**Appendix. Detailed Search Strategy**

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| --- | --- |
| Database | Search |
| OVID | 1. olympi\*.mp. 2. compet\*.mp. 3. premier.mp. 4. 'high level'.mp. 5. colleg\*.mp. 6. professional\*.mp. 7. "major league".mp. 8. "elite".mp. 9. "top-level".mp. 10. "world-class".mp. 11. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 12. athlet\*.mp. 13. exp sports medicine/ 14. exp sport/ 15. exp exercise/ 16. exp athletic injuries/ 17. sport\*.mp. 18. player\*.mp. 19. 12 or 13 or 14 or 15 or 16 or 17 or 18 20. exp analgesics/ 21. nsaid\*.mp. 22. opioid\*.mp. 23. exp acetaminophen/ 24. exp aspirin/ 25. exp "Anesthesia and Analgesia"/ 26. exp Anti-Inflammatory Agents/ 27. exp narcotics/ 28. exp pain/ 29. exp pain management/ 30. exp prescription drug misuse/ 31. (Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin Ala 2-MePhe 4-Gly 5 or Enkephalin, D-Penicillamine 2,5 or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid$ or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or dihydrocodeine).mp. 32. (4,5-Dihydro-1-3-trifluoromethyl phenyl 1H-pyrazol-3-amine or Ampyrone or Antipyrine or Apazone or Aspirin or Bufexamac or Clonixin or Curcumin or Diclofenac or Diflunisal or Dipyrone or Epirizole or Fenoprofen or Feprazone or Flurbiprofen or Ibuprofen or Indomethacin or Ketoprofen or Ketorolac or Ketorolac Tromethamine or Meclofenamic Acid or Mefenamic Acid or Mesalamine or Naproxen or Niflumic Acid or Oxyphenbutazone or Phenylbutazone or Piroxicam or Salicylates or Sodium Salicylate or Sulfasalazine or Sulindac or Suprofen or Tolmetin).mp. 33. 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 34. 11 and 19 and 33 35. limit 34 to (english language and humans) |
| CINHAL | 1. olympi\* OR compet\* OR premier OR "high level" OR colleg\* OR professional\* OR "major league" OR elite OR "top-level" OR "world-class" 2. (sport\* or player\*) or MH athletes or MH "sports medicine" or MH SPORTS 3. "ANALGESICS" OR "ACETAMINOPHEN" OR "ANTIPYRETICS" OR "CLONIDINE" OR "DIMETHYL sulfoxide" OR "FLURBIPROFEN" OR "IBUPROFEN" OR "OXYCODONE" 4. "NONSTEROIDAL anti-inflammatory agents" OR "ASPIRIN" OR "FLURBIPROFEN" OR "IBUPROFEN" OR "INDOMETHACIN" OR "KETOROLAC (Drug)" OR "NAPROXEN" OR "PHENYLBUTAZONE" OR "PIROXICAM" 5. "ANESTHESIA" OR "CONDUCTION anesthesia" 6. "ANALGESIA" OR "TRANSCUTANEOUS electrical nerve stimulation" 7. MH "ANTI-inflammatory agents" OR MH "DICLOFENAC" OR MH "DIMETHYL sulfoxide" OR MH "GLUCOCORTICOIDS" OR MH "NONSTEROIDAL anti-inflammatory agents" 8. MH "NARCOTICS" OR MH "COCAINE" OR MH "HASHISH" OR MH "HEROIN" OR MH "MORPHINE" OR MH "OXYCODONE" 9. MH "PAIN" OR "ABDOMINAL pain" OR "BACKACHE" OR "CENTRAL pain" OR "CHEST pain" OR "CHRONIC pain" OR "COMPLEX regional pain syndromes" OR "EARACHE" OR "ELBOW pain" OR "FACIAL pain" OR "FOOT pain" OR "GROIN pain" OR "HEADACHE" OR "INTRACTABLE pain" OR "KNEE pain" OR "LEG pain" OR "MYALGIA" OR "MYOFASCIAL pain syndromes" OR "NECK pain" OR "PAIN management" OR "PAIN measurement" OR "PELVIC pain" OR "SHOULDER pain" OR "SIDE stitch" 10. "nsaid\*" OR "opioid\*" OR ( (Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin Ala 2-MePhe 4-Gly 5 or Enkephalin, D-Penicillamine 2,5 or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid$ or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or dihydrocodeine) ) OR ( (4,5-Dihydro-1-3-trifluoromethyl phenyl 1H-pyrazol-3-amine or Ampyrone or Antipyrine or Apazone or Aspirin or Bufexamac or Clonixin or Curcumin or Diclofenac or Diflunisal or Dipyrone or Epirizole or Fenoprofen or Feprazone or Flurbiprofen or Ibuprofen or Indomethacin or Ketoprofen or Ketorolac or Ketorolac Tromethamine or Meclofenamic Acid or Mefenamic Acid or Mesalamine or Naproxen or Niflumic Acid or Oxyphenbutazone or Phenylbutazone or Piroxicam or Salicylates or Sodium Salicylate or Sulfasalazine or Sulindac or Suprofen or Tolmetin) ) 11. S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 12. S1 AND S2 AND S11 13. Academic Journals |
| SportDISCUS | 1. SU "OLYMPIC athletes" OR SU "WOMEN Olympic athletes" OR SU "ELITE athletes" OR SU "PROFESSIONAL athletes" OR SU "AFRICAN American professional athletes" OR SU "FREE agents (Sports)" OR SU "LGBT professional athletes" OR SU "WOMEN professional athletes" OR SU "COLLEGE athletes" OR SU "COLLEGE basketball players" OR SU "COLLEGE football players" OR SU "COMMUNITY college athletes" OR SU "MALE college athletes" OR SU "SEXUAL minority college athletes" OR SU "WOMEN college athletes" 2. olympi\* OR compet\* OR premier OR "high level" OR colleg\* OR professional\* OR "major league" OR elite OR "top-level" OR "world-class" 3. S1 OR S2 4. "ANALGESICS" OR "ACETAMINOPHEN" OR "ANTIPYRETICS" OR "CLONIDINE" OR "DIMETHYL sulfoxide" OR "FLURBIPROFEN" OR "IBUPROFEN" OR "OXYCODONE" 5. "NONSTEROIDAL anti-inflammatory agents" OR "ASPIRIN" OR "FLURBIPROFEN" OR "IBUPROFEN" OR "INDOMETHACIN" OR "KETOROLAC (Drug)" OR "NAPROXEN" OR "PHENYLBUTAZONE" OR "PIROXICAM" 6. "OPIOIDS" OR "OXYCODONE" 7. "ANESTHESIA" OR "CONDUCTION anesthesia" 8. "ANALGESIA" OR "TRANSCUTANEOUS electrical nerve stimulation" 9. "nsaid\*" OR "opioid\*" OR ( (Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin Ala 2-MePhe 4-Gly 5 or Enkephalin, D-Penicillamine 2,5 or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid$ or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or dihydrocodeine) ) OR ( (4,5-Dihydro-1-3-trifluoromethyl phenyl 1H-pyrazol-3-amine or Ampyrone or Antipyrine or Apazone or Aspirin or Bufexamac or Clonixin or Curcumin or Diclofenac or Diflunisal or Dipyrone or Epirizole or Fenoprofen or Feprazone or Flurbiprofen or Ibuprofen or Indomethacin or Ketoprofen or Ketorolac or Ketorolac Tromethamine or Meclofenamic Acid or Mefenamic Acid or Mesalamine or Naproxen or Niflumic Acid or Oxyphenbutazone or Phenylbutazone or Piroxicam or Salicylates or Sodium Salicylate or Sulfasalazine or Sulindac or Suprofen or Tolmetin) ) 10. S4 OR S5 OR S6 OR S7 OR S8 OR S9 11. S3 AND S10 12. Academic journals |
| Embase | 1. 'athlete'/exp OR athlete.tw OR 'sports medicine'/exp OR 'sports medicine.tw' OR 'sport'/exp OR sport.tw OR player\*.tw 2. 'olympic team' OR 'olympics' OR 'olympia' OR compet\*.tw OR premier OR 'high-level' OR colleg\*.tw OR professional\*.tw OR 'major league' OR elite OR 'top-level' OR 'world-class' 3. 'analgesic'/exp OR 'narcotic agent'/exp OR 'anesthesia'/exp OR 'anti inflammatory agent'/exp OR 'narcotic analgesic'/exp OR 'pain'/exp OR 'opioid'/exp OR 'nonsteroidal antiinflammatory agent'/exp 4. alfentanil OR alphaprodine OR buprenorphine OR butorphanol OR codeine OR dextromoramide OR dextropropoxyphene OR dihydromorphine OR   diphenoxylate OR 'enkephalin ala 2-mephe 4-gly 5' OR 'enkephalin, d-penicillamine 2,5' OR ethylketocyclazocine OR ethylmorphine OR etorphine OR fentanyl OR heroin OR hydrocodone OR hydromorphone OR levorphanol OR meperidine OR meptazinol OR methadone OR 'methadyl acetate' OR morphine OR nalbuphine OR 'opiate alkaloid' OR opium OR oxycodone OR oxymorphone OR pentazocine OR phenazocine OR phenoperidine OR pirinitramide OR promedol OR sufentanil OR tilidine OR tramadol OR pethidine OR dihydrocodeine OR '4,5-dihydro-1-3-trifluoromethyl phenyl 1h-pyrazol-3-amine' OR ampyrone OR antipyrine OR apazone OR aspirin OR bufexamac OR clonixin OR curcumin OR diclofenac OR diflunisal OR dipyrone OR epirizole OR fenoprofen OR feprazone OR flurbiprofen OR ibuprofen OR indomethacin OR ketoprofen OR ketorolac OR 'ketorolac tromethamine' OR 'meclofenamic acid' OR 'mefenamic acid' OR mesalamine OR naproxen OR 'niflumic acid' OR oxyphenbutazone OR phenylbutazone OR piroxicam OR salicylates OR 'sodium salicylate' OR sulfasalazine OR sulindac OR suprofen OR tolmetin   1. (1 AND 2 AND (3 OR 4))AND [humans]/lim AND [english]/lim |
| Cochrane | 1. MeSH descriptor: [Analgesics] explode all trees 2. MeSH descriptor: [Acetaminophen] explode all trees 3. MeSH descriptor: [Aspirin] explode all trees 4. MeSH descriptor: [Anesthesia and Analgesia] explode all trees 5. MeSH descriptor: [Anti-Inflammatory Agents] explode all trees 6. MeSH descriptor: [Narcotics] explode all trees 7. MeSH descriptor: [Pain] explode all trees 8. MeSH descriptor: [Pain Management] explode all trees 9. NSAID\* 10. opioid\* 11. (alfentanil or alphaprodine or buprenorphine or butorphanol or codeine or dextromoramide or dextropropoxyphene or dihydromorphine or diphenoxylate or "Enkephalin Ala 2-MePhe 4-Gly 5" or "Enkephalin, D-Penicillamine 2,5" or ethylketocyclazocine or ethylmorphine or etorphine or fentanyl or heroin or hydrocodone or hydromorphone or levorphanol or meperidine or meptazinol or methadone or Methadyl Acetate or morphine or nalbuphine or Opiate Alkaloid or opium or oxycodone or oxymorphone or pentazocine or phenazocine or phenoperidine or pirinitramide or promedol or sufentanil or tilidine or tramadol or pethidine or dihydrocodeine or "4,5-Dihydro-1-3-trifluoromethyl phenyl 1H-pyrazol-3-amine" or ampyrone or antipyrine or apazone or aspirin or bufexamac or clonixin or curcumin or diclofenac or diflunisal or dipyrone or epirizole or fenoprofen or feprazone or flurbiprofen or ibuprofen or indomethacin or ketoprofen or ketorolac or "Ketorolac Tromethamine" or Meclofenamic Acid or "Mefenamic Acid" or mesalamine or naproxen or "Niflumic Acid" or oxyphenbutazone or phenylbutazone or piroxicam or salicylates or Sodium Salicylate or sulfasalazine or sulindac or suprofen or tolmetin) 12. #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 13. MeSH descriptor: [Athletes] explode all trees 14. MeSH descriptor: [Sports Medicine] explode all trees 15. MeSH descriptor: [Sports] explode all trees 16. MeSH descriptor: [Athletic Injuries] explode all trees 17. player\* 18. (#13 or #14 or #15 or #16 or #17) 19. olympi\* or compet\* or premier or "high-level" or colleg\* or professional\* or "major-league" or elite or "top-level" or "world-class":ti,ab,kw (Word variations have been searched) 20. #12 and #18 and #19 |
| Scopus | ( TITLE-ABS-KEY ( olympi\* OR compet\* OR premier OR {high level} OR colleg\* OR professional\* OR {major league} OR elite OR {top-level} OR {world-class} ) ) AND ( TITLE-ABS-KEY ( athlet\* OR "sports medicine" OR sport OR "athletic injuries" OR player\* ) ) AND ( ALL ( alfentanil OR alphaprodine OR buprenorphine OR butorphanol OR codeine OR dextromoramide OR dextropropoxyphene OR dihydromorphine OR diphenoxylate OR "Enkephalin Ala 2-MePhe 4-Gly 5" OR "Enkephalin, D-Penicillamine 2,5" OR ethylketocyclazocine OR ethylmorphine OR etorphine OR fentanyl OR heroin OR hydrocodone OR hydromorphone OR levorphanol OR meperidine OR meptazinol OR methadone OR "Methadyl Acetate" OR morphine OR nalbuphine OR "Opiate Alkaloid\*" OR opium OR oxycodone OR oxymorphone OR pentazocine OR phenazocine OR phenoperidine OR pirinitramide OR promedol OR sufentanil OR tilidine OR tramadol OR pethidine OR dihydrocodeine OR "4,5-Dihydro-1-3-trifluoromethyl phenyl 1H-pyrazol-3-amine" OR ampyrone OR antipyrine OR apazone OR aspirin OR bufexamac OR clonixin OR curcumin OR diclofenac OR diflunisal OR dipyrone OR epirizole OR fenoprofen OR feprazone OR flurbiprofen OR ibuprofen OR indomethacin OR ketoprofen OR ketorolac OR "Ketorolac Tromethamine" OR "Meclofenamic Acid" OR "Mefenamic Acid" OR mesalamine OR naproxen OR "Niflumic Acid" OR oxyphenbutazone OR phenylbutazone OR piroxicam OR salicylates OR "Sodium Salicylate" OR sulfasalazine OR sulindac OR suprofen OR tolmetin OR analgesics OR acetaminophen OR aspirin OR anesthesia AND analgesia OR anti-inflammatory AND agents OR narcotics OR pain OR nsaid OR opioid\* ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) ) AND ( LIMIT-TO ( EXACTKEYWORD , "Human" ) OR LIMIT-TO ( EXACTKEYWORD , "Humans" ) ) |