**Data Tables**

Our EMBASE and Cochrane literature search identified 986 records. After removing duplicates (n=46) and title and abstract screening by two reviewers (DCB, JC), we identified 82 articles for further review. Zero (0) studies directly addressed the PICOST; however, as a scoping review, we identified 13 records for inclusion (Figure 1), six of which were considered indirect evidence to the PICO (Table 2).

**Table 2. Study characteristics and findings.**

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| **Author, year, country** | **Study design** | **Population** | **Intervention** | **Control** | **Outcome** | **Findings on our outcomes, as presented in article.** |
| Ozturk, 2014, Turkey | Observation | 15 patients (mean age=28.8; 9 female) least 18 years with no nasal symptoms within 3 weeks, and not pregnant. | Nasal dorsal skin cooling using two ice applied to left (L) and right (R) side of nose for 10 minutes (n=15). | No application, baseline | Cross-sectional area (cm2) and nasal cavity volume (cm3) via acoustic rhinometry | \* Mean values for sum of the L and R first minimal cross-sectional area and second minimal cross-sectional area revealed no statistical differences, for either parameter at any between any intervals.  \* Means values for nasal cavity volume revealed no statistical differences, for any parameter, between any intervals. |
| Porter, 1991a United Kingdom | Cross-over, Randomized | 16 healthy subjects (mean age=32, range 25-40) with no history of nasal disease, previous nasal surgery or symptoms and a normal rheoscopic examination. | Ice contained with a surgical glove applied to forehead or mouth for 3 minutes each (n=16). | Same, but at body temperature for 3 minutes each. | Nasal mucosal blood flow, measured in flux (velocity and concentration of the moving blood cells) | \* Oral ice packs produced a significant decrease in nasal mucosal blood flow (p<0.05, average decrease=23% [standard error=5.9]) compared to control (average decrease=5%; standard error not calculated).  \* Oral ice packs produced a fall in flux in 9 of 16 (56%) subjects, a rise in 1 (6%), and 6 (37%) experienced no change.  \* Ice packs to forehead produced a fall in flux in 1 of 16 (6%) subjects, a rise in 1 (6%). |
| Porter, 1991n United Kingdom | Cross-over, Randomized | 13 healthy subjects (mean age=30, range 25-40) with no nasal disease or treatment. | a. Ice pack wrapped in paper toweling held to the forehead by subject for 15 minutes.  b. Ice cubes sucked in the mouth for 15 minutes.  c. combination of (a) and (b) for 15 minutes. | No application, baseline | Nasal submucosal temperature (°C) | \* A significant difference between the nasal submucosal temperature ice pack to forehead (a) compared to ice cubs in mouth (b) (p=.0.026), favoring ice cubes alone.  \* A significant difference between nasal submucosal temperature in ice pack to forehead compared to combined stimulus (c) (p=.0.006), favoring combined stimulus.  \*In all subjects (n=13, 100%) ice cubes in mouth (b) produced a lower nasal submucosal temperature. The ice pack to the forehead (a) produced a decrease in nasal mucosal temperature in 7 of 13 (53%) subjects. |
| Scheibe, 2006, Germany | Cross-over | 15 healthy subjects (range 25-40, 7 female) with no reported breathing difficulties, acute nasal allergies, or an acute rhinitis; nasal endoscopy by an ENT  specialist revealed no pathology. | Ice collar (4°C) placed onto neck region for 10 minutes. | No application, baseline | Nasal blood volume  via optical rhinometry (measured in nm) for whole nose and at septum, randomized. | \*A significant (p<0.01) decrease in blood  volume could be seen for regional measurements at the septum.  \* Decrease in nasal blood volume at the nasal septum was, on average, observed after approximately 2 minutes t1=111 sec ± 73 sec); decrease reached its maximum after approximately 6 minutes  (t2=337 sec ± 119 sec). |
| Teymoortash, 2003, Germany | Cross-over | 56 healthy subjects (mean age=30, range 17-48) with normal rhinoscopy and no history of nasal allergy or acute or recurrent symptoms of rhinitis. | Ice pack applied all-round the neck for 5 minutes. | No application, baseline | Nasal mucosal microcirculatory blood flow via laser Doppler flowmetry, nasal mucosal blood content (indirectly via conventional computer-aided anterior rhinomanometer by measuring alternations in nasal airflow and airway patency). | \* After cold application, nasal mucosal blood flow decreased from 1368.8 ± 927.9 to 1130.5 ± 792.2). Difference between before and after cold application was not significant (P=0.11).  \* Total nasal inspiratory airflow before application was 513.9±190.4 cm3/s, and after exposure to cold 471.5±164.6 cm3/s (P=0.08).  \* Total nasal expiratory airflow before application was 474.2±211.7 cm3/s and after exposure to cold 443.1±162.4 cm3/s (P=0.30). |
| Yamagiwa, 1990, Denmark | Cross-over | 10 healthy subjects (mean age=21±11.0, range 24-54) with no significant complaints or rhinoscopically overt nasal abnormalities. | Feet cooling (both) in large tub (0-4°C) immersed 30 cm from heel for 5 minutes, (n=10).  One hand and forearm cooling in bucket (0-4°C) immersed to around 23 cm from the middle fingertip for 5 minutes (n=9). | No application, baseline | Nasal cavity volume (mL) rhinometry for L and R cavities. | \* Foot cooling arm. In the exposure period, nasal airway volume was significantly higher than preexposure values in 4 of 10 (40%) of subjects, none showed significantly lower values.  \* Hand cooling arm. In the exposure period, nasal airway volume was significantly higher than preexposure values in 1 of 9 (11%) of subjects, lower in 2 of 9 (22%), and no difference in 6 of 9 (66%) |

A focused PubMed and gray literature search identified 61,584 potential additional sources of information. The search was limited to 551 records (Figure 1), and after removing duplicates (n=17), we identified 521 records. Eleven records were selected for inclusion in this scoping review to identify knowledge gaps and scope the body of literature.