which a traditional healer was consulted. A 3D-printed prosthesis was made for her, with an extra belt to prevent slipping. She uses the prosthesis for domestic activities, supporting her dominant hand, cooking and esthetic purposes. (Photos with kind permission of the patient.)



Case 3: Man with shoulder disarticulation. He lost his arm due to a fall accident causing a fracture, after which a traditional healer was consulted. The arm became infected, resulting in necrosis. A 3D-printed prosthesis was made for him, with a belt to attach the prosthesis to his body. He uses the prosthesis for esthetic purposes, especially when he goes to school. (Photos with kind permission of the patient.)



Case 4: Woman with amputation of the fingers. Her arm was burned with oil. She felt very embarrassed about her hand, which is why she always carried a bag around her hand. A 3D-printed prosthesis was made for her to give her more confidence. (Photos with kind permission of the patient.)

Case 5 - 8: 3D-printed splints for hands and arms to prevent burn scar contractures after skin transplantation.

(Photos with kind permission of the parents.)



Case 5



Case 6



Case 7



Case 8

Case 9: Brace



Case 9: 3D printed non-correcting brace for a 7-year-old boy with kyphoscoliosis. (Photos with kind permission of the parents.)

Appendix B: Questionnaire upper limb prosthesis

General Characteristics

Name:

Address:

Gender:

- Male
- Female

Age:

Age at amputation:

Cause of amputation:

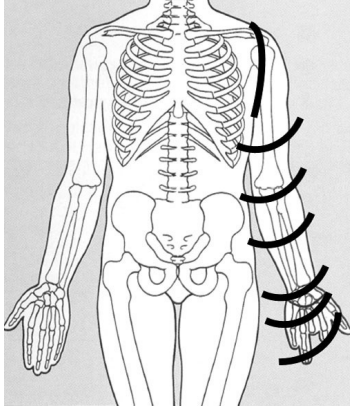
Educational background:

- Elementary school
- Middle school
- High school
- University & graduate school

Which hand was dominant before amputation?

- Right hand
- Left hand

Level of amputation:



Questionnaire:

1. How many hours a day do you use your prosthesis?

- Not at all
- Less than 2 hours
- 2 to 6 hours
- more than 6 hours

2. How satisfied are you with your prosthesis?

- Very satisfied
- Somewhat satisfied
- Moderate
- Dissatisfied

3. For what do you use your prosthesis?

- Not at all
- Work/school
- Cooking
- Driving
- For esthetic purpose
- Other. . .

4. What would you prefer: esthetics or function?

- Esthetic is more important
- Esthetic is just as important as function
- A good function is more important compare to esthetics

5. Does the prosthesis give you more confidence?

- The prosthesis does not cause a difference in self-confidence
- The prosthesis gives more self-confidence
- The prosthesis gives less self-confidence

6. Wearing the prosthesis makes me feel more like a whole.

- True
- False

7. Is the socket comfortable?

- Yes

- No

8. Are you happy with the suspension?

- Yes
- No

9. Did you have any skin problems on your stump related to the prosthesis?

- Yes
- No

10. If the answer to the previous question is yes, did the skin problems

- Improve with time
- Improve when you use the prosthesis longer
- Did not improve

11. Do you have stump pain?

- Yes
- No

12. If the answer to the previous question is yes, did the pain

- Improve with prosthesis
- Got worse with prosthesis
- Did not change

13. Do you have phantom pain?

- Yes
- No

14. If the answer to the previous question is yes, did the pain

- Improve with prosthesis
- Got worse with prosthesis
- Did not change

15. Can you put your prosthesis on independently?

- Yes
- No

16. If you are not using the prosthesis, why?

- Skin problems
- Pain
- Problem putting it on
- Not useful
- Suspension
- Other....

17. Would you advise someone else a prosthetic like this and why?

- Yes, because ...
- No, because ...

18. How much money are you willing to pay for a prosthetic like this?