Supplementary Document 1

Patient Restraint Management Quality Checklist

Department to be Checked: ____________ Check Date: ____________ Checker: ___________

Check Content	Value	Score	Inspection Method	Note
1. Assessment and Documentation				
Verify validity of the restraint medical order	5		Review medical orders; deduct 1 point per discrepancy	Restraint orders are valid for 24 hours and specify the restrained body part & duration
Verify existence of a restraint informed consent form	5		Review medical records; deduct 1 point per discrepancy; 0 points if no consent form	
Document initiation of restraint	5		Review nursing records; deduct 1 point per discrepancy	Use restraints per orders; document reason, device type, restrained part & start time
Conduct and document assessment every 2 hours	5		Review nursing records; deduct 1 point per discrepancy	Document skin condition, blood circulation at the restrained site & relaxation time
Provide 3–5 minutes of restraint release every 2 hours and document	5		Review nursing records; deduct 1 point per discrepancy	
Document termination of restraint	5		Review nursing records; deduct 1 point per discrepancy	Document restraint stop time, skin/circulation status & reason for release
Document restraint assessment before off-unit examinations	5		Review nursing records; deduct 1 point per discrepancy	
Document PR education provided to patient/family	5		Review nursing records; deduct 1 point per discrepancy	
Develop and document an individualized	5		Review nursing records; deduct 1 point per	Care plan includes “Risk for Impaired Skin Integrity”

Check Content	Value	Score	Inspection Method	Note
restraint care plan			discrepancy	
2. Ensuring Effective Restraint				
Select appropriate restraint devices	5		Review nursing records; deduct 1 point per discrepancy	Use appropriate restraints (e.g., limb restraints, wrist restraints)
Maintain proper restraint tightness	5		Review nursing records; deduct 1 point per discrepancy	Allow 1–2 finger widths of space for safe tightness
Secure restraints to correct anchor points	5		Review nursing records; deduct 1 point per discrepancy	Attach straps to the bed frame, not bed rails
Maintain restrained limbs in functional position with adequate mobility	5		Review nursing records; deduct 1 point per discrepancy	Ensure limbs cannot reach tubes; keep in functional position
Keep skin at restrained sites clean and intact	5		Review nursing records; deduct 1 point per discrepancy	Skin should be dry, odorless, free of bruising or injury
Ensure normal distal limb blood circulation	5		Review nursing records; deduct 1 point per discrepancy	Prevent pallor, cyanosis, coldness, numbness or paresthesia
Perform effective hourly safety rounds	5		Direct patient observation & staff interviews; deduct 1 point per discrepancy	Eliminate risks: circulatory issues, agitation, falls, tube dislodgement, self-harm
Implement bedside handover; provide PR leaflets and reminder signs	5		Interview nurses/families; deduct 1 point per discrepancy	
Ensure safe patient environment	5		On-site inspection; deduct 1 point per non-compliance	Quiet, well-lit, appropriate temperature/humidity; remove hazards (belts, lighters, glassware)
Meet physiological & psychological needs;	5		Direct observation & interviews; deduct 1	Support hydration, nutrition, toileting, positioning;

Check Content	Value	Score	Inspection Method	Note
practice humanistic restraint			point per discrepancy	provide comfort, distraction & therapeutic touch
3. Evaluation				
Complete PR-related management training	5		Review training records & interview nurses; deduct 1 point per discrepancy	
Analyze departmental PR rates and implement improvements	5		Review records & interview nurses; deduct 1 point per discrepancy	
Conduct restraint quality audits with analysis & improvement	5		Review documents & interview nurses; deduct 1 point per discrepancy	
Nurses demonstrate knowledge of PR management protocols	5		Interview nurses; deduct 1 point per discrepancy	
Primary nurses explain restraint purpose and humanistic restraint methods	5		Interview nurses; deduct 1 point per discrepancy	
Family/caregivers understand restraint precautions	5		Interview family/caregivers; deduct 1 point per discrepancy	Nurses provide restraint education materials
No adverse events related to improper restraint	5		Review records & interview nurses; deduct 1 point per discrepancy	

Note: Supplementary Document 1: Protective Restraint Nursing Quality Evaluation Index System

It includes 3 dimensions: Assessment and Documentation, Ensuring Effective Restraint, Evaluation; total 26 indicators

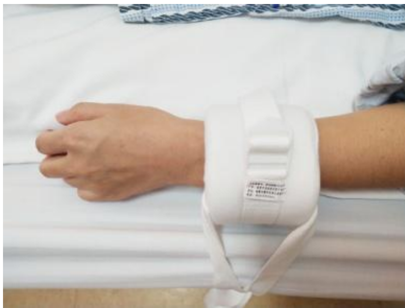
Supplementary Document 2

Physical Restraint Guidance

Dear Family members：

During hospitalization, your family member may suffer from cognitive or consciousness disorders, or other conditions that pose safety risks (e.g., falling out of bed) or interfere with necessary treatment (e.g., pulling out medical tubes). After professional assessment by medical staff, appropriate physical restraints will be applied if necessary to safeguard the patient.

1. Common Restraint Devices and Application Methods



Restraint Strap

Restraint Gloves

Magnetic Buckle Restraint Belt

2. Key Precautions for Restraint Use

- Restraint devices may trigger anxiety or resistance in patients; our nurses will provide emotional comfort and reassurance.
- Restraints must be fastened with proper tightness (1–2 fingers can be inserted underneath) to avoid impairing blood circulation. Only nurses are authorized to apply restraints; please do not adjust them without permission.
- During restraint, ensure the restrained limbs cannot reach medical tubes to prevent accidental extubation.
- Cotton padding will be placed on bony prominences (wrists, ankles) before restraint to avoid skin abrasions.
- Restraint belts must be fixed vertically to the bed frame (not side rails) and secured firmly. Sufficient limb movement space shall be reserved, and the restraint must be easily releasable in emergencies.

Proper tightness: 1–2 fingers can be inserted underneath

Fixation: vertically fixed to the bed frame

- Nurses will routinely check the skin condition, blood circulation and effectiveness of restraints, and release the restraints periodically. Please assist with cleaning the skin at the restrained area.

Important Additional Reminders

1. If you (the caregiver) need to temporarily release restraints (e.g., for patient bathing, bed sheet changing), please notify medical staff first and wait for their assessment and approval.
2. If you (the caregiver) need to leave temporarily, please inform the nurses in advance to avoid any safety risks to the patient.

Data source: Zhuang Xiaoyan, Xu Qin, Zhu Shuqin, et al. Risk assessment and management of Physical restraint failure [J], Chinese Journal of Nursing,2014,49 (7) :816-820.

Version number: H-014703-1909-V1.0

Note: Illustrated and Text-Based Health Education Leaflet on Physical Restraints, covering the purpose of restraints, operational methods, and relevant precautions.

Supplementary Document 3

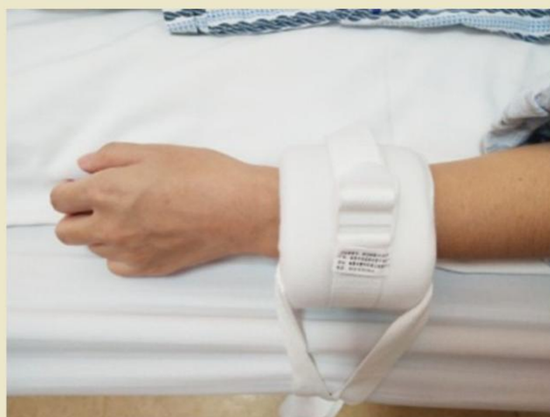
Hello,caregiver

Should temporary removal of the patient's restraints be required—for instance, to perform body cleansing, change bed linens, or assist with physical activity—please notify the nurse immediately and obtain confirmation before proceeding.

If you need to leave temporarily, inform the nurse to prevent danger and ensure patient safety.

Thank you for your cooperation. The medical staff will inform you when to release the restraint as the patient's condition improves.

For the patient's early recovery, the nurse will wear restraint tools for the patient; please do not adjust yourself!



If the carer is kind enough to relax the restraint for the patient without permission, it will lead to unplanned extubation, falling out of bed, self-harm, and other serious consequences, which will prolong the hospitalization time, increase the patient's pain, and increase the medical cost.

Note: Bedside Physical Restraint (PR) Reminder Sign

This is a simplified version of the physical restraint health education leaflet, intended to be hung on the patient's intravenous (IV) stand.