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世界中医药学会联合会

World Federation of Chinese Medicine Societies

SCM 88-2025

国际中医技术操作规范
通关利窍针刺法治疗中风后吞咽障碍

International standardized manipulations of Chinese medicine

Tongguan Liqiao Acupuncture therapy for Post-stroke dysphagia

（草案，以最终出版稿为准）

世界中联国际组织标准

International Standard of WFCMS

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前　言

请注意本文件的某些内容可能涉及专利。本文件的发布机构不承担识别专利的责任。

主要起草单位：天津中医药大学第一附属医院、国家中医针灸临床医学研究中心、国家医学中心。

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本文件的起草程序遵守了世界中医药学会联合会发布的 SCM1.1-2021 《标准化工作导则第 1 部分：标准制修订与发布》。

引　言

本文件制定目的在于规范通关利窍针刺法的临床操作，指导临床医师正确使用本针法，以保障通关利窍针刺法规范应用于临床、教育、科研等，确保其安全性、有效性，以便更好地推动通关利窍针刺法的国际推广与应用。

针刺操作的准确、达标是实现临床疗效的关键环节，刺激量是影响临床疗效的重要因素。石学敏院士于 1976 年率先提出针刺手法量学概念，首次对针刺作用力方向、大小、施术时间、两次针刺间隔时间等针刺手法的四大要素进行了科学界定。

上世纪七十年代石学敏院士带领团队研究针刺治疗脑血管病，创立醒脑开窍理论，构建石氏中风单元，形成系列针灸新技术，为针刺治疗中风病及其并发症提出了新的治疗理念。2021 年制定并发布了 SCM 69-2021《国际中医技术操作规范 醒脑开窍针刺法治疗中风》，在进针参数（方向、角度、深度等）、时间参数（介入时间、行针时间、留针时间、频次、疗程等）和行针参数（手法、幅度、频率等）等方面对醒脑开窍针刺法进行了严格、明确的规定。

通关利窍针刺法是石学敏院士在醒脑开窍针刺法治疗中风基础上，针对吞咽障碍并发症而创立。该针法在各穴的手法量学操作方面均有严格要求，且利用特殊针感量化针刺操作，如水沟穴眼球湿润为度、翳风穴如鲠在喉为宜等，提高了临床干预的规范性、可重复性与可操作性。早期研究发现，规范手法量学组与非规范手法量学组相比，能够更好地改善中风后吞咽障碍患者的脑血流、微循环、血液流变学等指标，促进患者吞咽功能恢复。其中，特殊针感可能是实现针刺操作临床量化转换的关键。前期研究发现，针刺水沟的眼球湿润为度是适用于个体患者的、最大程度改善脑血流量的最佳刺激参数；功能影像研究提示如鲠在喉感与产生的中枢效应密切相关，可能是带来疗效的关键。

因此，本文件旨在确立通关利窍针刺法治疗中风后吞咽障碍的相关概念、治疗原则、应用范围、腧穴组方、操作步骤与要求、注意事项禁忌，以保障通关利窍针刺法在针灸临床、教育、科研等场景下得到规范应用。

国际中医技术操作规范

通关利窍针刺法治疗中风后吞咽障碍

1 范围

本文件规定了通关利窍针刺法治疗中风后吞咽障碍的相关术语和定义、治疗原则、腧穴组方、操作步骤与要求、注意事项及禁忌等内容。

本文件适用于具有针灸资格的临床医师运用通关利窍针刺法治疗中风后吞咽障碍的技术操作。

2 规范性引用文件

下列文件中的内容通过文中的规范性引用而构成本文件必不可少的条款。凡是标注日期的引用文件，仅该日期对应的版本适用于本文件。凡是不标注日期的引用文件，其最新版本（包括所有的修订单）适用于本文件。

SCM 69-2021　国际中医技术操作规范 醒脑开窍针刺法治疗中风

GB 2024-2016　针灸针

GB/T 12346-2021　经穴名称与定位

GB/T 40997-2021　经外奇穴名称与定位

GB 15982-2012　医院消毒卫生标准

GB/T 16751.1-2023　中医临床诊疗术语　第 1 部分：疾病

GB/T 21709.20-2009　针灸技术操作规范　第 20 部分：毫针基本刺法

GB/T 30232-2013　针灸学通用术语

GB/T 33415-2016　针灸异常情况处理

ISO/TS 16843-1　Health informatics - Categorial structures for representation of acupuncture - Part 1: Acupuncture points

ISO 16843-2　Health informatics - Categorial structures for representation of acupuncture - Part 2: Needling

ISO 17218　Sterile acupuncture needles for single use

3 术语和定义

下列术语和定义适用于本文件。

3.1

通关利窍针刺法

通过针刺内关、水沟、三阴交为代表的组方腧穴，施用特定手法，复苏受抑制、受损伤的脑组织功能；针刺风池、完骨、翳风等穴，使食物经口、咽、食管转移至胃内过

程顺利、通达的治疗方法。

3.2

吞咽障碍

食物不能顺利由口腔输送到胃内，由此产生的进食困难。

3.3

大幅度、低频率捻转提插泻法

指捻转幅度大于180°、频率在50～60次/分，先深后浅、轻插重提、以上提用力为主的行针手法。

3.4

小幅度、高频率捻转补法

指捻转幅度小于90°、频率在120～160次/分的行针手法。

4 施术前准备

4.1 针具选择

a）一次性毫针应符合GB 2024-2016或ISO 17218规定。

b）根据操作要求选择不同型号的毫针。

c）选择针身光滑、无锈蚀和折痕，针柄牢固，针尖锐利、无倒钩的针具。

4.2 体位选择

选择患者感觉舒适、医者便于操作的体位，宜符合GB/T 21709.20-2009规定。

4.3 腧穴定位

参见ISO/TS 16843-1 Health informatics - Categorial structures for representation of acupuncture - Part 1: Acupuncture points、WHO standard acupuncture point location in the Western Pacific Region、GB/T 12346-2021经穴名称与定位、GB/T 40997-2021经外奇穴名称与定位。

4.4 消毒

针具器械消毒、接触物品消毒、医者手消毒、针刺部位消毒以及对治疗室、备品的要求，应符合GB 15982-2012的规定。

4.5 环境要求

治疗环境宜安静，清洁卫生，光线充足，温度适宜。

5 选穴及针刺操作

5.1 治疗原则

调神导气，通关利窍。

5.2 主穴及针刺操作

5.2.1 腧穴组成

内关、水沟、三阴交、风池、完骨、翳风。

5.2.2 适用范围

a）中风所致口咽部及食管结构与功能异常而出现的吞咽障碍。

b）中风所致认知障碍、精神障碍等引起行为异常，进而导致吞咽和进食问题。

5.2.3 操作步骤与要求

按照内关、水沟、三阴交、风池、完骨、翳风针刺顺序进行操作（详见附录 B.4.7）：

a）内关：取双侧内关，直刺 0.5～1 寸，施用大幅度、低频率捻转提插泻法，施术 1min，不留针。

b）水沟：向鼻中隔方向斜刺 0.3～0.5 寸，采用雀啄泻法，以眼球湿润或流泪为度（详见附录 B.4.4）。

c）三阴交：①无下肢功能障碍患者：取双侧三阴交，直刺 1～1.5 寸，施用小幅度、高频率捻转补法，施术 1min。②合并下肢功能障碍患者：分两步操作，第一步：取患侧三阴交，沿胫骨内侧面后缘进针，针体与胫骨内侧面呈 45°，刺入 0.5～1 寸，施用提插补法，以患侧下肢抽动 3 次为度，不留针；第二步：按照前述“无下肢功能障碍患者”的三阴交操作法进行。

d）风池：取双侧风池，针向喉结，震颤针身，使其徐徐刺入 2～2.5 寸，以出现如鲠在喉感为度（详见附录 B.4.2），施用小幅度、高频率捻转补法，施术 1min。

e）完骨：手法同 5.2.3.d 风池。

f）翳风：手法同 5.2.3.d 风池。

5.3 配穴及针刺操作

5.3.1 口腔期吞咽障碍

5.3.1.1 腧穴组成

舌面、金津、玉液、下关、颊车、地仓、廉泉。

5.3.1.2 适用范围

中风后，存在食物在口腔中未能充分加工，送达指定位置（详见附录 B.3）症状者。

5.3.1.3 操作步骤与要求

a）舌面：嘱患者张口，舌头外伸，充分暴露舌面，取 3 寸长针散刺舌尖、舌中、舌根各 3~5 次（详见附录 B.4.4），不留针。

b）金津、玉液：嘱患者张口，舌头向上抬起，舌尖抵于上颚，如患者不能配合可用无菌纱布缠在施术者押手上轻轻提拉帮助抬起患者舌头，用 3 寸毫针点刺出血，以 1～3ml 为佳，不留针。

c）下关：取双侧，直刺 1 寸，施用大幅度、低频率捻转泻法，以针感放射至口唇部为度。

d）颊车：取双侧，向地仓方向进针 1 寸（详见附录 B.4.3），施用大幅度、低频率捻转泻法，以局部有酸麻胀感为度。

e）地仓：取双侧，向颊车方向进针 1 寸（详见附录 B.4.3），施用大幅度、低频率捻转泻法，以局部有酸麻胀感为度。

f）廉泉：向舌根方向进针 2~2.5 寸，以出现如鲠在喉感为度（详见附录 B.4.2），施用小幅度、高频率捻转补法，施术 20s。

5.3.2 咽期吞咽障碍

5.3.2.1 腧穴组成

咽后壁、廉泉、水突、人迎。

5.3.2.2 适用范围

中风后，存在食物未能从咽部顺利进入食管（详见附录 B.3）症状者。

5.3.2.3 操作步骤与要求

a）咽后壁：令患者张口，用压舌板压住舌体，暴露咽后壁，咽后壁处取穴，持 3~5 根 3 寸长针同时针刺（详见附录 B.4.4），每侧刺 3～5 次，出血为度，不留针。

b）廉泉：手法同口腔期吞咽障碍中 5.3.1.3.f 廉泉操作。

c）水突：取双侧，直刺 0.5 寸，小幅度、高频率捻转补法，针感以酸胀为度。

d）人迎（详见附录 B.4.5）：医者先用押手拇指或食指触及患者的颈总动脉，避开颈总动脉缓慢进针，直刺 0.5 寸，使针身紧贴颈总动脉侧壁，进针后可以看到针柄随颈总动脉搏动摆动，小幅度、高频率捻转补法，施术 20s，不留针。

5.3.3 食管期吞咽障碍

5.3.3.1 腧穴组成

天突、上脘、中脘、足三里。

5.3.3.2 适用范围

中风后，存在食物未能从食管顺利进入胃（详见附录 B.3）症状者。

5.3.3.3 操作步骤与要求

a）天突：患者取仰卧位，将枕头置项背部，使胸部抬高，头向后仰，暴露天突穴，针尖垂直进针 0.5 寸，然后调整针尖朝向肚脐，紧靠胸骨柄后缘缓慢向下进针 2.5～3 寸，行呼吸泻法，不留针。

b）上脘：直刺 1.5～2 寸，施以小幅度、高频率捻转提插补法，施术 1min。

c）中脘：手法同 5.3.3.3.b 上脘。

d）足三里：取双侧，直刺 1.5 寸，施提插补法，以局部有酸麻胀感为度。

5.4 留针时间

通关利窍针刺法除明确不留针腧穴外，其余腧穴留针时间 20~30min 为宜。

6 注意事项

a）受试者的情况：饥饿、饱食、醉酒、大怒、大惊、过度疲劳、精神紧张者，不宜立即进行针刺；体质虚弱、气血亏损者，其针感不宜过重，应尽量采取卧位行针。

b）持针操作要求：施术过程中，术者手指需要触及针体时，宜用消毒棉球作间隔物，术者手指不宜直接接触针体。

c）针刺刺血要求：刺血施术时，医者应戴医用手套避免接触患者血液。

d）针刺止血要求：对于易出血部位，出针后宜用干棉球按压一定时间，不宜擦揉。

e）慎用针刺情况：有凝血缺陷的患者，慎用针刺。

7 禁忌

a）皮肤有感染、溃疡、瘢痕或肿瘤的部位，禁用针刺。

b）脑出血活动期、恶性高血压的患者，禁用水沟穴。

c）妊娠期中风患者，禁用三阴交等对胎孕反应敏感的腧穴。

d）不能配合施术的患者，禁用针刺。

8 针刺后不良反应的应对措施

针刺后不良反应的处理应符合 GB/T 33415-2016 的规定。

附录 A

（资料性）

通关利窍针刺法的理论依据及含义

中风后吞咽障碍是中风类疾病中一个相对独立的疾病，表现为口、舌、咽喉等关窍痹阻所致的吞咽障碍。明代李时珍曰：“脑者元神之府……人之中气不足，清阳不升，则头为之苦倾，九窍为之不利”，说明关窍不利是脑神之病，若“神”功能失司，则易出现“神乱窍闭”的表现。基于对中风病因病机的充分认识和深刻理解，石学敏院士提出中风后吞咽障碍的根本病机是“窍闭神匿，神不导气，关窍闭阻”，确立了调神导气、通关利窍的治则，调神导气为“使”，通关利窍为“用”，从窍论治中风后吞咽障碍，创立了主穴以阴经、督脉、少阳经经穴为主的通关利窍针刺法理论和技术体系。依据循经取穴、局部取穴以及一穴多能（特定穴，如内关穴为八脉交会穴，通于阴维脉，又为络穴，手厥阴心包经络发于内关）的选穴原则，选用内关、水沟、三阴交、风池、完骨、翳风为主穴，配以舌面、软腭、颊黏膜、金津、玉液、下关、地仓、颊车、廉泉、咽后壁、水突、人迎、天突、上脘、中脘、足三里（其中内关、水沟、三阴交、风池、完骨、翳风、舌面、金津、玉液、咽后壁操作参考 SCM 69 2021，有修改）。

“通”，本义指没有堵塞、可以通过，与“堵”相对，《素问·灵兰秘典论》言：“使道闭塞而不通，形乃大伤”。引申义：一是通路，指事物相互连接的结构；二是沟通，指事物间相互交流、传递信息的功能活动；三是疏通、通达，指曾经一度受阻、受损、受挫的功能活动，重新得以恢复。通关利窍法的“通”字，主要指“疏通”、“通达”之义。

“利”，本义指刀剑锋利。引申义：一是获利，指得到好处；二是顺利，指事物的发展没有阻碍；三是滑密，《周礼·冬官考工记》言：“轴有三理，三者以为利也”，指事物运动的协调。通关利窍法的“利”字，与“通”意思相近，主要指“滑密”、“顺利”之义。

“关”，本义为门闩，引申义：一是关隘，指通道中的狭窄的部位；二是枢纽，是事物的重要转折点；三是指人体重要的孔窍或肢体结构，如《素问·水热穴论》言：“肾者，胃之关也”。通关利窍针刺法的“关”字包含上述引申义，口、咽、食管作为六腑之关隘，是饮入于胃和误吸入肺的重要转折点，亦是关键治疗腧穴的所在部位。

“窍”，本义为孔、洞，引申义：一是“器官之孔”，如体表的口鼻、前后阴和体内的咽门、贲门等；二是事情的关键或要害，如多位后世医论中的“心窍”、“脑窍”、“神窍”等。通关利窍法的“窍”，既包括口、咽、食管等“器官之孔”，又含主宰思维意识的关键部位，即“脑窍”、“神窍”。

综上，通关利窍是复苏人体脑窍及其连属组织受抑制、受损伤的功能，使食物经口、咽、食管转移至胃内过程顺利、通达的治疗方法。

附录 B

（资料性）

有关“通关利窍针刺法治疗中风后吞咽障碍”的补充解释

B.1 中风后吞咽障碍的定义

中风后吞咽障碍，是患者中风后出现吞咽功能失常，无法顺利进食的症状。吞咽障碍一般应符合下列标准：①食物或饮品从口腔输送至胃部过程中出现问题；②口腔及咽喉肌肉控制或协调不灵而未能正常吞咽，引起营养不良；③食物误入气管，可引起吸入性肺炎等肺部的反复感染。在吞咽过程中，任何一个环节发生异常，均会造成吞咽障碍。根据吞咽障碍发生的不同阶段，可分为口腔期吞咽障碍、咽期吞咽障碍和食管期吞咽障碍。

B.2 配穴按照吞咽障碍分期进行选穴的考量

吞咽的正常生理过程具有相对明显的阶段性，包括口腔期、咽期、食管期。吞咽障碍是人体从外界摄食经食管传输到达胃的过程受阻。中风后吞咽障碍可发生和/或贯穿在中风急性期、恢复期以及后遗症期始终，而具体的临床表现与中风后颅脑不同受累部位有关，因而以口腔期、咽期、食管期分期更适用于临床针刺在选穴时的辨识，以及对同时存在多期吞咽障碍的患者，可更精准进行联合选穴。

B.3 中风后吞咽障碍的分期

由于吞咽行为涉及较多部位、神经、肌肉及其协调，虽然人为分期，但临床症状也难以精准区分是何期，比如口腔推送期与咽期。了解不同分期症状及其生理病理机制，有助于配穴更全面精准。

口腔期细分为口腔准备期和口腔推送期，此期动作可被意识控制。（1）口腔准备期，指摄入食物到完成咀嚼的阶段，发生于口腔，主要是纳入食物、对食物加工处理，主要是舌和面颊参与，这一时期可以随意控制，在任何阶段都可以停止。若舌、下颌、面肌无力或活动受限，导致舌肌搅拌或咀嚼肌咀嚼能力受限，导致食物未能进行充分加工（如不能达到食物成团）并放在口腔适当位置（如食物存在牙齿与颊黏膜处）；若口部控制和协调能力差，导致部分食物在吞咽之前过早滑入咽而引起误咽，均可辨为口腔准备期。（2）口腔推送期，指食物经咀嚼加工形成食团后由口腔运送至咽的阶段（此时理论上可以随意控制，但因瞬时通过咽弓，则吞咽动作为反射行为，不再受随意控制），主要是舌后根部和软腭的参与。口腔推送期的完成需要舌尖放置于上颌骨中央切牙后槽嵴处，开始向舌上方运动，软腭提升，舌后部下降，舌根稍前移，食团流入咽腔，则口腔期结束，并开始进入咽期。这期间任何一个环节出现障碍进而导致吞咽困难，可辨为口腔推送期。

咽期，指吞咽反射启动，食团开始进入咽，结束于环咽肌松弛，食团进入食管。延

续口腔期，软腭进一步上抬并后缩而完全封闭鼻咽腔。如该过程出现问题，则食物可能会反流进入鼻腔；之后舌喉复合体上抬促使会厌翻转、喉闭合以防止食物进入气道并牵拉环咽肌开放。若舌骨和喉部未能上抬及前移，则会导致会厌翻转不充分和/或气道不能闭合产生渗漏误吸；另一方面环咽肌未能被牵拉开放会导致食物滞留在咽腔不能进入食道；同时咽缩肌自上而下依次收缩，协同舌根向后收缩，共同挤压食物通过环咽肌进入咽腔，如该环节出现问题，食物则会无法顺利通过环咽肌造成食团残留产生哽咽感或由于收缩时序性紊乱导致食团反流至口腔。这些都可辨为咽期。

食管期，指食物通过食管进入胃的过程。若食管肌肉未能顺序收缩，使食团自然地被推送前进到胃内。据此可辨为食管期。

B.4 穴位操作技巧

B.4.1 穴位及针具选择

为了便于医师对穴位的理解与准确定位，可阅读中文者，推荐 GB/T 12346-2021、GB/T 40997-2021；无法阅读中文者，推荐 ISO/TS 16843-1、International standard for acupuncture point location in the Western Pacific Region。

由于地区不同，针具生产所参考的标准不同，但“卫生、安全、能完成针刺操作、实现疗效、疼痛伤害最小”是选择针具的原则。推荐在中国地区，针具选择依据 GB 2024-2016；在国际其他地区，针具选择依据 ISO 17218。

B.4.2 针刺深度

部分穴位（如风池、完骨、翳风、廉泉）针刺深度较（常规针刺）深以及特殊的如鲠在喉感，既是通关利窍针刺法更易起效的特点，也是患者不易接受和坚持的难点。临床施术前告知患者这些针感、发挥的作用（促进主动吞咽动作）、及时向医师反馈针感，则更易提升患者依从性和疗效。建议的针刺深度，是临床实践中出现特异感觉常见的深度。具体操作时，徐徐进针，根据患者及时反馈和身材脖颈情况进行深度调整，以患者出现如鲠在喉的特殊针感为度。若患者由于感觉迟钝或者无法配合表达如鲠在喉感，施术者可按照操作深度的较低水平操作，不要超过较高水平。（以上均指常规身材）。

针刺较深的穴位，选用 3 寸长针。若长针单手进针熟练，可单手进针，不必拘泥于双手进针。

B.4.3 针刺方向

通关利窍针刺法中针刺方向有向喉结、向舌根、向颊车等方向针刺，将该位置想象为一个球体，针刺刺向球心，针体连接球心点与穴位进针点并与皮肤所成的角度为进针角度。以地仓向颊车针刺为例，可视地仓、颊车二穴中心为一个点，两点成一条直线，直线与脸颊面的小夹角范围在 15°~30°。

B.4.4 针刺刺激量及放血量

金津、玉液、咽后壁点刺放血，用三棱针操作更易保证出血量。但是，手持三棱针，患者会有恐惧感且不易触及咽后壁，可以捏紧 3~5 根针，针尖因集中而变粗变硬，因此用毫针也可出血。

关于点刺出血量：每天针刺，但不必每天出血，以平衡患者痛苦和尽快减轻患者舌下络脉瘀阻为目标，调节出血量。

临床多次点刺舌面、咽后壁，患者会因为不适感本能地退缩。如果同时持 3~5 根针散开快速点刺，可弥补患者因恐惧、躲避而难以达到刺激量的弊端。若上述部位点刺频次已高，亦可转刺软腭、双侧颊黏膜。

水沟穴雀啄法针刺量达到眼球湿润或者流泪，是指足够湿润要流泪但难以流出（因卧位相较站位眼泪难流出）或者刚刚流泪的程度。

B.4.5 人迎穴选用

咽期配穴在颈部有人迎穴、水突穴，均属足阳明胃经且位置靠近，根据病情轻重可选其一或者均选。因为人迎穴为石学敏院士“活血散风”降压针刺法中的主穴，中风后吞咽障碍患者常伴有高血压，临床操作中，如果只选一穴，推荐取人迎穴，一穴双效。

B.4.6 双手操作

通关利窍针刺法操作涉及单、双手进针，内关、水沟、三阴交、下关、颊车、地仓、水突、上脘、中脘、足三里宜单手进针，风池、完骨、翳风、廉泉、人迎、天突宜双手进针。涉及左右对称穴位时（内关、三阴交、风池、完骨、翳风、下关、地仓、颊车、水突、人迎、足三里），可双手同时操作行针，可在一定程度上保持双侧针感一致，并缩短临床施术者行针时间。

B.4.7 针刺顺序

通关利窍针刺法穴位分布较广，涉及头颈部、项部、上肢、下肢。同时，中风后吞咽障碍患者可能还有其他中风合并症（如运动障碍、认知障碍等）。针刺顺序首先保证先治神、调神。《灵枢·本神第八》云：“凡刺之法，必先本于神”。内关、水沟是发挥醒脑开窍的关键穴位，临床必须以“先内关再水沟”的顺序针刺。余穴根据实际情况，选择患者舒适体位，施术者方便操作的顺序进行针刺即可。建议的顺序是：坐位时完成口腔内点刺（金津、玉液、舌面、软腭、颊黏膜、咽后壁）以及风池、完骨、翳风针刺。随后躺下（平卧位或半卧位均可，以方便操作和患者舒适为原则），按照从上到下的顺序依次针刺。

B.4.8 留针时间

通关利窍针刺法中，部分腧穴需留针，留针时间从施术者完成全部针刺操作后开始计时。

B.4.9 针刺频次及疗程

本操作规范是关于选穴及针对穴位的一次完整针刺操作。故不涉及针刺频次及疗程。临床建议原则是密集和长期针刺治疗。即，只要患者条件允许，针刺频次相对密集、疗程接近或者达到显效/治愈。

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Foreword

Please note that certain contents of this document may involve patents. The publishing institution of this document does not assume the responsibility of identifying these patents.

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Introduction

The purpose of this document is to standardize the clinical operation of the Tongguan Liqiao Acupuncture Therapy and to guide the clinical physicians in the correct use of this acupuncture therapy, in order to ensure that the Tongguan Liqiao Acupuncture Therapy is standardized for use in acupuncture and moxibustion clinical practice, education, and scientific research, and to ensure its safety and efficacy, so as to better help with the international promotion and application of the Tongguan Liqiao Acupuncture Therapy.

Accuracy and standardization of acupuncture manipulation are the key points to achieve clinical efficacy, in which the amount of stimulation is an important influencing factor to clinical efficacy. Academician Shi Xuemin put forward the concept of quantitative acupuncture manipulation in 1976 for the first time and scientifically defined the four major elements of acupuncture manipulation, namely, the force direction of the acupuncture application, the force magnitude of the acupuncture application, the duration of acupuncture application, and the time interval between two acupuncture applications.

In the 1970s, a team led by academician Shi Xuemin studied acupuncture treatment of cerebrovascular disease, creating the theory of Xingnao Kaiqiao acupuncture, establishing Shi's stroke unit and developing a series of new acupuncture techniques, which put forward a new therapeutic concept for the treatment of stroke and its complications with acupuncture. In 2021, *International Standardized Manipulations of Chinese Medicine Xingnao Kaiqiao Acupuncture for Stroke (SCM 69-2021)* was developed and published, in which the followings were strictly and clearly stipulated: the parameters for entering of the needles (direction, angle, depth, etc.), time parameters (time window for intervention, manipulating duration, retention duration of the needle, acupuncture frequency, course of treatment, etc.) and acupuncture manipulating parameters (needling technique, needling amplitude, manipulating frequency, etc.).

Tongguan Liqiao Acupuncture Therapy was created by Academician Shi Xuemin based on Xingnao Kaiqiao Acupuncture Therapy for treating stroke and according to the complication of the stroke, dysphagia. In the acupuncture therapy, there are strict requirements on the manipulative and quantitative operation on each acupoint, and special needling sensations are utilized to quantify the acupuncture operation. For example, needling on

Shuigou (GV26) acupoint to the degree of the moistness of the eyeballs and needling on Yifeng (TE17) acupoint to the degree that patient feels like fish bone being stuck in the throat. These requirements improve the standardization, reproducibility, and operability of the clinical intervention of acupuncture. Early studies have found that the standardized manipulative and quantitative group can better improve the cerebral blood flow, microcirculation, blood rheology and other indexes of patients with post-stroke dysphagia and promote the recovery of patients swallowing function compared with those of the non-standardized manipulative and quantitative group. Among them, the special needling sensations of patients may be the key to realize the clinical quantitative conversion of acupuncture manipulation. Previous studies have found that the degree of ocular moistness of the acupuncture on Shuigou (GV26) acupoint is the optimal stimulation parameter applicable to individual patient to maximize the improvement of cerebral blood flow; functional imaging studies suggest that the sensation of fish bone being stuck in the throat of patients is closely related to the central effect produced, which may be the key to bring about the efficacy of the treatment.

Therefore, this document is work out to establish the concepts, therapeutic principles, scope of application, acupoint formula, procedures and requirements of the acupuncture as well as precautions and contraindications in treatment of post-stroke dysphagia with Tongguan Liqiao Acupuncture Therapy, in order to ensure that the therapy be standardized and applied in acupuncture and moxibustion clinical practice as well as education and scientific research scenarios.

International standardized manipulations of Chinese medicine

Tongguan Liqiao Acupuncture therapy for Post-stroke dysphagia

1 Scope

This document specifies the terms and definitions, therapeutic principles, acupoint formula, scope of application, operation steps and requirements, precautions and contraindications for the treatment of post-stroke dysphagia with Tongguan Liqiao Acupuncture Therapy.

This document is applicable to the technical procedures performed by clinically licensed acupuncturists in using the acupuncture therapy of Tongguan Liqiao to treat dysphagia after stroke.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. When a reference file with a date is noted, only the version corresponding to that date applies to this file; for undated references, the latest version of which (including all changes) applies to this document.

SCM 69-2021 International Standardized Manipulations of Chinese Medicine Xingnao Kaiqiao Acupuncture for Stroke

GB 2024-2016 Acupuncture needles

GB/T 12346-2021 Nomenclature and location of meridian points

GB/T 40997-2021 Nomenclature and location of extra points in common use

GB 15982-2012 Hygienic standard for disinfection in hospitals

GB/T 16751.1-2023 Clinic terminology of traditional Chinese medical diagnosis and treatment-Part 1: Diseases

GB/T 21709.20-2009 Standardized manipulations of acupuncture and moxibustion-Part 20: Basic techniques of filiform needle

GB/T 30232-2013 General nomenclature of science of acupuncture and moxibustion

GB/T 33415-2016 Handling methods for acupuncture abnormal conditions

ISO/TS 16843-1 Health informatics - Categorial structures for representation of acupuncture - Part 1: Acupuncture points

ISO 16843-2 Health informatics - Categorial structures for

representation of acupuncture - Part 2: Needling

ISO 17218 Sterile acupuncture needles for single use

3 Terms and definitions

The following terms and definitions are applied to this document.

3.1

Tongguan Liqiao Acupuncture Therapy

It is a therapeutic method to resuscitate the inhibited and damaged brain tissue functions by needling the grouped acupoints represented by Neiguan (PC6), Shuigou (GV26), and Sanyinjiao (SP6) acupoint with specific techniques and methods. It can also make the process of transferring food through the mouth, pharynx, and esophagus to the stomach smoother, supplemented by acupuncture on acupoints of Fengchi (GB20), Wangu (GB12), and Yifeng (TE17).

3.2

Dysphagia

The inability of food to be transported smoothly from the mouth to the stomach induced difficulty in eating.

3.3

Large-amplitude, low-frequency, twirling-lifting-thrusting reducing method

It refers to the twirling amplitude greater than 180°, with frequency of 50-60 times/min, first deep and then shallow needling, light puncture and heavy lifting, with up-lifting force being the main operation mode in needling manipulation.

3.4

Small-amplitude, high-frequency, twirling reinforcing method

It refers to the needling manipulation with a twirling amplitude of less than 90° and a frequency of 120-160 times/min.

4 Pre-treatment preparation

4.1 Needle selection

a) The parameters of the disposable filiform needle shall comply with the provisions in GB 2024-2016 or ISO 17218.

b) Select different types of filiform needles according to the operational requirements.

c) Select needles that are smooth, rust-free, and unbent, with firm handles, sharp tips, and no barbs.

4.2 Body position selection

Choosing a body position in which the patient feels comfortable and the practitioner can operate conveniently, which should be in accordance with the provisions in GB/T 21709.20-2009.

4.3 Localization of acupoints

Refer to Health informatics - Categorial structures for representation of acupuncture - Part 1: Acupuncture points(ISO/TS 16843-1), WHO standard acupuncture point location in the Western Pacific Region, Nomenclature and location of meridian points (GB/T 12346-2021) and Nomenclature and location of extra points in common use (GB/T 40997-2021).

4.4 Disinfection

Disinfection of needle instruments, disinfection of contact articles, disinfection of doctor's hands, disinfection of the acupuncture site as well as requirements for treatment rooms and spare items shall be in accordance with the provisions in GB 15982-2012.

4.5 Environmental requirements

The treatment environment should be quiet, clean and hygienic, with sufficient light and suitable temperature.

5 Selection of acupoints and acupuncture procedures

5.1 Therapeutic principles

Regulating spirit and directing qi, and Tongguan Liqiao (clearing the passages and opening the orifices).

5.2 Main acupoints and acupuncture procedures

5.2.1 Combination of acupoints

Neiguan (PC6), Shuigou (GV26), Sanyinjiao (SP6), Fengchi (GB20), Wangu (GB12) and Yifeng (TE17) acupoint.

5.2.2 Scope of application

a) Dysphagia in stroke patients results from structural and functional abnormalities of the oropharynx and esophagus.

b) Post-stroke behavioral abnormalities, resulting from cognitive impairment and neuropsychiatric symptoms, may subsequently induce swallowing and feeding difficulties.

5.2.3 Procedure steps and requirements

The treatment should be carried out in the following sequence: Neiguan (PC 6), Shuigou (GV26), Sanyinjiao (SP6), Fengchi (GB20), Wangu (GB12) and Yifeng (TE17) (For details, Appendix B 4.7):

a) Neiguan (PC6): Take both sides of Neiguan (PC6) and puncture perpendicularly 0.5-1 cun. Then apply large amplitude, low-frequency twirling-lifting-thrusting reducing method and perform the operation for 1 min. Withdraw needles immediately without retention.

b) Shuigou (GV26): Puncture obliquely 0.3-0.5 cun toward the nasal septum and then apply bird pecking acupuncture technique combined with reducing method to the extent the eyes become moist or tears appear (For details, Appendix B 4.4).

c) Sanyinjiao (SP6): ① For patients without lower limb dysfunction: Select bilateral Sanyinjiao (SP6), puncture perpendicularly, make a perpendicular puncture of 1 to 1.5 cun, apply a small-amplitude and high-frequency twirling reinforcing method, and perform the manipulation for 1 minute. ②For patients with combined lower limb dysfunction: Perform the operation in two steps. Step 1: Select the affected-side Sanyinjiao (SP6) point, puncture the needle along the posterior margin of the inner side of the tibia, To a deppth of with the needle body forming a 45° angle with the medial sureface of the tibia, puncture 0.5--1 cun, apply the reinforcing method with lifting-thrusting manipulation, until the affected lower limb twitches 3 times, without needle retention. Step 2: Perform the operation on Sanyinjiao (SP6) according to the aforementioned method for patients without lower limb dysfunction.

d) Fengchi (GB20): Take the Fengchi (GB20) acupoints on both sides. Needle to the laryngeal prominence, tremble the body of the needle and puncture slowly to 2-2.5 cun, until the patient experiences a sensation of a fish bone stuck in the throat (See Appendix B 4.2 for details). Then apply a reinforcing method with small-amplitude and high-frequency twirling manipulation for 1 min.

e) Wangu (GB12): Apply the same manipulation as that used at Fengchi (GB20).

f) Yifeng (TE17): Apply the same manipulation as that used at Fengchi (GB20).

5.3 Acupoint selection and acupuncture procedures

5.3.1 Dysphagia in the oral phase

5.3.1.1 Combination of acupoints

Jinjin (EX-HN12), Yuye (EX-HN13), Xiaguan (ST7), Dicang (ST4), Jiache (ST6), Lianquan (CV23) acupoint and Lingual surface.

5.3.1.2 Scope of application

After a stroke, there are cases where food remains in the mouth and is not properly processed and delivered to the intended location (See Appendix B 3 for details).

5.3.1.3 Procedure steps and requirements

a) Lingual surface: Instructe the patient to open their mouth and extend their tongue fully. Then take 3-cun needle and perform scattered needling on the tongue's tip, middle, and root 3-5 times each (See Appendix B 4.4 for details), without needle retention.

b) Jinjin (EX-HN12), Yuye (EX-HN13): Ask the patient to open their mouth, lift their tongue upward, and press the tip of the tongue against the palate. If the patient is unable to cooperate, the operator may use the pressing hand, which is wrapped with sterile gauze, to gently lift to help raise the patient’s tongue. Prick the points with a 3-cun filiform needle to induce bleeding, with an optimal blood volume of 1-3 mL, without needle retention.

c) Xiaguan (ST7): Take the acupoints on both sides, make a perpendicular puncture of 1 cun, and apply large-amplitude, low-frequency, twirling reducing method, to the extent that patient’s deqi radiates to the mouth and lips.

d) Jiache (ST6): Take the acupoints on both sides, puncture the needle 1 cun in the direction of Dicang (ST4) (See Appendix B 4.3 for details) and apply large-amplitude, low-frequency, twirling reducing method, to the extent that patient feels a localized soreness, numbness and distension.

e) Dicang (ST4): Take the acupoints on both sides, puncture the needle 1 cun toward Jiache (ST6) acupoint (See Appendix B 4.3 for details) and apply large-amplitude, low-frequency, twirling reducing method, to the extent that patient feels localized soreness, numbness and distension.

f) Lianquan (CV23): Puncture 2.5-3 cun toward the root of the tongue, to the extent that patient feels like fish bone being stuck in the throat(See Appendix B 4.2 for details), Apply small-amplitude, high-frequency, twirling reinforcing method and apply the method for 20 seconds.

5.3.2 Swallowing disorders in the pharyngeal phase

5.3.2.1 Composition of acupoints

Shuitu (ST10), Lianquan (CV23) Renying (ST9) acupoint and the posterior wall of the pharynx.

5.3.2.2 Scope of application

After a stroke, there are cases where food fails to pass smoothly from the pharynx into the esophagus (See Appendix B 3 for details).

5.3.2.3 Procedure steps and requirements

a) Posterior wall of the pharynx: Ask the patient to open mouth, press the tongue with tongue depressor to expose the posterior pharyngeal wall, and take the acupoint there. Then, hold 3 to 5 three-cun-long needles and simultaneously perform needling (See Appendix B 4.4 for details) and perform needling 3 to 5 times on each side, until bleeding occurs, without needle retention.

b) Lianquan (CV23): The method is the same as the Lianquan operation used in dysphagia in the oral phase.

c) Shuitu (ST10): Take the acupoints on both sides, puncture perpendicularly 0.5 cun and apply small-amplitude, high-frequency, twirling reinforcing method, until soreness and distension are felt.

d) Renying (ST9) (See Appendix B 4.5 for details): The practitioner first touches the patient's common carotid artery with the thumb or index finger of the guiding hand. Then, they slowly puncture the needle while avoiding the common carotid artery, puncturing perpendicularly about 0.5 cun and

ensuring that the needle body lies flush against the lateral wall of the common carotid artery. After puncture, the needle handle can be seen swinging along with the pulsation of the common carotid artery. Apply small-amplitude, high-frequency, twirling reinforcing method, and the method lasts for 20 seconds.

5.3.3 Swallowing disorders at the esophageal stage

5.3.3.1 Combination of acupoints

Tiantu (CV22), Shangwan (CV13), Zhongwan (CV12) and Zusanli (ST36) acupoint.

5.3.3.2 Scope of application

After a stroke, there are cases where food fails to pass smoothly from the esophagus into the stomach (See Appendix B 3 for details).

5.3.3.3 Procedure steps and requirements

a) Tiantu (CV22): Patient takes the supine position, puts the pillow on the back of the neck so that the chest is elevated and the head is tilted back to get Tiantu acupoint exposed. With the tip of the needle being punctured perpendicularly into 0.5 cun, adjust the needle tip towards the navel and get quite closed to the posterior edge of the sternal stem and slowly puncture downward 2.5-3 cun, with respiratory reducing method. Withdraw needles immediately without retention.

b) Shangwan (CV13): Puncture perpendicularly 1.5-2 cun, with small-amplitude, high-frequency, twirling-lifting-thrusting reinforcing method, and perform the operation for 1 min.

c) Zhongwan (CV12): Apply the same manipulation as used at Shangwan.

d) Zusanli (ST36): Take the acupoints on both sides and puncture perpendicularly 1.5 cun, with lifting-thrusting reinforcing method, to the extent that there is a localized soreness, numbness and distension.

5.4 Duration of needle retention

For the Tongguan Liqiao Acupuncture Therapy, except for the acupoints that are clearly not to need needled retention, the retention time for the other acupoints should be 20 to 30 min.

6 Precautions

a) Subject's conditions: Subjects who are hungry, full, intoxicated, in a fit of rage, severely frightened, overly fatigued, or mentally tense should not undergo acupuncture immediatelly. For subjects with weak constitution and defiency of qi and blood, the acupuncture sensation should not be too strong, and the recumbent position should be used as much as possible for needle manipulation..

b) Requirements for needle-holding operation: During the needling procedure, if the operator's fingers need to touch the needle body, sterile cotton balls should be used as a spacer, and the operator's fingers should not touch the needle body directly.

c) Requirements for blood-letting acupuncture: When performing blood-letting acupuncture, the doctor should wear medical gloves to avoid contact with the patient's blood.

d) Requirements for hemostasis after acupuncture: For easy-to-bleed areas, dry cotton balls should be used to press for a certain area period of time after needle withdrawl, and rubbing is not allowed.

e) Conditions for caution use of acupuncture: Acupuncture should be used with caution in patients with coagulation defects.

7 Contraindications

a) Acupuncture is contraindicated in areas of skin with infection, ulcers, scarring or tumors.

b) For patients with active brain hemorrhage or malignant hypertension, needling on Shuigou (GV26) acupoint is prohibited.

c) For patients with stroke during pregnancy, needling on acupoints sensitive to fetal-pregnant reaction, such as on Sanyinjiao (SP6) acupoint, is prohibited.

d) Patients who are unable to cooperate well with the operation are prohibited from needling.

8 Solutions to adverse reactions after needling

The solutions to adverse reactions after needling shall be in accordance with the provisions in GB/T 33415-2016.

Appendix A
(Informative)
Theoretical basis and connotations of Tongguan Liqiao Acupuncture Therapy

Post-stroke dysphagia is a relatively independent disease in the stroke category, manifesting as dysphagia caused by paralysis blockage of the mouth, tongue, pharynx and other orifices. Li Shizhen, the famous TCM doctor and pharmacist of the Ming Dynasty, said as follows: "The brain is the house of Yuanshen (spirit) … a deficiency of qi in the middle energizer (middle *jiao*) leads to clear yang qi rising dysfunction and cause the inability of lifting one's head and the blocking of the nine orifices," indicating that the orifice problems come from the dysfunction of man's brain and abnormal spirit condition. If the function of Shen (spirit) is injured, it is easy to induce "disordered spirit and closed orifices". Based on the full knowledge and deep understanding of the etiology and mechanism of stroke, Academician Shi Xuemin proposed that the fundamental mechanism of post-stroke dysphagia is the "closure of the orifices and the concealment of the spirit induced spiritual dysfunction in guiding qi activity of the body and eventually cause the closed and obstructed orifices". Therefore, the treatment principles of regulating the spirit condition to guide qi activity and clearing the confined part of the passageway and the orifices have been worked out, in which regulating the spirit and clearing the passageway acts as the "means" and facilitating the orifices acts as the "purposes". By treating the post-stroke dysphagia from perspective of the orifices, the theoretical and technical system of Tongguan Liqiao Acupuncture Therapy (acupuncture in clearing the passageway and facilitating the orifices) with yin meridian, governor vessel and shaoyang meridian acupoints involved as the main focus, has been established. Based on the principles of governor vessel, local point selection, and the multi-functional nature of a single acupoint (specific point, such as Neiguan (PC6), which is a confluence points of the eight vessels connecting the Yin Link Vessel, and also a luo-connecting point, with the heart meridian of hand-shaoyin(HT) originating from Neiguan (PC6)), the main acupoints selected are Neiguan (PC6), Shuigou (GV26), Sanyinjiao (SP6), Fengchi (GB20), Wangu (GB12), Yifeng (TE17). These are combined with acupoints on the tongue surface, Soft palate, buccal mucosa, Jinjin (EX-HN12), Yuye (EX-HN13), Xiaguan (ST7), Dicang (ST4), Jiache (ST6), Lianquan (CV23), the posterior wall of the pharynx, Shuitu (ST10), Renying (ST9), Tiantu (CV22), Shangwan (CV13), Zhongwan (CV12), and Zusanli (ST36)(Among them, for

Neiguan (PC6), Shuigou (GV26), Sanyinjiao (SP6), Fengchi (GB20), Wangu (GB12), Yifeng (TE17), tongue surface, Jinjin (EX-HN12), Yuye (EX-HN13), and the posterior wall of the pharynx, the operation reference is SCM 69 2021, with some modifications).

"Tong", which is the opposite word of "blocking up", refers to the absence of blockage or the condition that can be passed, in its original meaning, In *Su Wen ·Ling Lan Mi Dian Lun*, it is said as follows: the meridians and collaterals being blocked would lead to the the great injury of human body. Based on that, the derived meanings of "Tong" are as follows: first, it means access or passage, which refers to the structure of things connecting to each other; second, it means communication, which refers to the functional activities of the information exchange or transferring; third, it means clearing or unclogging, which refers to once blocked, damaged, frustrated functional activities being restored. The word "Tong" in Tongguan Liqiao Acupuncture Therapy mainly refers to "unblocking" to achieve "facilitating passage".

The original meaning "Li" is the sharpness of the knife or sword and the derived meanings of it are as follows: first, it means to reap the benefit; second, it means "smooth development", or the development of things without obstacles; third, it means "precisely smoothness". In *Zhou Li·Dong Guan Kao Gong Ji*, it is said as follows: "There are three requirements for making an axle and the third requirement is to facilitate the rotation with compactness", which refers to the fine movement coordination among all parts of the structure. The word "Li" in Tongguan Liqiao Acupuncture Therapy is similar to the meaning of "Tong", which mainly signifies "smoothness" or "slippery movement".

The original meaning of "Guan" is latch, and the derive meanings of it are as follows: first, narrow passage or the narrow part of the channel; second, pivot, or an important turning point of things; third, human body's important orifices or limb structures. *In Su Wen· Shui Re Xue Lun*, it is said as follows: "Kidney is the Guan of the stomach". In Tongguan Liqiao Acupuncture Therapy, the word "Guan" is considered to have all of the above derived meanings. Specifically, the mouth, pharynx, esophagus as a whole constitutes the narrow passage of the six fu viscera. It is the important turning point or pivot for the drink going into the stomach or mistakenly being inhaled into the lung and they are also the key therapeutic acupoints applied in acupuncture.

The original meaning of "Qiao" is a hole, or cavity, and the derived meanings of which are as follows: first, the hole of an organ, such as the mouth and nose on one's body surface, urethra and anus as well as the

pharyngeal gate and cardia within human body, etc.; second, the key to or the vital part of things, such as a number of names given in the medical theories proposed by generations of the therapeutists like “heart orifice”, “brain orifice” and “Shen (spirit) orifice”. The “Qiao” in Tongguan Liqiao Acupuncture Therapy, includes not only the mouth, pharynx, esophagus and other “hole of the organ” but also the key part that dominates the thinking and consciousness, i.e., the “brain orifice” and “Shen orifice”.

To summarize, Tongguan Liqiao is an effective treatment therapy that resuscitates the inhibited and damaged functions of the brain orifice and the connected tissues, so that food transference from mouth to pharynx and esophagus and then to the accessing of the stomach would be normal and smooth.

Appendix B
(Informative)
Supplementary explanations on the Tongguan Liqiao Acupuncture Therapy for post-stroke dysphagia

B.1 Definition of post-stroke dysphagia

Post Stroke Dysphagia is a symptom where patients have abnormal swallowing function and are unable to eat normally after a stroke. Dysphagia generally meets the following criteria: ① Problems occur during the transportation of food or beverages from the mouth to the stomach; ② Inability to swallow normally due to poor control or coordination of the muscles in the mouth and throat, which can lead to malnutrition; ③ Food entering the trachea by mistake, which can cause recurrent pulmonary infections such as aspiration pneumonia. Any abnormality in any stage of the swallowing process can cause dysphagia. According to the different stages at which dysphagia occurs, it can be classified as oral dysphagia, pharyngeal dysphagia and esophageal dysphagia.

B.2 Considerations for acupoint selection based on stages of dysphagia

The normal physiological process of swallowing has relatively distinct phases, including the oral phase, pharyngeal phase, and esophageal phase. Dysphagia is a disorder characterized by an impairment in the passage of ingested material from the oral cavity through the esophagus to the stomach. Post-stroke dysphagia can occur and/or persist throughout the acute, recovery, and chronic stages of stroke. The specific clinical manifestations are related to the different affected areas of the brain after stroke. Therefore, classification according to the oral, pharyngeal, and esophageal phases is more suitable for guiding the selection of acupuncture points in clinical practice, for patients with multiple concurrent swallowing disorders, more precise combined acupoint selection can be made.

B.3 The staging of dysphagia after stroke

Swallowing involves many parts, nerves, muscles and their coordination. Although it is artificially divided into stages, it is difficult to precisely distinguish the clinical symptoms of each stage, such as the oral propulsive phase and the pharyngeal phase. Understanding the symptoms and

physiological and pathological mechanisms of each phase enhances the precision and comprehensiveness of acupoint combinations.

The oral phase is further divided into the oral preparatory phase and the oral propulsive phase. The actions during this phase are under voluntary control. (1) The oral preparatory phase refers to the stage from food intake to the completion of chewing, occurring in the oral cavity. It primarily involves taking in and processing food, mainly involving the tongue and cheeks. This phase can be controlled voluntarily and stopped at any stage. If weakness or impaired movement of the tongue, jaw, or facial muscles results in restricted tongue movement (for manipulating food) or reduced chewing ability, preventing the food from being adequately processed (e.g., failure to form a bolus) and/or not properly positioned within the oral cavity (e.g., lodged between the teeth and buccal mucosa); or if poor oral control and coordination leads to premature spillage of some food into the pharynx before swallowing and causing aspiration, it can be identified as the oral preparatory phase. (2) The oral propulsive phase refers to the stage when the chewed food is transported from the oral cavity to the pharynx after being formed into a bolus (theoretically, this phase can be controlled voluntarily, but due to the rapid passage through the pharyngeal arches, the swallowing action becomes a reflex and is no longer under voluntary control), and the main involvement is in the posterior part of the tongue and the soft palate. Completion of the oral propulsive phase requires the tip of the tongue to be placed at the posterior ridge of the central incisors of the maxilla, then moving upwards towards the palate, the soft palate to rise, the posterior part of the tongue to depress, and the root of the tongue to move slightly forward, allowing the bolus to flow into the pharynx. At this point, the oral phase ends and the pharyngeal phase begins. Any obstacle during this period that leads to swallowing difficulties can be identified as the oral propulsive phase.

The pharyngeal phase begins with the initiation of the swallowing reflex as the bolus enters the pharynx, and ends with relaxation of the cricopharyngeus muscle, allowing the bolus to enter the esophagus. It follows the oral phase. During this phase, the soft palate elevates and retracts further to completely seal the nasopharynx; compromise of this process may cause food reflux into the nasal cavity. Subsequently, the tongue and pharyngeal complex rise, causing the epiglottis to flip and the larynx to close to prevent food from entering the airway and pulling the cricopharyngeal muscle open. Failure of hyoid and laryngeal elevation/anterior movement may lead to insufficient epiglottic inversion and/or inadequate airway

protection, resulting in penetration/aspiration; conversely, failure of the cricopharyngeus muscle to open (due to lack of traction) causes food retention in the pharynx, preventing esophageal entry. Concurrently, sequential contraction of the pharyngeal constrictors (superior to inferior) coordinated with posterior movement of the tongue base propels the bolus through the cricopharyngeus into the esophagus; disruption here prevents bolus passage, causing residue with choking sensation or bolus reflux into the oral cavity due to discoordinated contractions. All such dysfunctions are identified as pharyngeal phase impairments.

The esophageal phase refers to the process by which food passes through the esophagus into the stomach. If the muscles of the esophagus fail to contract in sequence, preventing the bolus from being naturally pushed forward into the stomach, it can be identified as the esophageal phase.

B.4 Acupoint manipulation techniques

B.4.1 Selection of acupoints and needles

To facilitate physicians' understanding and accurate location of acupuncture points, for those who can read Chinese, GB/T 12346-2021 and GB/T 40997-2021 are recommended; for those who cannot read Chinese, ISO/TS 16843-1 and the International Standard for Acupuncture Point Location in the Western Pacific Region are recommended.

Due to regional differences, the standards referred to in the production of acupuncture needles vary. However, the principle of choosing acupuncture needles is "hygiene, safety, ability to perform acupuncture operations, achieving therapeutic effects, and minimizing pain and injury." It is recommended that in China, the selection of acupuncture needles be based on GB 2024-2016; in other regions of the world, the selection of acupuncture needles be based on ISO 17218.

B.4.2 Needle puncture depth

Some acupoints (e.g., Fengchi (GB20), Wangu (GB12), Yifeng (TE17), Lianquan (CV23)) require deeper puncture than conventional acupuncture, eliciting a distinctive foreign body sensation in the throat. This characteristic enhances the efficacy of the Tongguan Liqiao Acupuncture Therapy but concurrently challenges patient compliance. Pre-treatment disclosure of these anticipated sensations and their therapeutic role (promoting active swallowing), coupled with instructing patients to provide immediate

feedback during the procedure, significantly improves adherence and clinical outcomes. The recommended puncture depth derives from clinical observations wherein this depth frequently induces the target sensation. Operators should advance the needle gradually and adjust depth dynamically based on real-time patient feedback and anatomical variations (neck/body build), terminating puncture immediately upon achieving the characteristic throat sensation. For patients with diminished sensation or communication barriers limiting accurate reporting, depth should be conservatively maintained at the lower threshold of the typical range, never exceeding the upper safety limit. (All specifications apply to median body types).

For deeply accessed acupoints, 3-cun needles (length specification) are indicated. When the practitioner demonstrates proficiency in single-handed needle puncture technique with long needles, the procedure need not be restricted to the double-handed approach.

B.4.3 Needle puncture direction

In Tongguan Liqiao Acupuncture Therapy, needle directions target anatomical landmarks including the laryngeal prominence, tongue base, and Jiache (ST6). Conceptualize the target zone as a sphere with the needle directed toward its geometric center–the acupuncture angle is defined by the plane between the needle shaft (connecting the sphere center to the acupoint entry) and the skin surface. For the Dicang (ST4) to Jiache (ST6) trajectory, visualize the inter-acupoint line. The 15°-30° angle represents the vertical component relative to the cheek plane, not the puncture path itself.

B.4.4 Needling intensity of prick and bloodletting volume

For the points of Jinjin (EX-HN12), Yuye (EX-HN13), and the posterior wall of the pharynx, bloodletting was performed by using the three-edged needle. The operation with the three-edged needle was more likely to ensure the amount of bleeding. However, when holding the three-edged needle, the patient would have a sense of fear and it would be difficult for them to reach the posterior pharyngeal wall. They could pinch 3 to 5 needles, and the needle tips would become thicker and harder due to concentration. Therefore, using the filiform needle could also cause bleeding.

Regarding the amount of bleeding from the prick: Needle pricking is done daily, but bleeding is not necessary every day. The goal is to balance the patient's pain and quickly alleviate the congestion of the sublingual meridians. The amount of bleeding is adjusted accordingly.

The clinician would repeatedly prick the tongue surface and posterior

pharyngeal wall of the patient. The patient would instinctively withdraw due to the discomfort. If 3 to 5 needles were held and pricked simultaneously in a scattered and rapid manner, it could overcome the drawback that the patient had difficulty reaching the required stimulation level due to fear and avoidance. If the frequency of needle pricks in the aforementioned areas is already high, then the needle can also be inserted into the soft palate and the bilateral buccal mucosa.

The amount of needle puncture using Shuigou (GV26) reaches the point where the eye becomes moist or starts to shed tears. This means it is sufficiently moist to cause tears but the tears are difficult to flow out (because tears are harder to flow out in a lying position compared to a standing position) or just at the stage where tears are flowing.

B.4.5 Using Renying acupoint

Pharyngeal phase point selection includes neck acupoints Renying (ST9) and Shuitu (ST10) - anatomically proximate sites along the stomach meridian of foot-yangming (ST). Either or both may be selected per disease severity. Critically, Renying (ST9) constitutes the primary point in Academician Shi Xuemin's Huoxue Sanfeng hypertension acupuncture protocol. Given the high comorbidity of hypertension in post-stroke dysphagia, clinical prioritization of Renying (ST9) when single-point selection is indicated yields concurrent therapeutic impacts on both conditions.

B.4.6 Two-handed operation

The operation of Tongguan Liqiao Acupuncture Therapy involves single-handed and double-handed needle puncture. For points such as Neiguan (PC6), Shougou (GV26), Sanyinjiao (SP6), Xiaguan (ST7), Jiache (ST6), Dicang (ST4), Shuitu (ST10), Shangwan (CV13), Zhongwan (CV12), and Zusanli (ST36), single-handed needle puncture is recommended. For points like Fengchi (GB20), Wangu (GB12), Yifeng (TE17), Lianquan (CV23), Reying (ST9), Tiantu (CV22), double-handed needle puncture is preferred. When applying the Tongguan Liqiao Acupuncture Therapy to bilaterally symmetrical acupoints (e.g., Neiguan (PC6), Sanyinjiao (SP6), Fengchi (GB20), Wangu (GB12), Yifeng (TE17), Xiaguan (ST7), Dicang (ST4), Jiache (ST6), Shuitu (ST10), Renying (ST9), Zusanli (ST36)), bimanual synchronous needle manipulation is indicated. This approach optimizes bilateral deqi consistency while quantifiably reducing clinical manipulation time.

B.4.7 Acupuncture sequence

The Tongguan Liqiao Acupuncture Therapy employs acupoints distributed across cranial-cervical, nuchal, upper-limb, and lower-limb regions. Patients with post-stroke dysphagia frequently exhibit stroke-related comorbidities (e.g., motor/cognitive impairments). The needling sequence must prioritize adjusting the spirit, as stipulated in the *Ling Shu Chapter 8: Ben Shen*: "The foundation of all needling methods lies in regulating consciousness." Neiguan (PC6) and Shuigou (GV26) are the key acupoints for Xingnao Kaiqiao. In clinical practice, they must be stimulated in the order of "first Neiguan (PC6) then Shuigou (GV26)". Subsequent acupoints are based on the actual situation, and the practitioners select the patient's comfortable position and the sequence of acupuncture for convenience to perform. The recommended sequence is as follows: during the sitting position, perform oral intramuscular punctures (Jinjin (EX-HN12), Yuye (EX-HN13) tongue surface, soft palate, buccal mucosa, the posterior wall of the pharynx) and needling at Fengchi (GB20), Wangu (GB12), and Yifeng (TE17); then lie down (either in a supine position or semi-recumbent position is acceptable, based on the principle of facilitating operation and patient comfort). Proceed with the needling in an ascending order.

B.4.8 Duration of needle retention

In the Tongguan Liqiao Acupuncture Therapy, some acupoints require retention of the needles. The retention time is measured from the moment when the operator finishes all the acupuncture procedures.

B.4.9 Frequency and course of acupuncture treatment

This operation guideline is about the selection of acupuncture points and a complete acupuncture procedure targeting these points. Therefore, it does not cover the frequency of acupuncture or the course of treatment. The clinical recommendation principle is intensive and long-term acupuncture treatment. That is, as long as the patient's condition permits, the frequency of acupuncture should be relatively high and the course of treatment should continue until significant improvement or cure is achieved.

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