

Supplementary Information

Database Search Strategies:

PubMed: 573

("chronic rhinosinusitis"[tiab:~3] OR "recurrent rhinosinusitis"[tiab:~3] OR "chronic rhinosinusitis"[tiab] OR "recurrence rhinosinusitis"[tiab:~3] OR "chronic sinusitis"[tiab:~3] OR "recurrent sinusitis"[tiab:~3] OR "recurrence sinusitis"[tiab:~3] OR (chronic*[tiab] AND ("Sinusitis"[Mesh] OR "upper airway disease*" [tiab])) OR CRSwNP[tiab] OR CRSsNP[tiab] OR "CRS-NP"[tiab]) AND ("Occupational Diseases"[Mesh] OR "Occupational Exposure"[Mesh] OR "Environmental Exposure"[Mesh] OR "Air Pollutants, Occupational"[Mesh] OR "Environmental Pollutants"[Mesh] OR "Environmental Pollution"[Mesh] OR "Inhalation Exposure"[Mesh] OR "Employment"[Mesh] OR "Occupations"[Mesh] OR "Occupational Health"[Mesh] OR "Industry"[Mesh] OR "Industrial Waste"[Mesh] OR "Sick Leave"[Mesh] OR "Absenteeism"[Mesh] OR "Presenteeism"[Mesh] OR "Air Pollution, Indoor"[Mesh] OR "Air Pollution"[Mesh] OR "Air Pollutants"[Mesh] OR "Air Pollutants, Occupational"[Mesh] OR "Aerosols"[Mesh] OR "Particulate Matter"[Mesh] OR "Smoke"[Mesh] OR "Firefighters"[Mesh] OR "Wildfires"[Mesh] OR "Rescue Work"[Mesh] OR "Dust"[Mesh] OR "Construction Materials"[Mesh] OR "Workplace"[Mesh] OR "Workforce"[Mesh] OR "Animal Husbandry"[Mesh] OR "Agricultural Workers' Diseases"[Mesh] OR "Fertilizers"[Mesh] OR "Insecticides"[Mesh] OR "Food-Processing Industry"[Mesh] OR "Drug Industry"[Mesh] OR "Textile Industry"[Mesh] OR "Textiles"[Mesh] OR "Glass"[Mesh] OR "Paper"[Mesh] OR "Printing"[Mesh] OR "Wood"[Mesh] OR "Solvents"[Mesh] OR "Formaldehyde"[Mesh] OR "Arsenic"[Mesh] OR "Sulfur"[Mesh] OR "Ammonia"[Mesh] OR "Carbon Monoxide"[Mesh] OR "Detergents"[Mesh] OR "Petroleum"[Mesh] OR occupation*[tiab] OR "environmental exposure*" [tiab] OR industry[tiab] OR industries[tiab] OR industrial[tiab] OR factory[tiab] OR factories[tiab] OR job[tiab] OR employment[tiab] OR employee*[tiab] OR employer*[tiab] OR work[ti] OR "work day*" [tiab] OR workday*[tiab] OR worker*[tiab] OR workplace[tiab] OR "work impairment"[tiab] OR productivity[tiab] OR "productive time"[tiab] OR "sick leave"[tiab] OR absentee*[tiab] OR presentee*[tiab] OR farm*[tiab] OR fishing[tiab] OR fisherm*[tiab] OR agricultur*[tiab] OR firefight*[tiab] OR "fire fight*" [tiab] OR carpenter*[tiab] OR woodwork*[tiab] OR sanding[tiab] OR lathing[tiab] OR "wood dust"[tiab] OR "leather dust"[tiab] OR "nail dust"[tiab] OR "skin dust"[tiab] OR "barn dust"[tiab] OR "toxic dust"[tiab] OR glassblow*[tiab] OR "glass blow*" [tiab] OR joiner*[tiab] OR "metal work*" [tiab] OR solvent*[tiab] OR ammonia[tiab] OR bleach[tiab] OR "cleaning agent*" [tiab] OR "cleaning product*" [tiab] OR gasoline[tiab] OR diesel[tiab] OR kerosene[tiab] OR gases[tiab] OR gasses[tiab] OR fuel[tiab] OR "crude oil"[tiab] OR cement[tiab] OR vapor*[tiab] OR vapour*[tiab] OR fumes[tiab] OR (smoke[tiab] AND exposure*[tiab]) OR pesticide*[tiab] OR fiberglass[tiab] OR "copy paper"[tiab] OR "paper worker*" [tiab] OR "paper recycling"[tiab] OR textile*[tiab] OR cotton[tiab] OR printing[tiab] OR newspaper*[tiab] OR photocopy*[tiab] OR toxicant*[tiab] OR "indoor air"[tiab] OR "indoor allergen*" [tiab] OR "particulate matter"[tiab] OR "sick building syndrome"[tiab:~0]) AND (english[Filter]) NOT ("case report"[tiab:~3] OR "report cases"[tiab:~3] OR "chronic obstructive pulmonary disease"[tiab]) NOT ((allchild[Filter] NOT alladult[Filter]) OR pediatric*[ti] OR baby[ti] OR babies[ti] OR infan*[ti] OR toddler*[ti] OR

child*[ti] OR boy[ti] OR boys[ti] OR girl[ti] OR girls[ti] OR school*[ti] OR juvenile*[ti] OR adolescen*[ti] OR youth[ti]) NOT ((animal[Filter] NOT humans[Filter]) OR veterinar*[ti] OR animal*[ti] OR nonhuman[ti] OR "non-human"[ti] OR mouse[ti] OR mice[ti] OR rat[ti] OR rats[ti] OR murine[ti] OR rodent*[ti] OR canine*[ti] OR dog[ti] OR dogs[ti] OR pupp*[ti] OR dalmatian*[ti] OR feline*[ti] OR cat[ti] OR cats[ti] OR rabbit*[ti] OR pig[ti] OR pigs[ti] OR porcine[ti] OR swine[ti] OR cow[ti] OR cows[ti] OR cattle[ti] OR livestock[ti] OR herd*[ti] OR sheep*[ti] OR bovine[ti] OR equine[ti] OR horse*[ti] OR primate*[ti] OR monkey*[ti] OR chimp*[ti] OR baboon*[ti] OR bear[ti] OR bears[ti] OR bat[ti] OR bats[ti] OR bird*[ti] OR chick*[ti] OR hen[ti] OR rooster*[ti] OR owl[ti] OR owls[ti] OR finch*[ti] OR dolphin*[ti] OR fish*[ti] OR zebra*[ti] OR "zebra fish"[ti] OR "sea lion*" [ti] OR salmon*[ti] OR snake*[ti] OR hamster*[ti] OR gerbil*[ti] OR hedgehog*[ti] OR badger*[ti] OR chinchilla*[ti] OR "fruit fly"[ti] OR "fruit flies"[ti] OR Drosophila[ti])

Embase: 560

('chronic rhinosinusitis'/exp/mj OR 'chronic rhinosinusitis with nasal polyp'/exp/mj OR 'chronic rhinosinusitis without nasal polyp'/exp/mj OR 'chronic rhinosinusitis with nasal polyposis'/exp/mj OR 'chronic rhinosinusitis without nasal polyposis'/exp/mj OR (((chronic OR recurren*) NEAR/3 (rhinosinusitis OR sinusitis)):ti,ab) OR 'chronic rhino-sinusitis':ti,ab OR (chronic*:ti,ab AND ('rhinosinusitis'/exp/mj OR 'sinusitis'/exp/mj OR 'upper airway disease*':ti,ab)) OR crswnp:ti,ab OR crssnp:ti,ab OR 'crs-np':ti,ab) AND (('occupational disease'/exp/mj OR 'occupational exposure'/exp/mj OR 'environmental exposure'/exp/mj OR 'environmental pollutant'/exp/mj OR 'pollution'/exp/mj OR 'inhalational exposure'/exp/mj OR 'employment'/exp/mj OR 'occupation'/exp/mj OR 'job'/exp/mj OR 'occupational health'/exp/mj OR 'industry'/exp/mj OR 'factory'/exp/mj OR 'industrial waste'/exp/mj OR 'sick leave'/exp/mj OR 'absenteeism'/exp/mj OR 'presenteeism'/exp/mj OR 'productivity'/exp/mj OR 'indoor air pollution'/exp/mj OR 'air pollution'/exp/mj OR 'air pollutant'/exp/mj OR 'aerosol'/exp/mj OR 'particulate matter'/exp/mj OR 'smoke'/exp/mj OR 'fire fighter'/exp/mj OR 'wildfire'/exp/mj OR 'rescue work'/exp/mj OR 'dust'/exp/mj OR 'wood dust'/exp/mj OR 'leather dust'/exp/mj OR 'building material'/exp/mj OR 'workplace'/exp/mj OR 'workforce'/exp/mj OR 'fishing'/exp/mj OR 'animal husbandry'/exp/mj OR 'fertilizer'/exp/mj OR 'insecticide'/exp/mj OR 'food industry'/exp/mj OR 'drug industry'/exp/mj OR textile) AND 'industry'/exp/mj OR 'textile'/exp/mj OR 'glass'/exp/mj OR 'paper'/exp/mj OR 'printing'/exp/mj OR 'wood'/exp/mj OR 'solvent'/exp/mj OR 'formaldehyde'/exp/mj OR 'arsenic'/exp/mj OR 'sulfur'/exp/mj OR 'ammonia'/exp/mj OR 'bleach'/exp/mj OR 'carbon monoxide'/exp/mj OR 'detergent'/exp/mj OR 'gasoline'/exp/mj OR 'diesel'/exp/mj OR 'kerosene'/exp/mj OR 'gases'/exp/mj OR 'fuel'/exp/mj OR 'crude oil'/exp/mj OR occupation*:ti,ab OR 'environmental exposure*':ti,ab OR pollut*:ti,ab OR 'inhalational exposure*':ti,ab OR industry:ti,ab OR industries:ti,ab OR industrial:ti,ab OR factory:ti,ab OR factories:ti,ab OR job:ti,ab OR employment:ti,ab OR employee*:ti,ab OR employer*:ti,ab OR work:ti OR 'work day*':ti,ab OR workday*:ti,ab OR worker*:ti,ab OR workplace:ti,ab OR 'work impairment':ti,ab OR productivity:ti,ab OR 'productive time':ti,ab OR 'sick leave':ti,ab OR absentee*:ti,ab OR presentee*:ti,ab OR farm*:ti,ab OR fishing:ti,ab OR fisherm*:ti,ab OR agricultur*:ti,ab OR firefight*:ti,ab OR 'fire fight*':ti,ab OR carpenter*:ti,ab OR woodwork*:ti,ab OR sanding:ti,ab OR lathing:ti,ab OR 'wood dust':ti,ab OR 'leather

dust':ti,ab OR 'nail dust':ti,ab OR 'skin dust':ti,ab OR 'barn dust':ti,ab OR 'toxic dust':ti,ab OR glassblow*:ti,ab OR 'glass blow*':ti,ab OR joiner*:ti,ab OR 'metal work*':ti,ab OR solvent*:ti,ab OR ammonia:ti,ab OR bleach:ti,ab OR 'cleaning agent*':ti,ab OR 'cleaning product*':ti,ab OR gasoline:ti,ab OR diesel:ti,ab OR kerosene:ti,ab OR gases:ti,ab OR gasses:ti,ab OR fuel:ti,ab OR 'crude oil':ti,ab OR cement:ti,ab OR vapor*:ti,ab OR vapour*:ti,ab OR fumes:ti,ab OR (smoke:ti,ab AND exposure*:ti,ab) OR pesticide*:ti,ab OR fiberglass:ti,ab OR 'copy paper':ti,ab OR 'paper worker*':ti,ab OR 'paper recycling':ti,ab OR textile*:ti,ab OR cotton:ti,ab OR printing:ti,ab OR newspaper*:ti,ab OR photocopy*:ti,ab OR toxicant*:ti,ab OR 'indoor air':ti,ab OR 'indoor allergen*':ti,ab OR 'particulate matter':ti,ab OR 'sick building syndrome':ti,ab) AND [english]/lim NOT (((case* NEAR/3 report*):ti,ab) OR 'chronic obstructive pulmonary disease':ti,ab) NOT (([newborn]/lim OR [infant]/lim OR [child]/lim OR [adolescent]/lim) NOT ([adult]/lim OR [aged]/lim) OR pediatric*:ti OR baby:ti OR babies:ti OR infan*:ti OR toddler*:ti OR child*:ti OR boy:ti OR boys:ti OR girl:ti OR girls:ti OR school*:ti OR juvenile*:ti OR adolescen*:ti OR youth:ti) NOT ([animals]/lim NOT [humans]/lim OR veterinar*:ti OR animal*:ti OR nonhuman:ti OR 'non-human':ti OR mouse:ti OR mice:ti OR rat:ti OR rats:ti OR murine:ti OR rodent*:ti OR canine*:ti OR dog:ti OR dogs:ti OR pupp*:ti OR dalmatian*:ti OR feline*:ti OR cat:ti OR cats:ti OR rabbit*:ti OR pig:ti OR pigs:ti OR porcine:ti OR swine:ti OR cow:ti OR cows:ti OR cattle:ti OR livestock:ti OR herd*:ti OR sheep*:ti OR bovine:ti OR equine:ti OR horse*:ti OR primate*:ti OR monkey*:ti OR chimp*:ti OR baboon*:ti,ab OR bear:ti OR bears:ti OR bat:ti OR bats:ti OR bird*:ti OR chick*:ti OR hen:ti OR rooster*:ti OR owl:ti OR owls:ti OR finch*:ti OR dolphin*:ti OR fish*:ti OR zebra*:ti OR 'zebra fish':ti OR 'sea lion*':ti OR salmon*:ti OR snake*:ti OR hamster*:ti OR gerbil*:ti OR hedgehog*:ti OR badger*:ti OR chinchilla*:ti OR 'fruit fly':ti OR 'fruit flies':ti OR drosophila:ti)

Scopus: 56

((TITLE-ABS((chronic OR recurren*) N/3 (rhinosinusitis OR sinusitis OR "upper airway disease*")) OR TITLE-ABS(CRSwNP OR CRSsNP OR CRS-NP)) AND (TITLE-ABS(occupation* OR "environmental exposure*" OR industry OR industries OR industrial OR factory OR factories OR job OR employment OR employee* OR employer* OR "work day*" OR workday* OR worker* OR workplace OR "work impairment" OR productivity OR "productive time" OR "sick leave" OR absentee* OR presentee* OR farm* OR fishing OR fisherm* OR agricultur* OR firefight* OR "fire fight*" OR carpenter* OR woodwork* OR sanding OR lathing OR "wood dust" OR "leather dust" OR "nail dust" OR "skin dust" OR "barn dust" OR "toxic dust" OR glassblow* OR "glass blow*" OR joiner* OR "metal work*" OR solvent* OR ammonia OR bleach OR "cleaning agent*" OR "cleaning product*" OR gasoline OR diesel OR kerosene OR gases OR gasses OR fuel OR "crude oil" OR cement OR vapor* OR vapour* OR fumes OR pesticide* OR fiberglass OR "copy paper" OR "paper worker*" OR "paper recycling" OR textile* OR cotton OR printing OR newspaper* OR photocopy* OR toxicant* OR "indoor air" OR "indoor allergen*" OR "particulate matter" OR "sick building syndrome")) OR TITLE-ABS(smoke AND exposure) OR TITLE(work))) AND NOT TITLE-ABS(case* N/3 report*) AND NOT TITLE-ABS("chronic obstructive pulmonary disease") AND NOT TITLE(pediatric* OR baby OR babies OR infan* OR toddler* OR child* OR boy OR boys OR girl OR girls OR school* OR juvenile* OR adolescen* OR youth) AND NOT TITLE(veterinar* OR animal* OR nonhuman OR "non-human" OR mouse OR mice OR rat OR rats OR murine OR rodent* OR canine* OR dog OR dogs OR pupp* OR dalmatian* OR

feline* OR cat OR cats OR rabbit* OR pig OR pigs OR porcine OR swine OR cow OR cows OR cattle OR livestock OR herd* OR sheep* OR bovine OR equine OR horse* OR primate* OR monkey* OR chimp* OR baboon* OR bear OR bears OR bat OR bats OR bird* OR chick* OR hen OR rooster* OR owl OR owls OR finch* OR dolphin* OR fish* OR zebra* OR "zebra fish" OR "sea lion*" OR salmon* OR snake* OR hamster* OR gerbil* OR hedgehog* OR badger* OR chinchilla* OR "fruit fly" OR "fruit flies" OR Drosophila) AND (LIMIT-TO (LANGUAGE , "English"))

Inclusion & Exclusion Criteria

Inclusion:

- Independent variable: occupational domains such as:
 - Employed vs unemployed
 - Occupation type
 - Specific substance (confirmed exposed due to occupation)
- Dependent variable: chronic rhinosinusitis (CRS) with or without nasal polyps.
 - Clear definition/details provided about defining/diagnosing CRS
 - Ex) EPOS symptom criteria – including questionnaires that match EPOS criteria (patient-reported or otherwise)
 - Ex) Endoscopic findings
 - Ex) CT findings
 - Ex) ICD codes
 - Ex) Need for surgery (ESS)
 - Components of incidence, prevalence, risk, or severity
 - Severity may be based on need for surgery, increase in medical treatment, etc.

Exclusion:

- Non-English
- Inaccessible
- Abstract only
- Basic science
- Use of biomarkers as intermediate between exposure and CRS development
- Discussion of “sinusitis” without specification of chronicity or lack of other detailed definition information
- Focus ONLY on other sinus or related diseases such as:
 - Acute rhinosinusitis
 - Fungal sinusitis
 - Allergic rhinitis
 - Occupational rhinitis
- Outcomes of other diagnosis with CRS
 - Ex) Asthma with CRS
- Cigarette/tobacco smoke as exposure
- Case report/series

- Review articles/Summaries of evidence
- Expert commentary