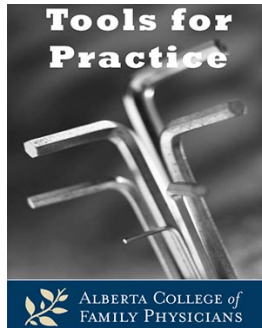


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“I got water up my nose.” From swimming accident to rhinosinusitis cure?

Clinical Question: Is nasal saline irrigation (NSI) helpful for rhinosinusitis?

Bottom-line: Nasal saline irrigation does not improve acute rhinosinusitis (example “colds”). It can improve allergic and chronic rhinosinusitis, improving symptoms ~30% and improving quality of life with rhinosinusitis at least 10% for one in two patients. Isotonic is as good as hypertonic and rinses are better than sprays (but with more adverse events).

Evidence:

- We identified nine systematic reviews of NSI. Differences noted are statistically significant.
 - Acute rhinosinusitis:
 - Acute upper respiratory tract infection: Two systematic reviews^{1,2} (five Randomized Controlled Trials (RCTs), 749 patients, 27% adult).
 - Days to wellness or antibiotic use: No difference.¹
 - One trial showed a potentially clinically non-meaningful ~0.3 on 4-point scale improvements in nasal symptoms.¹
 - Acute sinusitis in children: One systematic review but no RCTs.³
 - Allergic rhinosinusitis: One systematic review (nine RCTs, 295 patients, ~71% adult).⁴ Relative improvement of NSI versus no treatment.
 - Mean total symptom score 32.5% better.
 - Chronic rhinosinusitis: Six systematic reviews (1-8 RCTs, 127-389 patients).⁴⁻⁹
 - Symptom score, NSI versus nothing: Standard Mean Difference 1.42 but clinical meaning is uncertain.⁵ Longest RCT at six months found:
 - NSI improved symptom score from 4 to 2.4 versus no change without treatment.¹⁰
 - Attaining a 10% improvement in nasal symptoms quality of life, Number Needed to Treat (NNT)=2.¹⁰
 - Rinse versus spray:⁶ Rinse reduces symptoms more than spray, NNT=5.
 - Compliance at eight weeks worse with rinse: 79% versus 93% spray (Number Needed to Harm (NNH)=8).

- Any adverse event: 43% rinse and 25% spray (NNH=6).
 - Most common: Persistent nasal drainage.
- Isotonic versus hypertonic: Similar clinical endpoints.^{5,8,11}
- Adverse events: Poorly reported; Nasal burning, ear plugging, and nausea most frequent.⁷

Context:

- Systematic review quality varied from good^{1,5} to poor.^{2,8} Deficiencies include: No quality assessment,^{2,4,7-9} poor methods description,^{2,8} inadequate description of studies,^{2,4,6-8} large heterogeneity,^{2,4,5} and poor adverse event reporting.^{1-5,8,9} RCT quality frequently poor with inconsistent outcomes.
- Guidelines recommend NSI:
 - As an option in chronic rhinosinusitis.^{12,13}
 - No recommendation¹⁴ or second-line option in allergic rhinitis.¹⁵

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Disclosure:

Authors do not have any conflicts to disclose.

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