

PEDIATRIC APPENDICITIS RISK CALCULATOR (pARC)

Using previously collected data from multi-center prospective studies of children and adolescents with suspected appendicitis, we have developed and validated an appendicitis risk calculator that exhibits high accuracy and clinical utility.

Application of our appendicitis risk calculator would allow for a large proportion of pediatric and adolescent patients presenting to an emergency department with acute abdominal pain to be managed without diagnostic imaging. The validated pARC can accurately quantify risk of appendicitis among children and adolescents with acute abdominal pain with better sensitivity and specificity than the PAS.

Predicted and actual appendicitis risk in validation sample

| Predicted Risk for Appendicitis | | Number and proportion of patients identified; N(%) | Actual rate of Appendicitis |
|---------------------------------|--------|--|-----------------------------|
| Low | <5% | 271 (19%) | 5% |
| | 5-14% | 313 (22%) | 9% |
| Intermediate | 15-24% | 168 (12%) | 24% |
| | 25-49% | 267 (19%) | 42% |
| | 50-74% | 222 (16%) | 63% |
| | 75-84% | 90 (6%) | 77% |
| High | ≥85% | 95 (7%) | 96% |

Comparison of pARC and PAS in validation sample

