

High-volume Nasal Irrigation in Chronic Rhinosinusitis: Clinical Benefit Without Evidence-based Device Selection

A systematic review with narrative synthesis

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BACKGROUND

- The benefits of high-volume nasal irrigation for symptom management of chronic rhinosinusitis (CRS) are well established.¹
- New technologies and nasal irrigation methods have entered the market.
- Confusion regarding delivery methods, protocols, and cost are a major factor regarding the underutilization of high-volume nasal irrigation.²

METHODS

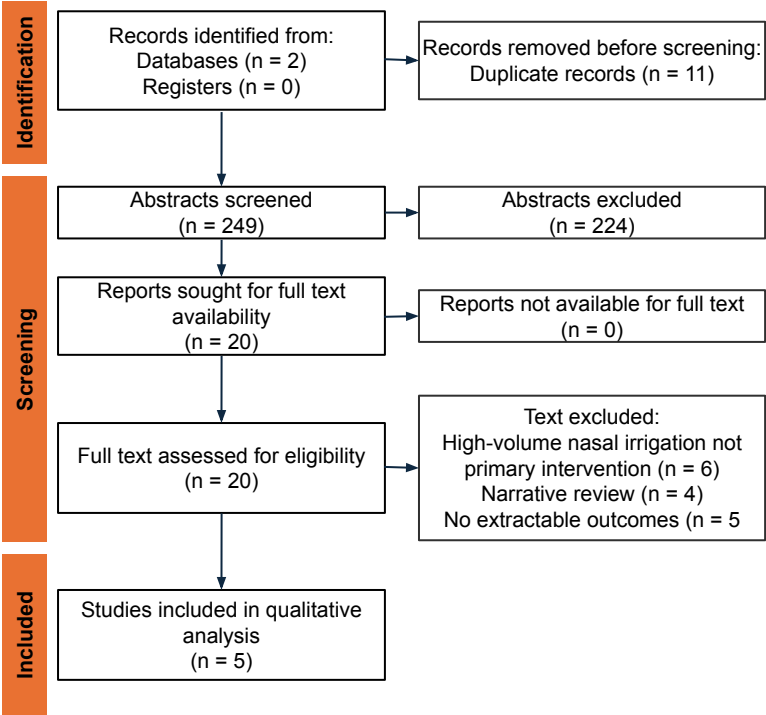


Figure 1: PRISMA flow diagram summarizing study identification, screening, eligibility assessment, and inclusion in the systematic review.

REVIEW QUESTION

Do clinical studies describe nasal irrigation systems well enough to inform device selection and value?

RESULTS					
Study	Study Design	Device Type Specified?	Costs Mentioned?	Irrigation Effectiveness?	Compared devices?
A	Randomized control trial	☐	☐	☒	☐
B	Randomized control trial	☒	☒	☒	☐
C	Prospective Study	☐	☐	☒	☐
D	Randomized control trial	☒	☒	☒	☐
E	Prospective Study	☐	☒	☒	☐

Figure 2: Reporting of device-specific and cost-related outcomes across included studies. Orange circles indicate reported elements; open circles indicate not reported. No study directly compared irrigation devices.

Mechanism Type	Representative Products
Gravity	Himalayan Institute, NeilMed NasaFlo, SinuCleanse, Ancient Secrets, SteloKleen
Manual Positive Pressure	NeilMed Sinus Rinse, NasoPure, SinuCleanse, Vicks Sinex, CVS/Walgreens/Equate
Powered Irrigation	Sinugator, HydroPulse, SinuPulse, Naväge, NasalFresh MD, Nascool

Figure 3: Representative high-volume nasal irrigation devices categorized by delivery mechanism: gravity, manual positive pressure, and powered irrigation.

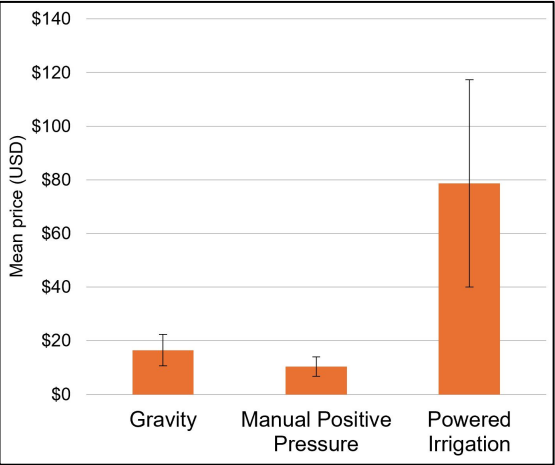


Figure 4: Mean manufacturer-direct acquisition cost of high-volume nasal irrigation devices by delivery mechanism.

CONCLUSIONS

- Substantial gaps remain in device-specific and cost-effectiveness evidence.
- Current literature does not support evidence-based differentiation between irrigation methods
- Standardized reporting and prospective comparative studies are needed to inform cost-conscious, evidence-based otolaryngology practice.

DEVICE EXAMPLES



NeilMed Sinus Rinse



NeilMed Sinugator



NeilMed NasaFlo



Naväge Nasal Care

REFERENCES & DATA

