

Annex 1: The web-based questionnaire sent to the 55 pediatric orthopedic surgeons

Approach to congenital clubfoot treatment among pediatric orthopedic surgeons in the Middle East

1. In which country of the Middle East do you practice pediatric orthopedics?
2. In which country/countries did you perform your surgical training?
3. How old are you?
 - a. 30–40
 - b. 40–50
 - c. 50–60
 - d. 60–70
 - e. >70
4. Gender
 - a. M
 - b. F
5. In your department, who takes care of clubfoot?
 - a. Only pediatric orthopedists
 - b. General orthopedists
 - c. Both
 - d. General pediatric surgeons
 - e. Physical therapists
 - f. Cast technician
6. How many clubfeet do you usually treat per year?
 - a. <20
 - b. 20–50
 - c. 50–100
 - d. 100–200
 - e. >200
7. In your practice, is clubfoot diagnosed during pregnancy on follow-up obstetrical U/S?
 - a. Never
 - b. Rarely
 - c. Sometimes
 - d. Commonly
 - e. Routinely
8. Do you perform AP and lateral foot X-ray at first presentation to confirm the diagnosis?
 - a. Never
 - b. When physical exam is suspicious
 - c. Routinely
9. Do you look for associated conditions?
 - a. Never
 - b. If there is a clinical suspicion
 - c. Routinely

10. What is your first line treatment for clubfoot?
- Ponseti method of serial manipulation and casting
 - The French functional method
 - Kite method
 - Surgery
 - Other, please specify
11. How early do you prefer to start your treatment?
- Soon after birth
 - Age 1 month–6 months
 - Age 6 months–12 months
 - Between 12 and 24 months
 - Other, please specify
12. During your career, did you happen to shift from one method to the other?
- No
 - Yes
13. If your answer to question 12 is yes, why did you do so?
- Not enough good results with the previous method
 - Curiosity
 - New trend
 - Supported by evidence in the literature
 - Other, please specify

The following questions [14–24] concern your first line treatment of clubfoot

14. How did you get familiar with this method?
- I worked with Ponseti/Kite/Bensahel/Turco/Mckay or one of their disciples
 - I trained in a department where this was the preferred method of clubfoot treatment
 - I got familiar with the technique from conferences, books and/or journals
 - Other, please specify
15. What is your upper age limit for manipulation and casting?
- 6 weeks
 - 6 months
 - 1 year
 - 2 years
 - >2 years
16. Do you do any manipulation prior to casting?
- Never
 - Sometimes
 - Always
17. Where do you do your casting?
- Cast room without anesthesia
 - Cast room with sedation
 - Operating room with sedation or anesthesia
 - Other, please specify

18. Is your cast:
- Above knee with knee flexed
 - Above knee with knee extended
 - Below knee
 - Variable, please specify
19. Usually, what is your average number of casts?
- <5
 - 5–7
 - 7–9
 - >9
20. How often do you base your correction on the calcaneopedal unit concept?
- Never
 - Sometimes
 - Always
 - Never heard of this concept
21. How often do you perform Achilles tenotomy?
- Never
 - <10%
 - 10–40%
 - 40–70%
 - >95%
22. How do you perform the Achilles tendon tenotomy?
- Percutaneous complete tenotomy using a knife
 - Percutaneous complete tenotomy using a needle
 - Percutaneous lengthening according to Green or Hook
 - Open tenotomy
 - Open lengthening
23. When do you perform the Achilles tendon tenotomy?
- At first cast
 - During the course of casting
 - 1–2 casts before the end of casting
 - Other, please specify
24. Where do you perform the Achilles tendon tenotomy?
- Cast room without local anesthesia
 - Cast room with local anesthesia
 - Operating room under anesthesia or sedation
 - Other, please specify

The following questions [25–30] concern surgery as a treatment for clubfoot

25. Why would you do surgery for clubfoot treatment?
- I was trained more on surgical management
 - I believe more in surgery than in conservative management
 - I am not familiar with casting or the French method
 - I don't see children early enough to start conservative management
 - I do surgery in children older than 1.5–2 years only, mainly after failure of previous conservative methods
26. What is your preferred age for surgery?
- 6–12 months
 - 12–18 months
 - 18–24 months
 - Other, please specify
27. What is your preferred surgical approach?
- Turco
 - Seringe
 - Cincinnati
 - Other, please specify
28. How often do you perform bony procedures in addition to standard posteromedial release?
- Never
 - In severe clubfeet
 - In relapsed clubfeet
 - In old children and adolescents
 - Very often
29. How often do you use serial casting prior to surgery in severe clubfeet?
- Never
 - In old children and adolescents
 - In relapsed clubfeet
 - Very often
30. How often do you apply external fixation for gradual correction?
- Never
 - In severe clubfoot after the age of 3 years
 - In neglected clubfoot in old children and adolescents
 - In relapsed severe clubfeet
 - Other, please specify
31. How do you assess the result of treatment?
- Clinically
 - Radiographically
 - Ultrasound
 - Other, please specify

32. Do you use any day/night orthosis after completion of treatment?
- Never
 - Sometimes, please specify
 - Always
33. If your answer to question 32 is b or c, what type of orthosis do you use after conservative treatment, and for how long?
- Dennis Brown day and night till walking age, then only night till age 4 years
 - Mitchell boots day and night till walking age, then only night till age 4 years
 - Either one till walking age, then night AFO till age 4 years
 - Day and night AFO till walking age, then night AFO till age 4 years
 - Other, please specify
34. If your answer to question 32 is b or c, what type of brace do you use after surgical treatment, and for how long?
- Dennis Brown or Mitchell boots day and night for 2 years
 - AFO day and night for 2 years
 - Either one during the day for 6 months, then at night for 2 years
 - Other, please specify
35. How do you follow-up on your patient?
- Clinically and radiologically every 6 months for 2 years then every year or 2 years till the end of growth
 - Clinically and Ultrasound/MRI
 - Other, please specify
36. What is your general impression regarding parental/patient compliance to orthosis after initial treatment?
- Poor
 - Fair
 - Good
 - Perfect
37. In your experience what is the rate of the success of treatment with conservative methods?
- <50%
 - 50–75%
 - 75–95%
 - >95%
38. What are the main complications that you encountered following conservative treatment?
- Relapse of deformity
 - Dynamic supination
 - Persistent equinus
 - Rocker bottom deformity
 - Overcorrection
39. What do you propose for neglected clubfoot presenting after 2–3 years of age?
- Trial of conservative management
 - Standard posteromedial release
 - Medial column lengthening and lateral column shortening
 - Talectomy
 - Multipplanar supra-malleolar osteotomy
 - Gradual correction with ring external fixator
 - Other, please specify