- **Adolescents:**
  - Pfizer/BioNTech: Blinded RCT, 2600 American 12–15-year-olds.[6]
    - Efficacy: ≥7 days post second dose:
      - COVID-19 cases: 0 versus 18 (placebo), 100% RRR.
      - Severe COVID-19: None.
    - Subjects enrolled prior to Delta variant.[2]
    - Solicited adverse effects:
      - Localized pain: ~83% vaccine.
      - Fatigue: ~63% versus ~33% (placebo).
      - Headache: ~60% versus 31% (placebo).
  - Moderna: Blinded RCT, 3732 American 12–17-year-olds.[7]
    - Efficacy: ≥14 days post second dose:
      - COVID-19 cases: 0 versus 4 (placebo), 100% RRR.
      - Severe COVID-19: Not reported.
    - Solicited adverse effects:
      - Localized pain, redness, swelling: >90%.
      - Fatigue: ~58% versus ~33% (placebo).
      - Headache: ~58% versus ~35% (placebo).

**CONTEXT**

- National Advisory Committee on Immunization recommends 2 doses 8 weeks apart for children, adolescents, and adults.[8-10]
  - Risks of COVID-19 in children <19 years:
    - Hospitalization: 0.5%, (12% required ICU).[11]
      - ~80% of admissions are in healthy children.[12]
    - Children can get “long COVID”, but likely lower rates than adults.[13]
- Myocarditis after mRNA vaccines:
  - Highest in boys 16-19 years: excess risk ~14 per 100,000 doses.[14]
    - 75% occur after second dose.[15]
    - Females: ~10% male risk.[15]
  - Most cases are mild.[13,15]
- Net Benefit: For 12–17-year-old males, for every million doses, vaccination may:
  - Prevent 215 COVID-19 hospitalizations, 71 ICU admissions, 2 deaths.
  - Cause ~65 cases of myocarditis.[14]