

SEDATION TO FACILITATE ACCESS TO PREVENTATIVE HEALTH CARE

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Please find following a summary of a literature search and relevant results. All articles can be provided in full - email library@monashhealth.org for a list of the articles you require.

QUESTION

What is the current evidence around the use of sedation to access preventative health care procedures in the community for adults with developmental and/or intellectual disability?

SEARCH LIMITS

English-language, last 5 years.

SEARCH METHODOLOGY

A systematic search was conducted for literature. The results were screened by two librarians using [Covidence](#). See the Appendix for the PRISMA chart, search terms, and Medline search strategy.

DATABASES SEARCHED

- Medline – index of peer reviewed articles across health sciences and medicine.
- Embase – index of biomed and pharmacological peer reviewed journal articles.
- Emcare – index of nursing, allied health, critical-care medicine and more.
- PsycINFO – index of behavioral and social sciences and more.
- Grey literature – Google, Google Scholar, Trip database, Biomed Central Proceedings.

LITERATURE RESULTS

All articles can be provided in full text - email library@monashhealth.org a list of articles you require.

GENERAL RESOURCES

ONLINE RESOURCES (GREY LITERATURE)

Geddis-Regen, A, et al. (2022) **The use of general anaesthesia in special care dentistry: A clinical guideline from the British Society of Special Care Dentistry.** [Link](#)

- General anaesthesia (GA) may be required to support the care of those seen in Special Care Dentistry (SCD) services for various reasons.
- Guidance is needed for teams delivering SCD using GA due to the potential risks, implications, and costs of using GA to deliver dental care.

- Guidelines are presented to support those providing GA to provide SCD. The need for comprehensive and person-centered assessment and planning is emphasized.

PEER-REVIEWED LITERATURE - IN REVERSE CHRONOLOGICAL ORDER

Articles are grouped by theme:

- Alternative to sedation
- Sedation Options
- Settings
 - Dental Care
 - Needle Anxiety

Each article summary contains excerpts from the abstract and an online link.

ALTERNATIVES TO SEDATION

Castano Novoa, P., et al. (2023). **Dental desensitization by dentists and occupational therapists for autistic adults: A pilot study.** *Autism : the international journal of research and practice*, 13623613231173757.

[Request full text](#)

Managing patients with autism in the dental clinic often requires resorting to pharmacological behavioral control techniques, including general anesthesia. References in the literature to desensitization programs are scarce and focus on training children with autism to undergo oral examinations and preventive procedures. This study shows that a dental desensitization program implemented by dentists and occupational therapists could help in performing not only oral examinations but also simple dental therapeutic procedures for a considerable percentage of adults with autism, without using a pharmacological intervention (sedation or general anesthesia).

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Ferreira, R., et al. (2021). **Use of alternative communication with pictures for outpatient periodontal treatment in fragile X syndrome patients.** *Journal of Indian Society of Periodontology*, 25(1), 70-74. [Full text link](#)

The purpose of this article is to discuss the clinical management and behavior during periodontal treatment in two patients with fragile X syndrome (FXS) using alternative communication with pictures (ACP). It was possible to carry out outpatient care without oral sedation and containment/physical restraint in both patients, being surpassed the communicative and behavioral difficulties. These case reports allow us to re-think dental care under general anesthesia or other invasive methods for patients with FXS. Therefore, the ACP is an important mediator tool that can facilitate the insertion and the management of patients with FXS, allowing the dental care outpatient clinic to promote oral health and quality of life for these patients, improving adherence to periodontal treatment and the periodontal maintenance for oral hygiene.

Phadraig, C. M. G., et al. (2019). **Communication-based behaviour support for adults with intellectual disabilities receiving dental care: A focus group study exploring dentists' decision-making and communication.** *Journal of intellectual disabilities*, 23(4), 526-540. [Request full text](#)

A better understanding of how communication-based behaviour supports are applied with adults with intellectual disabilities may reduce reliance on restrictive practices such as holding, sedation and anaesthesia in dentistry. In this study, we explore how communication is used by dentists who provide treatment for adults with intellectual disabilities. This exploration revealed rationalist and intuitive decision-making. Implications for education, practice and research are identified.

SEDATION OPTIONS

Busto, R., et al. (2023). **Regulatory barriers to dental anesthesia services for special populations.** *Special care in dentistry*, 43(4), 380-388. [Full text link](#)

Sedation and general anesthesia are necessities for the treatment of many individuals within special populations such as those with physical and intellectual disabilities, fear/anxiety, or individuals requiring extensive procedures. This study aims to discover regulatory factors that may be contributing to the limited access to anesthesia services provided by dentist anesthesiologists. Rules and regulatory restrictions on the mobility of dentist anesthesiologist equipment/supplies and additional state narcotic transportation regulations were deemed statistically significant in failing to improve safety. Requiring airway and sedation training for a facility's provider and staff were not barriers to care. Rules and regulations were not a factor to establishing clinical practice in one state over another state. Individuals and organizations responsible for influencing the regulatory environment of anesthesia services should improve regulations to facilitate the mobility of dentist anesthesiologists.

Curi, D. S. C., et al. (2022). **Strategies used for the outpatient dental care of people with autism spectrum disorder: An integrative review.** *Research in Autism Spectrum Disorders*, 91, e101903. [Request full text](#)

Autism spectrum disorder is a neurodevelopmental disorder with early onset and chronic course. People with this disorder and their caregivers find it difficult to find dentists who provide adequate dental care. The aim of this review was to analyze studies published between 1999 and 2020, available in Portuguese, English or Spanish, on strategies that can be used for outpatient dental care for people with Autism Spectrum Disorder (ASD). These strategies will be chosen depending on the level of skills and knowledge of the professionals, on their ability to work with specific resources, and mainly on the individual characteristics of the patient, since ASD manifests differently from person to person.

Mincer, R. C., et al. (2020). **Dexmedetomidine reduces the amount of benzodiazepines and opioids administered during moderate conscious sedation for dental treatment.** *Special Care in Dentistry*, 40(5), 437-442. [Request full text](#)

To assess the efficacy of dexmedetomidine (DEX) on the intravenous moderate sedation (IVMS) regimen, while treating patients of the special patient care (SPC) population. This study aims to incorporate DEX into the typical IVMS drug regimen in order to reduce the amount of benzodiazepines (BZD) and opioids administered and as a result reduce the amount of unwanted side effects. The addition of DEX to the anesthetic regimen results in a reduction of overall medications administered.

Ferrary, T., et al. (2019). **Psychoprophylaxis for oral conscious sedation for dental care in Down syndrome adults with behavioral disorder.** *Special care in dentistry*, 39(4), 389-398. [Request full text](#)

Down syndrome (DS) presents with prevalent diseases in the oral cavity and the need of constant dental care and follow-up. The use of conscious sedation (CS) for dental care in adult DS with behavioral disorders is poorly documented. The aim of this study was to evaluate the effectiveness and safety of CS procedures with oral midazolam using previous psychoprophylaxis sessions in DS adult patients with behavioral disorders. Psychoprophylaxis sessions followed by CS procedures using oral midazolam in adult DS with behavioral disorders were shown to be a useful strategy to perform routine dental treatment safely. Midazolam produces anterograde amnesia, and participants were more cooperative in the following visits.

Mac Giolla Phadraig, C., et al. (2018). **Pharmacological behaviour support for adults with intellectual disabilities: Frequency and predictors in a national cross-sectional survey.** *Community dentistry and oral epidemiology*, 46(3), 231-237. [Request full text](#)

To report frequency and predictors of reported pharmacological behaviour support use among older adults with intellectual disabilities (ID) accessing dental care in Ireland. People with ID report a diverse range of

support use, with many using GA or CS, particularly oral sedation, for dental treatment. This highlights a need for training and governance for dentists who provide this care. Patients who present with challenging behaviour, oral problems and, interestingly, difficulty with expressive communication are more likely to report use of pharmacological supports. The above has implications for dental service design and delivery for this population.

SETTING

DENTAL CARE

Mawhinney, R. L., et al. (2023). **Sedation for dental procedures.** *Anaesthesia and Intensive Care Medicine*, 24(8), 431-434. [Full text link](#)

Sedation is a technique that can be employed to assist selected patients to undergo dental procedures that may otherwise be difficult for them to tolerate in a fully conscious state. Safe sedation requires attention to patient selection, the clinical environment, level of physiological monitoring, sedation technique, and postoperative management. Various sedative pharmacological agents are available, and can be used alone or in combination. General anaesthetic agents used in lower doses for this purpose should be short-acting and carefully titrated, to allow fine control of sedation and a greater chance of success. Inadvertent overdosage is a potential risk, therefore, these particular agents must be administered by an anaesthetist. Alternatively, Entonox and oral or intravenous benzodiazepines can be safely administered by other appropriately trained practitioners.

Salerno, C., et al. (2023). **Conscious Sedation for Dental Treatments in Subjects with Intellectual Disability: A Systematic Review and Meta-Analysis.** *International journal of environmental research and public health*, 20(3), 1779. [Full text link](#)

This systematic review and meta-analysis was aimed to investigate the conscious sedation efficiency in patients with intellectual disability undergoing dental treatment. Four scientific databases were searched by ad-hoc prepared strings. No meta-analysis has yet been conducted to define the most effective and safest way to achieve conscious sedation in patients with intellectual disability; nitrous oxide appears to be the best choice to perform conscious sedation in patients with intellectual disability undergoing dental treatment.

Manley, M. C. G., et al. (2021). **Dental disadvantage for people with disability: a potential solution for a problematic area of care.** *Disability and Society*, 36(7), 1197-1202. [Full text link](#)

This paper considers the oral health of people with disability and the disadvantage they experience compared to those who do not have a disability. There are many influencing factors for this including service provision and appropriate training for staff. A potential solution is proposed demonstrating that even advanced dental care is possible for people with complex disability. This meets the principal of equitable care for people with disability. The example concerns the provision of a lower anterior bridge for a gentleman with mid to end stage Huntington's disease and significant uncontrolled choreic movements. Intravenous conscious sedation is used to facilitate complex treatment and to demonstrate a clinical skill which can open doors for the treatment of adults with disability.

NEEDLE ANXIETY

Rava, J., et al. (2023). **The Needle Anxiety Program: A Patient-Centered Initiative for Individuals With Developmental Disabilities.** *Cureus, 15(7)*, e42253. [Full text link](#)

To describe the development process of a patient-centered initiative focused on improving primary care health outcomes of patients with intellectual and developmental disabilities (IDD) and needle-related anxiety using evidence-based practices and novel approaches that can be implemented in outpatient settings. The overall outcome of the program is to increase vaccine uptake and accessibility in the IDD population as well as improve needle-related procedures in primary care settings to be more humane and effective. The Needle Anxiety Program eases the administration of needle-related medical procedures in the primary care setting for patients with IDD and needle-related anxiety. The use of evidence-based practices and a novel minimal sedation protocol for individuals with needle phobia assists in the completion of routine healthcare procedures, such as vaccinations and phlebotomy, in a patient-preferred setting. The purpose of delineating needle-related processes and procedures through the Needle Anxiety Program is to reduce health disparities for patients with IDD and promote uptake of the Needle Anxiety Program in similar healthcare settings.

Rava, J., et al. (2023). **Implementation of a Minimal Sedation Protocol for Patients With Developmental Disabilities and Needle Phobia.** *Cureus, 15(7)*, e42154. [Full text link](#)

Patients with intellectual and developmental disabilities (IDD) experience needle phobia at greater rates than individuals in the general population. Needle phobia deters patients with IDD from receiving routine medical procedures, which impacts their physical health outcomes. The aim of this quality improvement study was to assess the feasibility of a minimal sedation protocol in an outpatient care setting for patients with IDD and needle phobia. This pilot study assessed the feasibility of implementing a minimal sedation protocol in primary care outpatient care settings. The preliminary results suggest that the minimal sedation protocol may improve the uptake of needle-related medical procedures for patients with IDD and/or needle phobia. The minimal sedation protocol should be studied in a larger sample and among multiple outpatient settings to establish effectiveness of the intervention.

MEDLINE SEARCH STRATEGY

Ovid MEDLINE(R) ALL <1946 to August 28, 2023>

- 1 exp Intellectual Disability/ 105583
- 2 Developmental Disabilities/ or Down Syndrome/ or Fragile X Syndrome/ or Fetal Alcohol Spectrum Disorders/ or Prader-Willi Syndrome/ or Rett Syndrome/ or exp Autism Spectrum Disorder/ or Cerebral Palsy/ 126850
- 3 (development* disabilit* or development* delay disorder* or intellectual disabilit* or intellectual development* disorder* or complex disabilit* or down syndrome or downs syndrome or fragile x syndrome or fetal alcohol syndrome* or foetal alcohol syndrome* or fetal alcohol spectrum disorder* or foetal alcohol spectrum disorder* or prader willi syndrome or rett syndrome or attention deficit hyperactivity disorder* or autism or autistic or oppositional defiant disorder).mp. 228273
- 4 1 or 2 or 3 259491
- 5 Dental Care/ or General Practice/ or "Delivery of Health Care"/ or "Health Service Accessibility"/ 154662
- 6 ((medical or prevent* or routine or dental or invasive) adj3 (procedure* or investigat* or test* or scan*)).mp. 174848
- 7 5 or 6 327642
- 8 (exp Anesthesia/ and Analgesia/) or Midazolam/ or "Hypnotics and Sedatives"/ or Conscious Sedation/ 52662
- 9 (Sedative or sedation or sedate or Midazolam or Ketamine or Nitrous Oxide or general anesthetic or pharmacological intervention*).mp. 132387
- 10 8 or 9 156891
- 11 4 and 7 and 10 81
- 12 limit 11 to last 5 years 31

SEARCH TERMS

Concept	MeSH headings	Keywords
Intellectual Disability	Intellectual Disability/ or Developmental Disabilities/ or Down Syndrome/ or Fragile X Syndrome/ or Fetal Alcohol Spectrum Disorders/ or Prader-Willi Syndrome/ or Rett Syndrome/ or exp Autism Spectrum Disorder/ or Cerebral Palsy/	development disabilit or development delay disorder or intellectual disabilit or intellectual development disorder or complex disabilit or down syndrome or downs syndrome or fragile x syndrome or fetal alcohol syndrome or foetal alcohol syndrome or fetal alcohol spectrum disorder or foetal alcohol spectrum disorder or prader willi syndrome or rett syndrome or attention deficit hyperactivity disorder or autism or autistic or oppositional defiant disorder
Health Service Accessibility	Dental Care/ or General Practice/ or "Delivery of Health Care"/ or "Health Service Accessibility"/	medical or prevent or routine or dental or invasive procedure or investigat or test or scan

Sedation

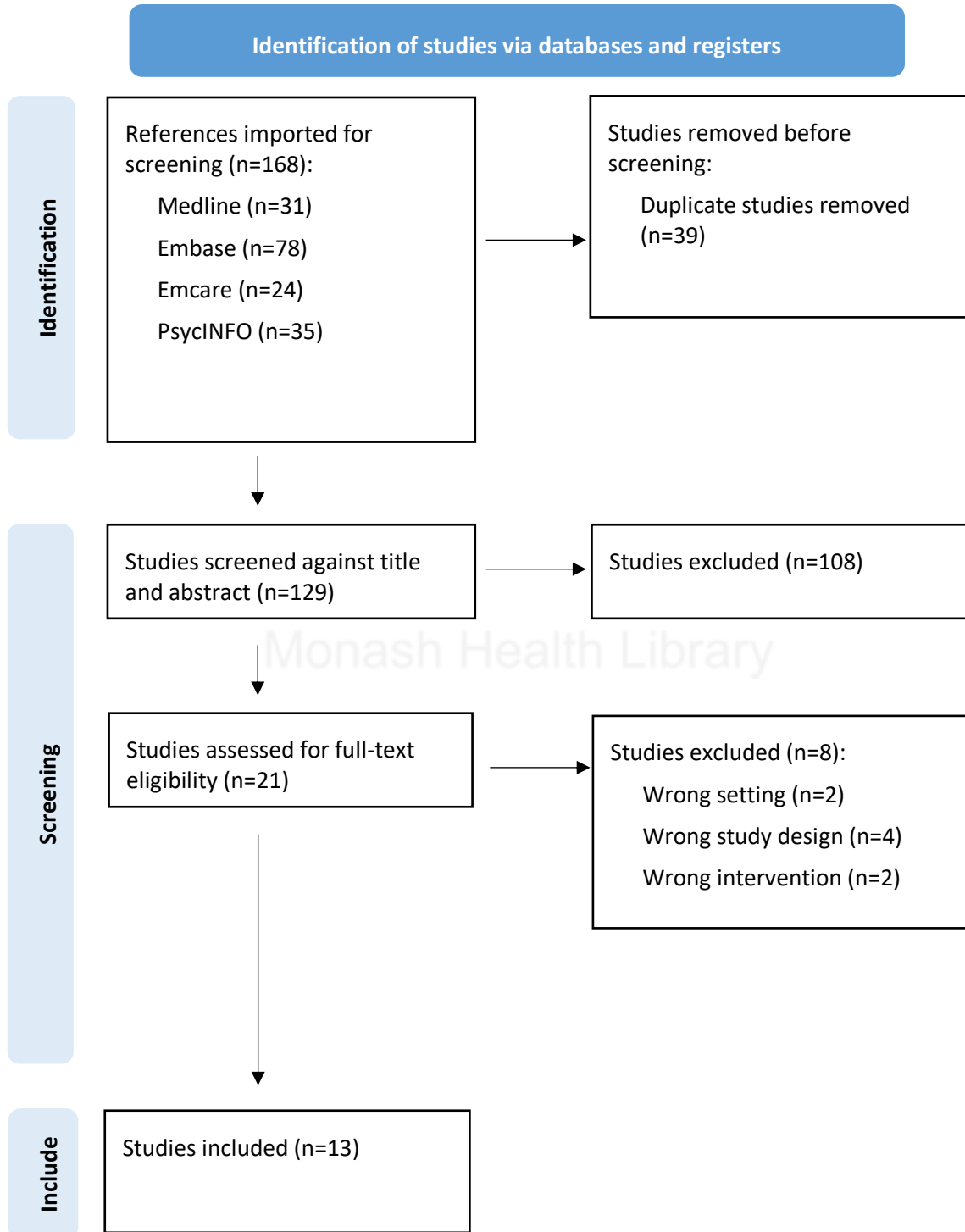
Anesthesia/ and Analgesia/ or
Midazolam/ or "Hypnotics and
Sedatives"/ or Conscious Sedation/

Sedative or sedation or sedate or
Midazolam or Ketamine or Nitrous Oxide
or general anesthetic or
pharmacological intervention

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APPENDIX

PRISMA CHART



This report contains curated literature results against a unique set of criteria at a particular point in time. Users of this service are responsible for independently appraising the quality, reliability, and applicability of the evidence cited. We strongly recommend consulting the original sources and seeking further expert advice.