·标准与规范·

中国失能老年人与残障人群如厕跌倒预防与干预专家共识

国家重点研发计划“失能老人多系统智能化康复评价、监测与指导技术方法研究”项目组，《中国失能老年人与残障人群如厕跌倒预防与干预专家共识》编写组

【摘要】失能老年人与残障人群在如厕过程中更易发生跌倒及相关伤害，已成为重要公共卫生问题。当前我国针对如厕跌倒的综合防控路径仍缺乏系统化、可操作的共识性文件。基于国内外跌倒防控、下尿路症状管理、老年康复、心理干预和环境改造等相关证据，并结合我国卫生服务与照护场景实际，本共识围绕如厕跌倒的危险因素、评估方法、干预措施及跌倒后康复管理形成16条共识意见，旨在为医疗机构、养老机构、社区及家庭场景开展失能老年人与残障人群如厕跌倒预防与干预提供参考。

【关键词】失能老年人；残障人群；跌倒；如厕；专家共识

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Expert consensus on prevention and intervention of toileting-related falls among disabled elderly and people with disabilities in China

Project Team for Research on Multi-system Intelligent Rehabilitation Assessment, Monitoring and Guiding Technology for Disabled Elderly, National Key R&D Program of China; Writing Group of Expert Consensus on Prevention and Intervention of Toileting-related Falls among Disabled Elderly and People with Disabilities in China

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【Abstract】Disabled elderly and people with disabilities are particularly vulnerable to falls and related injuries during toileting, which has become a major public health concern. Currently, systematic and practical consensus guidelines for comprehensive prevention of toileting-related falls remain lacking in China. Based on international and domestic evidence on fall prevention, lower urinary tract symptom management, geriatric rehabilitation, psychological interventions and environmental modifications, as well as China's actual healthcare and long-term care conditions, this consensus formulates 16 recommendations covering risk factors, assessment protocols, interventions and post-fall rehabilitation management for toileting-related falls. It is intended to provide a reference for toileting-related falls prevention and intervention for disabled elderly and people with disabilities in medical institutions, elderly care institutions, communities and home settings.

【Keywords】Disabled elderly; People with disabilities; Falls; Toileting; Expert consensus

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跌倒是人体突发失去平衡，无意识倒地或低于原有位置物体表面的事件[1]。随着人口老龄化加剧，老年人跌倒已成为全球主要公共卫生问题之一[2]。每年约30%的老年人发生跌倒[3]，是导致老年人伤残、死亡及医疗费用增加的重要原因[4]。在我国，跌倒是60岁及以上人群非故意伤害死亡的首要原因[5]。2019年全球疾病负担研究显示，中国大陆60岁及以上人群跌倒发生率达3 799/10万，跌倒相关死亡率为39/10万[6]。

失能老年人是指因衰老、疾病或损伤导致基本或工具性日常生活活动能力部分或完全受限，在如厕、转移、行走、穿脱衣物等活动中需要不同程度协助的老年人；残障人群是指存在肢体、视力、听力、言语、智力或精神等功能障碍，并因此在安全如厕过程中面临活动、感知、认知或环境适配限制的人群。两类人群可相互交叉，但是在功能障碍模式、辅助器具依赖程度、照护需求和如厕跌倒风险表现方面并不完全相同。与一般老年人相比，失能老年人与残障人群常同时存在肌力下降、步态和平衡障碍、慢性疾病、多药使用、感觉功能受损、辅助器具依赖及照护支持不足等问题，跌倒风险更高[7-12]。如厕活动兼具体位转换、短距离移动、衣物整理、排尿排便及清洁等多个环节，且夜间如厕常伴随低照明、意识未完全清醒和尿急等情况，是跌倒发生的高风险场景。研究显示，病房中约34%的老年人跌倒与如厕有关，至少44%的如厕跌倒发生在夜间[13]。

国内现有老年人跌倒相关共识主要面向一般老年人，重点围绕总体跌倒风险评估、康复干预及预警防护等方面提出建议[14-15]。缺乏针对失能老年人与残障人群如厕跌倒的防控指南或共识，且如厕跌倒风险因素众多并相互叠加[16-18]，尚无将下尿路症状与体位转换、转移和步行能力、辅助器具使用、夜间环境及照护支持等因素纳入统一框架并构建涵盖风险识别、分层评估、个体化干预、应急处置及跌倒后随访的闭环防控路径。因此，针对如厕场景并依据失能程度、残障类型和具体照护场景建立风险识别、分层评估、综合个体化干预与跌倒后康复的闭环管理路径，有助于降低失能老年人与残障人群跌倒发生率、减少伤害、降低住院率和死亡率。为此，编写组在参考国内外相关证据和专家经验基础上，形成如下共识意见。

1 共识制订方法

1.1 文献检索与证据整理

本共识参考国内外跌倒防控、下尿路症状管理、老年康复、心理干预、环境改造和辅助技术等相关研究进展。检索数据库包括PubMed、Embase、Web of Science、The Cochrane Library、中国知网、万方、维普和中国生物医学文献数据库，检索时限为各数据库建库至2025年12月31日；同时追溯相关指南、专家共识、公共卫生报告及纳入文献的参考文献，以补充可能遗漏的重要证据。检索采用主题词与自由词相结合的方式，并根据不同数据库的检索规则进行调整。中文检索词包括如厕跌倒、夜间跌倒、失能老人、残障人群、下尿路症状、夜尿、尿急、尿失禁、神经源性膀胱、运动康复、体位性低血压、跌倒恐惧、环境改造、智能监测等；英文检索词包括toileting-related falls、nocturia、lower urinary tract symptoms、urinary urgency、urinary incontinence、neurogenic bladder、exercise intervention、orthostatic hypotension、fall prevention、fear of falling、environmental modification、wearable device等。

纳入的证据类型包括系统评价/Meta分析、随机对照研究、队列研究、横断面研究、病例对照研究、临床指南、专家共识及公共卫生报告等。编写组结合证据质量、研究对象适配性、与如厕跌倒的相关性及我国不同照护场景中的可实施性进行证据整理和综合判断。

1.2 共识意见形成过程

本共识由编写组在文献检索和证据整理基础上形成初稿。执笔专家首先围绕共识的适用人群、危险因素分类、评估工具选择、干预措施及跌倒后康复管理等内容进行讨论和修改，形成共识意见草案，随后提交共识专家组评议。

专家评议主要围绕共识内容的科学性、临床适用性、干预措施的安全性和可行性，以及推荐意见表述的准确性与可操作性展开。对专家提出不同意见或建议修改的条目，由编写组汇总反馈并进行修订，再次提交相关专家确认。以专家组对共识条目的最终表述无实质性异议，作为该条意见达成共识的标准；存在明显分歧且经讨论后

仍无法形成一致意见的内容，不纳入核心共识意见。经专家讨论、修改和确认后，最终形成16条共识意见。

1.3 共识推广实施与更新计划

本共识发布后，可通过学术会议、专业期刊、继续教育、医院和养老机构培训、社区健康宣教等多种形式推广应用。后续将持续关注相关证据更新、临床实践反馈和不同地区资源条件差异，适时对共识内容进行修订。

2 如厕跌倒相关危险因素及评估

2.1 排尿异常

证据总结：日间尿频、夜尿、尿急和尿失禁与跌倒风险密切相关[19-23]。健康人尿液分泌存在昼夜节律，但失能老年人与残障人群常因生理衰退、慢性疾病和药物影响出现夜间多尿[24-26]。夜尿症已被证实是潜在的跌倒风险参数[27]，夜间排尿频率与跌倒风险呈正相关，3~4次/晚时风险较高[28]。尿频会增加如厕次数，扩大跌倒暴露；尿失禁，尤其是急迫性尿失禁，与跌倒风险增加相关[27，29-31]；尿急可迫使患者在缺乏准备的情况下匆忙起身、转身或行走，尤其在夜间低照明环境下更易诱发跌倒[13，32-33]。

排尿困难同样可能增加如厕跌倒风险。逼尿肌收缩无力、逼尿肌-尿道括约肌协同失调、神经调控障碍、尿道机械性或功能性梗阻均可导致排尿不畅或残余尿增多[34]。失能老年人与残障人群常见病因包括良性前列腺增生、尿道狭窄、膀胱出口梗阻、神经源性膀胱及前列腺癌等[35-38]。排尿等待、排尿费力、Valsalva动作及残余尿增多，可通过体位变化、迷走神经反射、如厕次数增加等途径增加跌倒风险。

共识意见1：失能老年人与残障人群应将夜尿、尿急、尿频、尿失禁、排尿困难和残余尿增多作为如厕跌倒风险识别的重点内容；对夜间排尿频繁、尿急明显或急迫性尿失禁者，应优先纳入如厕跌倒高风险管理。

共识意见2：对存在下尿路症状者，应在评估跌倒风险的同时分析其潜在病因和可干预因素，包括良性前列腺增生、膀胱过度活动症、神经源性膀胱、尿路梗阻、糖尿病、心功能不全、利尿剂使用及心理因素等，并开展针对性管理。

共识意见3：建议将国际前列腺症状评分（International Prostate Symptom Score，IPSS）、膀胱过度活动症状评分（Overactive Bladder Symptom Score，OABSS）、排尿日记、夜尿次数、急迫性尿失禁情况、既往泌尿系统疾病史、用药情况和残余尿评估纳入如厕跌倒风险评估；对夜尿≥2次/晚、尿急明显或近期因如厕发生跌倒/近跌倒者，应进行重点干预。

2.2 运动功能与平衡障碍

证据总结：肌力下降、平衡能力减弱、步态不稳、本体感觉异常、关节活动受限及肢体残缺均会降低如厕过程中的稳定性和控制能力[39-44]。长期缺乏运动和康复训练可进一步加重肌肉无力和平衡能力下降[40]。老年人大腿外展肌、膝关节屈肌和踝关节背屈肌无力与行走跌倒风险相关[41]；前庭功能下降和骨骼肌反应能力减弱也会影响站立与转身稳定性[42]。部分降压药物及影响前庭功能的药物可诱发体位性低血压或眩晕，加重跌倒风险[44]。上肢缺失、下肢截肢及假肢使用者跌倒发生率较高，跌倒常发生于步行和支撑基础中断时[45-47]。

共识意见4：对失能老年人与残障人群应常规评估肌力、平衡、步态、转移能力、辅助器具使用、假肢适配情况及体位性低血压风险；对起床、转身、移位和夜间行走能力不足者，应实施重点防护和康复干预。

共识意见5：建议对所有高风险对象开展起床、坐站转换、转身、短距离步行、坐便器起坐和夜间如厕模拟评估，推荐Tinetti平衡与步态量表（Tinetti Performance Oriented Mobility Assessment，POMA）、Hoffer步行能力分级（Hoffer Walking Classification）、起立-行走计时试验（Timed Up and Go Test，TUGT）、6分钟步行试验（6-Minute Walk Test，6MWT）、Berg平衡量表（Berg Balance Scale，BBS）；对转移能力不足、步态不稳或辅助器具使用不当者，应制定个体化转移训练和照护辅助方案。

2.3 心理健康与社会支持

证据总结：焦虑、抑郁、跌倒恐惧、认知功能下降、风险感知偏差、独居及社会支持不足均可能增加如厕跌倒风险。研究显示，存在焦虑症状的社区老年人未来一年发生跌倒恐惧和活动限制的风险分别增加1.33倍和1.41倍[48]。晚年抑郁与跌倒恐惧和跌倒风险存在显著关联[49]。跌倒恐惧可导致活动受限、自信下降和抑郁，形成“害

怕活动-功能下降-再次跌倒”的恶性循环[50]。视力障碍、认知能力下降和社会支持不足亦会影响患者对风险的判断、求助行为及安全如厕能力[51-53]。

共识意见6：如厕跌倒防控不应仅关注身体因素，还应纳入焦虑、抑郁、跌倒恐惧、认知功能、风险感知及社会支持评估；对独居、照护不足、跌倒后恐惧明显或活动回避者，应同步开展心理支持和照护资源链接。

共识意见7：建议在如厕跌倒评估中纳入心理和社会支持维度；对独居、认知受损、跌倒恐惧明显、羞耻感强或不愿求助者，应加强照护沟通、心理支持和安全求助训练。推荐国际跌倒效能量表（Falls Efficacy Scale-International，FES-I）、广泛性焦虑障碍量表（Generalized Anxiety Disorder-7，GAD-7）、患者健康问卷抑郁量表（Patient Health Questionnaire-9，PHQ-9）、老年抑郁量表（Geriatric Depression Scale，GDS）进行评估。

2.4 居住与如厕环境风险

证据总结：教育水平较低、独居、城市居住及社区支持不足与老年人跌倒风险增加有关[54-57]。环境因素是老年人跌倒的重要原因之一，研究显示环境因素可占跌倒事件的74.3%[58]。如厕相关环境风险主要包括地面湿滑、卫生间布局不合理、扶手不足、坐便器高度不适、空间狭小、夜间照明不足、卧室至卫生间路径存在障碍物、地毯或电线绊倒风险，以及鞋袜或衣物不合适等[59-64]。

共识意见8：应将卧室、床旁、卧室至卫生间路径、卫生间及如厕设施作为环境评估和改造重点。对夜间如厕者，应优先改善照明、防滑、扶手、通行路径和便器高度等关键环节。

共识意见9：建议采用清单化方式评估如厕环境，并进行常规结构化环境检查；对既往发生如厕跌倒、夜尿频繁、视力下降、步态不稳或独居者，应重点评估夜灯/感应灯、防滑、扶手和通道清障改造。

3 如厕跌倒防控与干预

如厕跌倒防控应坚持多因素综合干预原则，结合个体功能状态、排尿症状、环境条件和照护资源，形成行为与生活方式干预、排尿管理、运动康复、心理干预、环境改造和应急处置相结合的综合路径。

3.1 行为与生活方式干预

证据总结：规律锻炼是预防跌倒的重要措施。抗阻训练、有氧运动、平衡训练等可降低老年人跌倒风险[65]；太极拳可改善步态和稳定性，在高风险老年人中可使跌倒发生率较对照组减少31%[66-67]。增加钙和维生素D摄入有助于减少骨折风险[68]；保持适宜体重也有助于改善平衡和步态[69]。个体化日常活动计划、定时如厕、提前准备便携式小便器或辅助移动设备，可减少因匆忙如厕造成的跌倒[70-71]。对存在膀胱过度活动症状者，膀胱训练等行为治疗可能改善相关症状，但现有证据质量仍有限[72]。

共识意见10：建议根据个体功能状态制定运动、饮食、体重管理和定时如厕计划。对夜尿或尿急者，应避免匆忙起身，鼓励睡前完成如厕准备，必要时使用床旁便器、移动马桶或呼叫协助。

3.2 排尿管理与医疗干预

医疗干预应围绕疾病控制、药物管理、排尿功能治疗、外科手术干预及术后管理等环节展开。

3.2.1 疾病控制与药物管理

证据总结：糖尿病、高血压、关节炎、心血管疾病、心功能不全和慢性阻塞性肺疾病等慢性病可影响平衡能力和活动能力。与无慢性病者相比，患1种、2种、≥3种慢性病的老年人跌倒风险分别增加37%、85%和175%[73]。改善健康状况、加强慢性病管理、改善睡眠、减少吸烟饮酒等不良行为有助于降低跌倒风险[74-76]。药物使用是可调整的跌倒风险因素。多药使用以及抗抑郁药、抗焦虑药、苯二氮䓬类药物、精神类药物、降压药、利尿剂和镇静剂等可能增加头晕、低血压、体位性低血压或意识改变，从而增加跌倒风险[44，77-80]。

共识意见11：建议对高风险人群进行慢性病和用药清单复核，重点关注利尿剂、降压药、镇静催眠药、抗焦虑/抗抑郁药、抗精神病药及多药联用；必要时调整给药时间和剂量，降低夜间如厕跌倒风险。

3.2.2 物理治疗

证据总结：物理治疗可改善下尿路症状，减少因排尿障碍导致的如厕跌倒风险。盆底肌Kegel训练是尿失禁的一线治疗方法，但部分肢体运动

障碍者难以准确完成[81-82]。盆底肌生物反馈电刺激可减少残余尿量和间歇导尿次数[83]。胫神经电刺激可减少尿频、尿急、急迫性尿失禁及夜尿次数，且具有无创、便携和安全等优势[84]。膀胱腔内电刺激可改善膀胱感觉、减少残余尿量、提高排空效率[85]。盆底磁刺激在压力性尿失禁和膀胱过度活动症治疗中具有一定应用价值[86-87]。

3.2.3 药物及外科手术干预与术后管理

证据总结：对下尿路症状明显、保守管理效果不佳或存在明确适应证者，可根据病因选择药物治疗、A 型肉毒毒素膀胱壁注射、骶神经调节、膀胱扩大术、尿道悬吊术、人工尿道括约肌植入术、前列腺手术或尿道扩张术等分层治疗，以改善尿频、尿急、急迫性尿失禁、排尿困难和残余尿增多等问题，从而减少因急于如厕或频繁如厕导致的跌倒风险[88-95]。术后患者因麻醉残余效应、疼痛、阿片类药物使用和活动能力下降而跌倒风险增加，应重视早期康复、疼痛管理、心理支持、环境调整和多学科协作[96-98]。

共识意见 12：对下尿路症状明显且影响安全如厕者，应在泌尿专科评估基础上开展分层治疗。物理治疗、药物治疗和手术治疗均应以改善排尿症状、降低夜间如厕频率和减少匆忙如厕为目标；术后应同步开展跌倒风险再评估与康复管理。

3.3 心理干预

证据总结：心理干预可缓解焦虑、抑郁和跌倒恐惧，增强安全感与自我效能。认知行为疗法（Cognitive Behavior Therapy，CBT）可通过调整负性认知和行为模式减少跌倒恐惧[99-100]。认知运动干预可改善老年人的身体和认知跌倒风险因素[101]。ABLE（Activity，Balance，Learning，and Exposure）干预结合暴露疗法与认知重构，有助于改善过度跌倒恐惧者的活动能力和心理健康[102]。

共识意见 13：对存在跌倒恐惧、焦虑抑郁、活动回避或跌倒后信心下降者，建议开展心理教育、认知行为干预、逐步暴露训练、认知运动训练及家庭/照护者支持，以打破“恐惧–少动–功能下降–再跌倒”的循环。

3.4 环境改造与辅具配置

证据总结：环境风险因素普遍且可修改，具有较高干预价值。研究估计，临床管理跌倒风险每年可预防大量需要医疗处理的跌倒并节省医疗成本[103]。卧室、床旁、卧室至卫生间路径和卫生间是改造重点。保持地面平整干燥、清除障碍物、避免滑动地毯、安装扶手、使用坐便器、调整坐便器高度、配置便盆座椅或移动马桶、增加夜灯或感应灯均有助于降低跌倒风险[76，96，104-106]。夜间引导灯可降低跌倒恐惧并改善睡眠质量[106]。

共识意见 14：建议将环境改造作为如厕跌倒防控的基础措施。卧室至卫生间路径应保持连续照明、通道无障碍、地面防滑；卫生间应配置扶手、防滑设施和适宜高度的坐便器。对行动不便者，可优先使用床旁便器、移动马桶、轮椅适配设施及呼叫装置。

3.5 跌倒识别、报警与应急处置

证据总结：及时识别跌倒并启动救助可减少伤害。随着人工智能算法和可穿戴设备发展，跌倒检测系统包括基于环境的检测系统、可穿戴检测系统、步态传感器和基于机器视觉的风险识别系统等[107-111]。这些技术可用于实时报警、步态风险评估和个体化干预方案制定。护理人员和照护者应掌握跌倒后评估、呼救、保护性搬移和紧急转诊流程。

共识意见 15：对高风险对象，建议配置与场景相匹配的呼叫或跌倒报警设备，并建立跌倒后应急预案。机构和家庭照护者应接受跌倒后处置培训，包括判断意识、疼痛、肢体畸形和出血情况，避免不当搬动，及时联系专业救治。

4 跌倒后康复与随访

证据总结：跌倒后康复是预防再次跌倒的重要环节。康复治疗师可根据损伤情况、功能水平和如厕需求制定个体化康复计划，内容包括疼痛管理、关节活动度恢复、肌力和平衡训练、步态训练、转移训练、日常生活能力训练和心理支持等[97，105]。

共识意见 16：发生如厕跌倒后，应完成原因复盘和风险再评估，重点分析排尿异常诱因、体位转换、步态和平衡、药物、环境和求助流程。康复计划应以恢复安全如厕能力、降低再次跌倒风险和改善生活质量为核心目标，并进行定期随访。

5 结语

失能老年人与残障人群如厕跌倒是排尿异

常、运动功能下降、心理社会因素和环境障碍共同作用的结果。有效防控需从单一跌倒预防转向以如厕场景为核心的综合管理：前端识别夜尿、尿急、尿失禁、排尿困难、行动能力不足等高风险因素；中端实施排尿管理、运动康复、心理支持、环境改造和用药优化；后端建立跌倒报警、应急处置、康复随访和质量改进机制。通过多学科协作和分层管理，可为不同地区、不同照护场景下的失能老年人与残障人群提供更具可操作性的安全如厕防控路径。

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