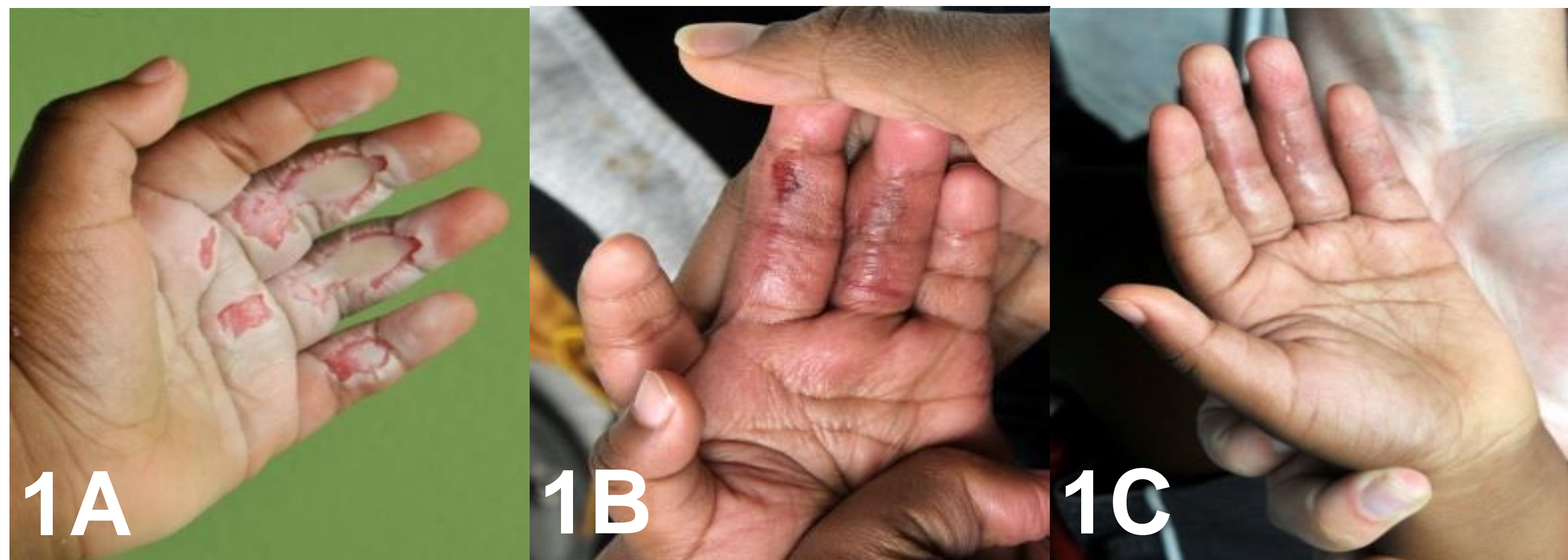


Conclusion Headline

Initial management of pediatric friction hand injuries with non-surgical intervention is safe and does not increase the need for future procedures

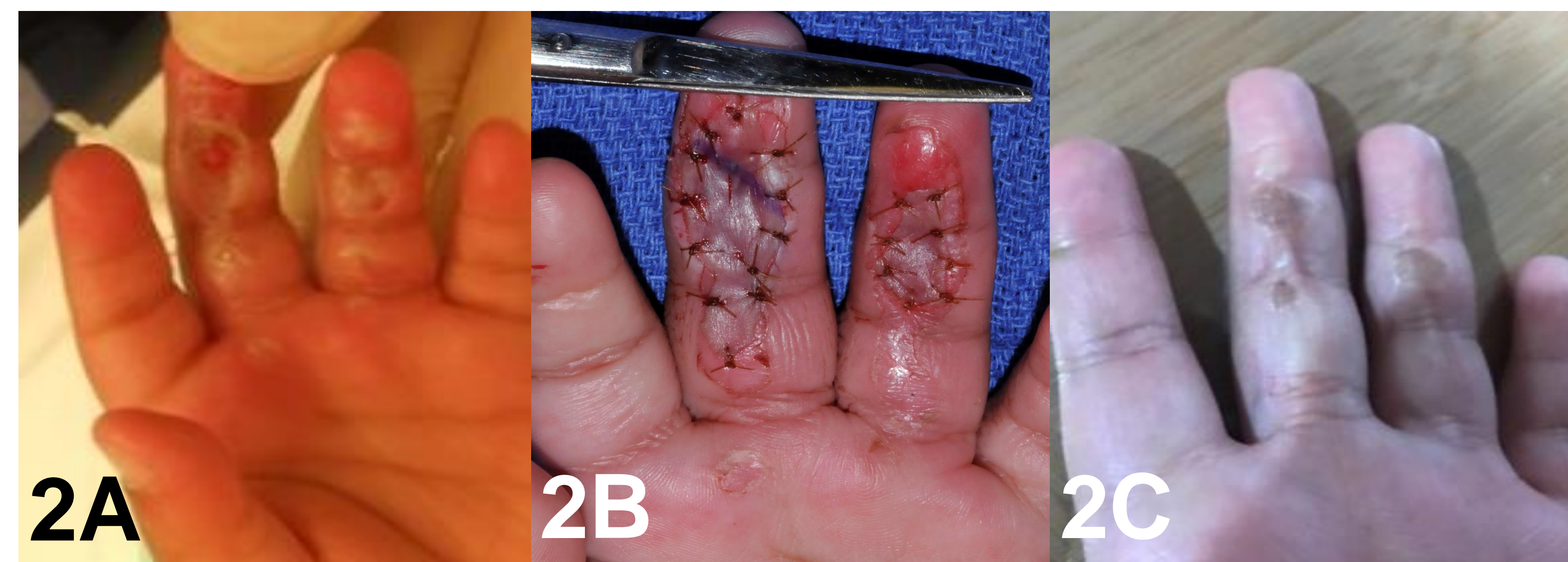
Images and Figures

No Operative Intervention



1A. Acute phase
1B. Healing phase
1C. Long-term healed injury

Acute Operative Intervention



2A. Acute phase
2B. Acute intervention with skin graft
2C. Healed skin graft

Delayed Operative Intervention



3A. Acute phase
3B. Healed injury with contracture requiring Z-plasty
3C. After Z-plasty

Lessons Learned

- Silvadene and Xeroform are safe initial therapies for friction hand burns
- If surgical intervention is required, delayed intervention (>30 days) does not appear to increase need for future procedures or non-surgical management
- Patients with acute interventions appeared to need more operative re-interventions than those initially managed non-operatively
- Initial non-operative treatment for pediatric friction hand burns may be a safe option

Significance Statement

- Pediatric friction hand injuries are prevalent from increasing home exercise equipment and are often deep on initial assessment
- Initial treatment ranges from non-operative to early or delayed surgical intervention
- We sought to evaluate our outcomes from acute (<30 days) versus delayed surgical intervention for pediatric friction hand injuries

Data Source/Population and Results

- 23 pediatric patients with treadmill hand injuries over a 5 year period
- 57% (n=13) female patients. Median age of 2 years (IQR 1-3)
- 57% (n=13) of injuries equivalent to a second degree burn and 43% (n=10) to third degree
- Left and right hands equally involved. Median digits injured: 2
- Injuries treated with Xeroform (n=21) and Silvadene (n=14)
- Average length of stay: 14 hours
- 22 patients followed-up in clinic with a median of 4 clinic visits
 - All healed at last clinic visit
 - Median time to healing of 31.5 days (IQR 29-58)
- 22% (n=5) had acute surgical intervention a median of 7 days from injury (IQR 1.75-13.5) and 2 (40%) required additional surgical intervention
- Remainder of 18 patients had no acute intervention and only 1 (5%) required future surgical interventions

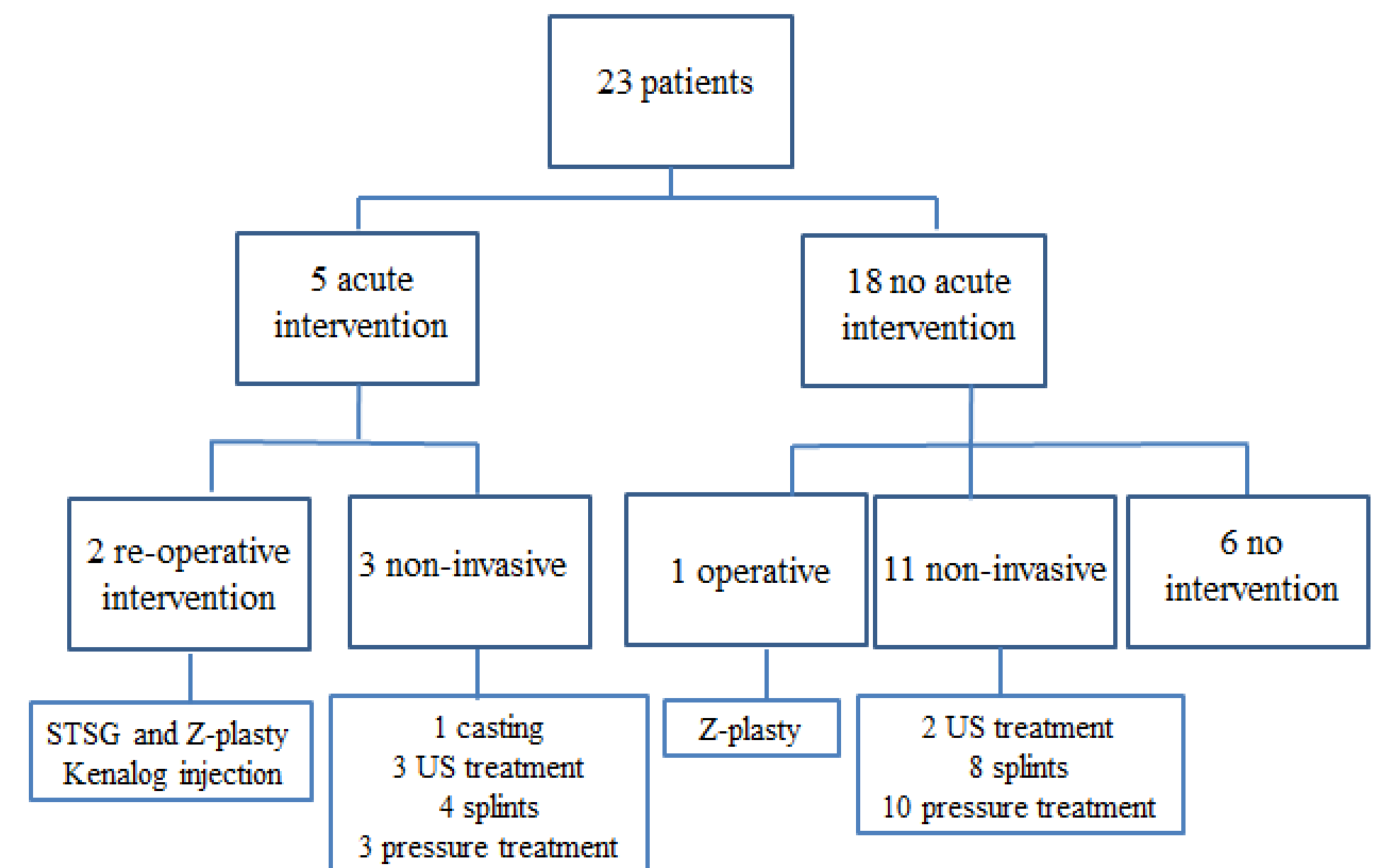


Figure 1. Patients with acute interventions still required additional interventions and appeared to need more operative re-interventions than initially managed non-operatively (40% vs 5%)