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REVIEW

Evidence Based Strategies for Blind Placement of Nasojejunal Feeding Tubes in ICU Patients

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Objective: To systematically retrieve, evaluate, and summarize the best available evidence regarding the blind placement of nasojejunal feeding tubes in adult ICU patients with the goal of informing standardized clinical protocols and enhancing patient safety.

Methods: A comprehensive literature search was conducted in UpToDate, BMJ Best Practice, Cochrane Library, Joanna Briggs Institute (JBI) evidence-based healthcare database, guideline repositories, and relevant Chinese and international databases. Professional websites related to critical care and clinical nutrition were reviewed. The literature included clinical guidelines, expert consensus statements, organizational standards, clinical decision tools, evidence summaries, systematic reviews, randomized controlled trials (RCTs), and quasi-experimental studies. The search spanned from inception to August 2025. Two independent evidence-based nursing researchers appraised the quality of eligible sources and extracted evidence aligned with clinical relevance.

Results: A total of 29 studies were included, consisting of four clinical guidelines, three expert consensus statements, one organizational standard, two clinical decision tools, two evidence summaries, four systematic reviews, 10 RCTs, and three quasi-experimental studies. From these, 35 evidence statements were synthesized across 9 domains: indications, contraindications, patient assessment, catheter preparation, positioning, insertion techniques, tube placement confirmation, troubleshooting, and tube maintenance.

Conclusion: This study summarizes the highest-quality evidence to date on blind placement of nasojejunal tubes in critically ill adults. These findings may support the development of standardized protocols, optimize procedural success, and improve overall patient safety in critical care nutrition.

Keywords: severe pneumonia, mechanical ventilation, prone position, enteral nutrition, complications, oxygenation index

Introduction

Post-pyloric enteral nutrition is one of the preferred approaches for nutritional support in critically ill patients due to its favorable safety profile, cost-effectiveness, and ability to preserve intestinal mucosal integrity and function.[1] It also reduces the risk of feeding interruptions caused by high gastric residual volumes and decreases the incidence of aspiration pneumonia. Globally, approximately 10% of hospitalized patients receive post-pyloric nutrition annually via nasojejunal tubes (NJTs).[2] In the intensive care unit (ICU), NJTs are commonly placed at the bedside using a blind technique, with reported success rates ranging widely from 30% to 80%.[3] Despite technological advances in nasoenteric tube design, the accuracy of blind placement remains limited.[4] Even experienced nurses may struggle to consistently achieve transpyloric passage, tolerating a considerable margin of error.[5] Emerging evidence suggests that ultrasound-guided bedside placement could significantly improve the success rate of NJT insertion. However, the clinical adoption of this technique has been limited by its technical complexity, particularly challenges in obtaining clear sonographic views of the gastric antrum and accurately interpreting anatomical landmarks.[6] Consequently, blind placement remains the most widely used method in both domestic and international practice. Although multiple studies have explored various aspects of blind NJT insertion, the existing evidence is fragmented, inconsistent, and difficult to translate into practical clinical guidance. This lack of synthesis contributes to variability in practice and suboptimal outcomes. Therefore, there is a pressing need to consolidate and critically appraise the available evidence to establish clear, evidence-based

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recommendations. This study aims to synthesize the best available evidence on the blind placement of nasojejunal feeding tubes in critically ill adults, with the goal of standardizing clinical practice, optimizing procedural efficiency, improving insertion success rates, and ultimately enhancing patient care quality.

Methods

Literature Search Strategy

Following the 6S evidence hierarchy model, a comprehensive search was conducted across clinical guideline repositories, professional association websites, evidence-based knowledge platforms, and Chinese and international databases.[7] Guideline sources included the Guidelines International Network, American College of Physicians Journal Club, National Institute for Health and Care Excellence (NICE), Scottish Intercollegiate Guidelines Network (SIGN), Registered Nurses' Association of Ontario (RNAO), Australian Clinical Practice Guidelines Portal, and China's Medlive platform. The professional associations included the Society of Critical Care Medicine (SCCM), American Society for Parenteral and Enteral Nutrition (ASPEN), American Institute of Ultrasound in Medicine (AIUM), European Society for Clinical Nutrition and Metabolism (ESPEN), British Association for Parenteral and Enteral Nutrition (BAPEN), European Society of Intensive Care Medicine (ESICM), American Association of Critical-Care Nurses (AACN), Dietitians Association of Australia, Indian Society of Critical Care Medicine, Hong Kong Society of Critical Care Medicine, Chinese Society of Critical Care Medicine, and the Chinese Society for Parenteral and Enteral Nutrition. Evidence-based knowledge platforms included BMJ Best Practice, UpToDate, the Joanna Briggs Institute (JBI) Evidence-Based Healthcare Database, (Database of Abstracts of Reviews of Effects), Essential Evidence Plus, and the Cochrane Library. The databases searched were Web of Science, PubMed, Embase, Karger Medical Database, China National Knowledge Infrastructure (CNKI), Wanfang Data, and the Chinese Biomedical Literature Database. The search covered the period from the database inception to August 2025. For English language resources, the search terms included the "blind insertion method" AND ("nasojejunal tube" OR "post-pyloric tube"). For Chinese-language databases and websites, search terms included combinations of "blind insertion", "nasojejunal tube", "enteral feeding tube", and "post-pyloric". The subject and free text terms were used in combination. PubMed search strategy was as follows: (postpyloric[Title/Abstract] OR transpyloric[Title/Abstract] OR duodeno[Title/Abstract] OR jejunal[Title/Abstract] OR nasojejunal[Title/Abstract] OR nasoduodenal[Title/Abstract] OR small bowel[Title/Abstract] OR post-pyloric[Title/Abstract]) AND (critical illness[Title/Abstract] OR critical care[Title/Abstract] OR intensive care unit[Title/Abstract] OR ICU[Title/Abstract]) AND (blind technique[Title/Abstract] OR blind insertion[Title/Abstract] OR placement[Title/Abstract] OR method[Title/Abstract] OR approach[Title/Abstract]). An example search in Wanfang Data: ("盲插" OR "盲法" OR "盲置" OR "盲插法" OR "盲插置入") AND ("鼻肠管" OR "鼻十二指肠管" OR "鼻空肠管" OR "空肠营养管" OR "营养管" OR "喂养管" OR "鼻小肠管" OR "幽门后营养管" OR "幽门后").

Inclusion and Exclusion Criteria

The inclusion criteria were as follows: (1) study population comprised critically ill adults aged ≥18 years who underwent blind nasojejunal tube placement; (2) articles that included clinical guidelines, expert consensus statements, organizational standards, clinical decision tools, evidence summaries, and systematic reviews; and (3) articles published in Chinese or English.

The exclusion criteria were as follows: (1) duplicate publications or translated versions; (2) abstracts without accessible full texts; (3) outdated versions superseded by updated documents; and (4) studies with poor methodological quality.

Quality Appraisal of Included Literature

Two independent reviewers trained in evidence-based nursing appraised the methodological quality of the included studies. Discrepancies were resolved through group discussions until consensus was reached. The AGREE II instrument (Appraisal of Guidelines for Research and Evaluation II, 2017 version).[8] Expert consensus documents: The (Joanna Briggs Institute) 2016 criteria for evidence-based recommendations.[9] For systematic reviews: the 2016 version of JBI's

critical appraisal tool for systematic reviews.[10] For the clinical decision tools and evidence summaries, the JBI 2016 criteria corresponded to the source type, with evidence tracing to the original studies. For randomized controlled trials (RCTs) and quasi-experimental studies: The JBI 2016 Critical Appraisal Checklist was used for RCTs and quasi-experimental studies. These standardized instruments ensured methodological rigour and consistency throughout the quality assessment process.

Evidence Extraction and Synthesis

Evidence was extracted and categorized according to thematic areas. When conflicting evidence emerged from different sources, we prioritized the following hierarchy: evidence-based guidelines over expert opinions, higher-quality studies over lower-quality ones, and more recent publications over older versions. Strength of evidence was graded using the 2014 JBI Levels of Evidence, ranging from Level 1 (highest) to Level 5 (lowest).[11]

Results

Literature Search Results and Basic Characteristics of Included Studies

A total of 1,019 articles were initially identified through a systematic search. After the screening, 29 studies met the inclusion criteria. These included four clinical practice guidelines, three expert consensus statements, one group standard, two clinical decision summaries, two evidence summaries, four systematic reviews, 10 randomized controlled trials (RCTs), and three quasi-experimental studies. The literature selection process is illustrated in Figure 1. The general characteristics of the included studies are summarized in Table 1.

Quality Appraisal of Included Studies

Clinical Guidelines

Four clinical guidelines were appraised using AGREE II. The standardized percentage scores for each domain and the overall recommendations are listed in Table 2.

Expert Consensus and Group Standards

One group standard[16] and three expert consensus documents[19–21] were appraised using the 2016 JBI criteria for opinion-based evidence. All items met the criteria and were rated as high quality.

Systematic Reviews

Four systematic reviews[24–27] were evaluated using the 2016 JBI critical appraisal checklist. All reviews met all appraisal criteria and were deemed to be high-quality.

Clinical Decision Summaries and Evidence Summaries

Two clinical decision summaries[17,18] and two evidence summaries[22,23] were included. The referenced original sources (n = 5) were all systematic reviews appraised as high quality using the 2016 JBI tool.

Randomized Controlled Trials and Quasi-Experimental Studies

Ten RCTs[28–37] were appraised using the 2016 JBI checklist for experimental studies. Two studies (Xu et al[31] and Zhang et al[28]) met all criteria. In the remaining studies, randomization and blinding were unclear, but all other items were rated "yes", indicating overall high quality. Three quasi-experimental studies[34,38,39] were appraised using the 2016 JBI Checklist for Analytical Research. All participants met the appraisal criteria and were included in this study.

Evidence Synthesis

Through discussion and analysis of the extracted evidence, all data were integrated. A total of 35 best practice recommendations were summarized across nine domains: indications, contraindications, assessment, catheter preparation, patient positioning, key steps of catheter insertion, confirmation of catheter position, remedial measures, and catheter maintenance in Table 3.

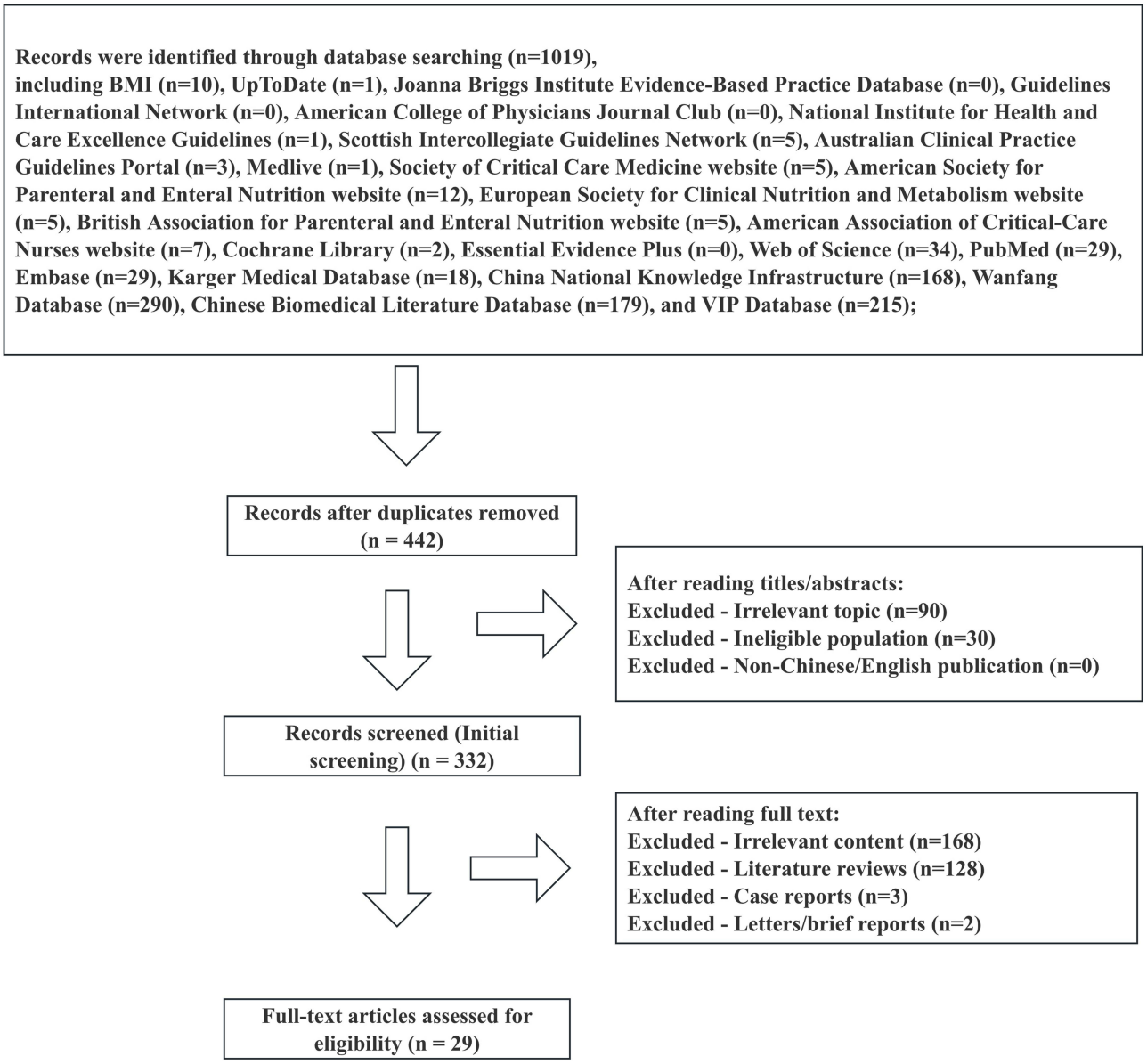

Figure 1 Flow chart of literature screening.

Discussion

Pre-Insertion Considerations: Indications, Contraindications, and Comprehensive Patient Assessment

Evidence items 1 and 2 were high-quality studies that clearly defined the indications and contraindications for blind nasointestinal tube (NIT) placement. This technique is widely applicable to patients with impaired gastric emptying, dysphagia, high risk of aspiration, or those requiring long-term enteral nutritional support.[12] In critically ill patients, particularly those with gastrointestinal dysfunction, post-pyloric feeding via NIT is often necessary to reduce the risk of aspiration pneumonia.[17] Strict exclusion of contraindications, such as bowel obstruction, acute gastroenteritis, and uncontrolled electrolyte imbalances, is essential to avoid complications during the procedure. Recognition of these contraindications is critical for ensuring patient safety.[13] Therefore, prior to clinical implementation, nurses must perform thorough patient assessments to determine the suitability of NIT placement, which forms the foundation of procedural success.

Table 1 Basic Characteristics of Included Studies (n=29)

Author	Year	Source	Type of Literature	Research Topic
Deng ZY et al[12]	2023	CNKI	Guideline	Clinical Practice Guideline on Nasogastric Feeding in Adults
Li T et al[13]	2022	Wanfang	Guideline	Interpretation of Nutritional Therapy Access Guidelines in Chinese Adults: Focus on Nasojejunal Tubes
Compher C et al[14]	2022	ASPEN	Guideline	Guidelines for Nutrition Support in Critically Ill Adults
Itkin M et al[15]	2011	PubMed	Guideline	Multidisciplinary Practical Guidelines for Enteral Access
Chinese Nursing Association[16]	2021	CNA	Group Standard	Retention and Maintenance of Nasojejunal Tubes in Adults
Heuschkel R et al[17]	2021	UpToDate	Clinical Decision	Enteral Nutrition: Gastric vs Post-Pyloric Routes
Richard D et al[18]	2024	UpToDate	Clinical Decision	Placement and Management of Nasogastric and Nasoenteric Tubes in Hospitalized Adults
Chinese Society of Critical Care Nursing[19]	2022	CNKI	Expert Consensus	Expert Consensus on Enteral Nutrition in Patients with Neurocritical Conditions
Chinese Anti-Cancer Association[20]	2017	CNKI	Expert Consensus	Enteral Nutrition via Nasogastric/Nasoenteric Tubes
AACN[21]	2016	AACN Website	Expert Consensus	Initial and Ongoing Verification of Feeding Tube Placement in Adults
Liu F et al[22]	2021	Wanfang	Evidence Summary	Nursing Practice of Nasojejunal Feeding in Critically Ill Adults
Pinheiro L et al[23]	2021	PubMed	Evidence Summary	Best Practices for Nasogastric/Nasoenteric Tube Placement in ICU
Li Y et al[24]	2022	PubMed	Systematic Review	Implementation Strategies for Verifying Nasogastric Tube Placement
Ouyang Y et al[25]	2022	PubMed	Systematic Review	Efficacy of Metoclopramide in Post-Pyloric Tube Placement: A Systematic Review of RCTs
Powers J et al[26]	2021	PubMed	Systematic Review	Competency Models for Placement and Verification of Feeding Tubes in Adults
Jiang L et al[27]	2018	Cochrane Library	Systematic Review	Erythromycin to Facilitate Post-Pyloric Placement: A Meta-Analysis
Zhang XX et al[28]	2024	PubMed	RCT	Use of Inferior Adhesion Method for Manual Bedside Placement in ICU
Hua MF[29]	2023	CNKI	RCT	Fine-Point Interpretation of Abdominal X-rays Post-Blind Insertion
Li L et al[30]	2022	Wanfang	RCT	Use of Auscultation-Assisted Blind Insertion in Elderly Patients
Xu H et al[31]	2022	PubMed	RCT	Two-Stage Bedside Technique to Improve Spiral Tube Placement in Critically Ill Patients
Chen YY et al[32]	2022	CNKI	RCT	Application of Diluted Water Injection Method for Positioning
Xiao Y et al[33]	2020	PubMed	RCT	Comparison of Simotion Tube and Dopidine Suspension in Post-Pyloric Placement
Huang QM et al[34]	2018	Wanfang	RCT	Modified Blind Bedside Technique for Spiral Post-Pyloric Tube
Tang YN et al[35]	2017	Wanfang	RCT	Use of Guidewire Rebound Test for Tube Positioning
Jing XH et al[36]	2017	CNKI	RCT	Improved Method Using Double Guidewire Nasogastric Tube Placement into the Jejunum
Jing XH et al[37]	2016	Wanfang	RCT	Comparative Study on Tube Position Determination Methods
Liu XP et al[38]	2023	Wanfang	Quasi-Experimental	Improved Blind Insertion to Distal Duodenum
Ji FQ et al[39]	2022	Wanfang	Quasi-Experimental	Implementation of Hospital-Level Nutrition Tube Subgroup
Huang QM et al[34]	2018	Wanfang	Quasi-Experimental	Modified Bedside Blind Insertion for Spiral Post-Pyloric Tubes

Table 2 Results of Methodological Quality Assessment for Included Guidelines (n=4)

Reference	Scope & Purpose (%)	Stakeholder Involvement (%)	Rigor of Development (%)	Clarity of Presentation (%)	Applicability (%)	Editorial Independence (%)	Domains ≥60% (n)	Domains ≥30% (n)	Recommendation
Deng ZY et al[12]	86.11	91.84	88.89	76.82	69.29	86.11	6	6	A
Li T et al[13]	83.33	69.29	68.75	63.54	83.33	73.50	6	6	A
Compher C et al[14]	75.00	69.29	94.37	79.73	69.46	91.70	6	6	A
Itkin M et al[15]	91.67	63.54	68.75	76.33	63.54	76.82	6	6	A

Note: The "Domains ≥60% (n)" column indicates the number of domains scoring ≥60%. The "Domains ≥30% (n)" column indicates the number of domains scoring ≥30%. A Grade A recommendation was assigned to guidelines/consensus documents where all six core domains achieved scores ≥60%.

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Table 3 Summary of the Best Evidence for Blind Nasoenteric Tube Insertion in Adult Critically Ill Patients

Domain	Evidence Summary	Level of Evidence
Indications	1. Patients with gastric emptying disorders, dysphagia, high risk of aspiration, need for long-term enteral nutrition, or specific conditions such as short bowel syndrome or intestinal dysfunction.[12–19]	1a
Contraindications	2. Acute gastroenteritis, bowel obstruction, severe esophageal or gastric dysfunction, intra-abdominal infection or abscess, uncontrolled electrolyte disturbances, significant bleeding, or unstable airway.[12–19]	1a
Assessment	3. Assess level of consciousness prior to procedure (eg, using GCS); for conscious and cooperative patients, instruct swallowing during insertion. Altered consciousness increases risk of misplacement into the airway.[12–15]	1b
	4. In deeply sedated or comatose patients, closely monitor vital signs, especially oxygen saturation and respiratory status, to ensure stability throughout the procedure.[12,13,19,20]	5a
	5. Monitor artificial airway cuff pressure before insertion to reduce resistance and aspiration risk.[12–14]	2a
	6. Confirm ventilator mode and settings to ensure stable airway management; evaluate whether adjustments are needed during the procedure.[12–14]	2b
	7. Assess nasal and oral cavity: check for swelling, infection, polyps, or abnormalities; examine oropharyngeal structures for stenosis or tumors.[16,21,24,31,36]	1b
	8. Auscultate lungs to evaluate for diminished breath sounds, rales, or crackles; assess pulmonary function.[16,24,30,32,37]	2a
	9. Perform abdominal palpation to check for tenderness or distension, ensuring no signs of acute abdomen.[16,20,23,30,31,34,39]	2b
Catheter Preparation	10. Use appropriate tube: polyurethane FR8/FR10 nasoenteric tube, guidewire-assisted (dual-wire), or bullet-tip weighted/unweighted tubes; spiral-shaped with guidewire preferred. Outer diameter 3.3 mm, length 120–145 cm; soft and hydrophilic-coated.[15,16,18,21]	5a
Patient Positioning	11. During insertion into the stomach, semi-recumbent position (head of bed elevated 30–45°) is recommended before and after insertion to aid passage and reduce reflux and aspiration.[12–20,24]	1a
	12. Once the tube reaches the stomach and is advancing toward the pylorus, place patient in right lateral decubitus with pelvis elevated 15–30° to facilitate tube passage via gravity.[16–23,28–31]	1a
	13. After placement, maintain head-up position (30–45°) to prevent reflux and aspiration, especially during enteral feeding. Supine or semi-recumbent positions may be used with specific techniques (eg, air or water injection) to control advancement and avoid looping.[16–23,28–31]	1a
Key Insertion Techniques	14. Administer metoclopramide or erythromycin 10–30 min prior to insertion via IM or IV route.[12,14,25,27]	5a
	15. Lubricate the tube and insert slowly via the nostril. Advance with patient's breathing rhythm. In conscious patients, swallowing can aid passage through the pharynx.[16,28,31,33]	2a
	16. Advance tube to pre-measured first mark to reach the stomach; confirm preliminary placement by auscultating air insufflation or aspirating gastric contents.[24,29,30,37]	2a
	17. At 60–65 cm near the pylorus, rotate the tube gently during advancement to prevent kinking. Once resistance is felt (75–90 cm), use the "jiggling technique" and partially withdraw guidewire to reduce gastric wall adherence.[22,28,31,34,38]	2b
	18. Gradually withdraw ~20 cm of the guidewire; observe for recoil. Smooth recoil suggests no entanglement. If resistance is felt, the tube may be looped or kinked; readjust or reinsert as necessary.[35]	2a
	19. Insert first guidewire to maintain flexibility and ease passage through oropharynx; once in the stomach, insert the second wire to enhance rigidity and assist pyloric passage. After entering jejunum, withdraw both wires sequentially to prevent displacement.[31,38]	2a
	20. Assist patient into right lateral position, elevate head of bed to 30–45°, and advance tube slowly. Expect slight resistance at the pylorus. Advance to 110–120 cm as needed.[16,28–32]	2a
Confirmation of Position	21. Use stethoscope to auscultate after injecting 20–30 mL of air through the tube; listen below the xiphoid or in various abdominal regions for air–fluid sound.[30,32]	1a
	22. Aspirate fluid and test pH. Gastric aspirates are acidic (pH 1–5); alkaline fluid (pH >7) suggests intestinal placement.[17,18,23,29,37]	1a
	23. Inject air or warm water and attempt re-aspiration. Resistance or low return suggests post-pyloric placement.[12–14]	5b

(*Continued*)

Table 3 (Continued).

Domain	Evidence Summary	Level of Evidence
	24. Abdominal X-ray (gold standard) confirms whether tube is in stomach, duodenum, or jejunum.[12–16,29]	1a
	25. Partial guidewire withdrawal and observing recoil can help confirm successful passage beyond pylorus.[34,35,38]	2a
Remedial Measures	26. Withdraw tube to 50–55 cm (gastric position), readjust angle, and reattempt pyloric passage with rotation.[34,35,38]	2b
	27. If first attempt fails due to tube type or flexibility, switch to a different design (eg, dual-wire tube for added stiffness).[16,35–38]	2b
	28. If blind insertion fails repeatedly, especially in critically ill patients, use ultrasound or endoscopic guidance.[12–18]	5a
	29. Place tube into the stomach, secure externally, and allow peristalsis to advance the tube naturally into the duodenum or jejunum.[12–18]	5a
Catheter Maintenance	30. Confirm tube position daily via auscultation, aspirate pH, or external tube length.[12–18,30]	5b
	31. Ensure tube is securely fixed at the nose, ear, or cheek to prevent dislodgment.[16]	5a
	32. For high-risk patients, use X-ray to re-confirm placement after insertion or if dislodgement is suspected.[16]	1a
	33. After each feeding or medication, flush tube with 20–30 mL of saline to prevent blockage.[12–15]	5a
	34. Avoid administering large-particle drugs through the tube; crush and dissolve thoroughly. If blockage occurs, flush with warm water or sodium bicarbonate. Severe blockage may require tube replacement.[19,20]	5b
	35. Clean the fixation site regularly and maintain nasal hygiene to prevent infection.[12–15]	5a

Notes: The 2014 version of the JBI evidence hierarchy is adopted to determine the evidence level, where Level 1 represents the highest level and Level 5 represents the lowest level.

Evidence items 3 through 9 summarize the key elements of the preprocedural assessment. Notably, items 3, 6, 7, and 8 were of high quality and underscored the importance of evaluating the consciousness level, nasal anatomy, and the presence of artificial airways. Artificial airway placement can alter the anatomical structure of the epiglottic region, posing challenges for catheter passage through this area.[16] Hence, thorough pre-insertion evaluations, including the patient's neurological status, nasal structure, and endotracheal cuff pressure, are essential to avoid airway trauma and to ensure procedural safety.

Patient Positioning Plays a Critical Role in Tube Placement

Evidence items 11–13 are derived from high-quality randomized controlled trials and highlight the pivotal role of patient positioning in the success of NIT placement.[18,20] Previous studies have indicated that optimal positioning significantly enhances the success rate, particularly during catheter advancement through the pylorus. Right lateral decubitus positioning effectively utilizes gravity to facilitate smooth catheter passage through the stomach and pylorus, thereby reducing the risk of kinking and looping. During initial insertion, a semi-recumbent position helps prevent reflux and promotes gastric entry into the tube. In the post-insertion phase, maintaining a head-up position (30°–45°) is equally important, especially during enteral feeding, as it reduces the risk of aspiration and reflux-related pneumonia.[28,31] In summary, appropriate positioning is a critical but often overlooked factor that enhances both the safety and the success rate of NIT insertion.

Technical Skills and Confirmation of Tube Position

Evidence item 14 indicates that administering prokinetic agents, such as metoclopramide or erythromycin, prior to insertion can significantly increase the success rate of catheter passage through the pylorus.[25,27] These agents enhance gastrointestinal motility and help the catheter to traverse narrow anatomical sites. The blind insertion method is

particularly valuable in resource-limited or time-sensitive settings, with reported success rates ranging from 30 to 80%. Proficiency in technical skills is essential for improving these outcomes.[3]

Evidence items 15 through 20, mostly based on quasi-experimental studies of high evidence level, provide a range of procedural techniques—such as the "jiggling technique" and "guidewire recoil test"—that aid in successful passage through the pylorus and help confirm post-pyloric placement.[35,38] Additional recommendations include synchronizing the tube advancement with the patient's respiratory rhythm, accurately measuring the insertion length, and using auscultation or other methods to verify the location. The use of dual guidewires enhances catheter rigidity and facilitates catheter passage through the pylorus, making it a commonly used and effective clinical technique.

Enhanced Tube Maintenance and Standardized Clinical Practice

Although most evidence items 21 through 25 are based on guidelines and expert consensus and have a relatively low evidence level, they offer practical guidance for clinical implementation. The confirmation of tube placement typically involves auscultation, gastric aspirate pH testing, and abdominal radiography.[16,29]

Evidence items 26 through 30 suggest that in cases of insertion failure, the tube should be withdrawn back to the stomach or advanced by leveraging natural intestinal peristalsis. Ultrasound- or endoscopy-guided techniques are effective alternatives when repeated failures occur.

Evidence items 31 through 36 emphasize that post-placement maintenance significantly affects outcomes in critically ill patients. Daily confirmation of tube position, particularly using radiographic imaging for high-risk patients, is essential to prevent dislodgement. Routine flushing of the tube after feeding or medication helps to prevent occlusion. For drug administration, proper dissolution and grinding are necessary to prevent blockages. In the event of occlusion, flushing with warm water or sodium bicarbonate is recommended; in severe cases, tube replacement may be necessary. Moreover, maintaining hygiene at the nostrils and fixation sites is crucial for preventing local infection.

Conclusion

This review synthesized evidence across nine domains, providing clinical nurses with critical guidance for performing blind nasointestinal tube insertion in critically ill adult patients. The blind insertion technique has substantial clinical value, particularly because of its cost-effectiveness. Successful implementation depends on rigorous patient selection, skilled techniques and consistent tube maintenance. When translating evidence into clinical practice, it is essential to consider local context. Each piece of evidence should be carefully evaluated for its feasibility and applicability within the Chinese healthcare system, allowing clinicians to develop practice strategies that are both evidence-based and contextually appropriate. Ultimately, this approach aims to maximize patient safety and therapeutic effectiveness.

Institutional Review Board Statement

Ethical review and approval of the Institutional Review Board Statement were waived for this review because it did not involve new animal or human subject research; all data have been previously published.

Data Sharing Statement

Please refer to the individual studies cited for information on data availability.

Informed Consent Statement

Informed consent was obtained from all participants in the studies cited herein.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors report no conflicts of interest in this work.

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