



ICS \*\*.\*\*\*

**SCM**



世界中医药学会联合会

World Federation of Chinese Medicine Societies

SCM \*\*-20\*\*

# 国际中医临床实践指南 近视

International Clinical Practice Guideline of Chinese Medicine

Myopia

(征求意见稿)

世界中联国际组织标准

International Standard of WFCMS

20\*\*-\*\*-\*\*发布实施

Issued & implemented on \*\* \*\*, 20\*\*

# 目 次

前 言.....	I
引 言.....	II
1 范围.....	1
2 规范性引用文件.....	1
3 术语和定义.....	1
4 诊断.....	2
4.1 临床症状.....	2
4.2 中医体质.....	2
4.3 临床检查.....	3
4.4 近视的西医诊断和分类.....	3
4.5 进展程度评估.....	3
5 辨证.....	3
5.1 肝肾亏虚证.....	3
5.2 气血不足证.....	4
5.3 心阳不足证.....	4
5.4 气滞血瘀证.....	4
6 近视未病先防.....	4
6.1 中医治未病思想.....	4
6.2 用眼行为饮食起居调摄.....	5
6.3 中医外治疗法.....	5
6.4 中医体质调摄（证据级别 IV，推荐强度：弱推荐）.....	7
7 近视既病防变.....	7
7.1 用眼行为饮食起居调摄.....	7
7.2 中医外治疗法.....	7
7.3 方药治疗.....	8
8 高度近视防控.....	9
9 调护指导.....	9
附录 A（资料性） 证据评价及推荐原则.....	10
附录 B（规范性） 利益冲突的宣言.....	11
参 考 文 献.....	12
Foreword.....	15
Introduction.....	17
1 Scope.....	18
2 Normative references.....	18
3 Terms and definitions.....	18
4 Diagnosis.....	19
4.1 Clinical symptoms.....	19

4.2 TCM constitution .....	20
4.3 Clinical examinations .....	21
4.4 Myopia diagnosis and Western medicine classification .....	21
4.5 Assessment of progress .....	22
5 Ocular patterns in TCM .....	22
5.1 Deficiency of the liver and kidney pattern .....	22
5.2 Syndrome of qi and blood deficiency .....	22
5.3 Syndrome of deficiency of heart yang .....	22
5.4 Qi stagnation and blood stasis pattern .....	22
6 Myopia prevention .....	23
6.1 How TCM approaches disease prevention .....	23
6.2 Eye behavior, diet, and daily life adjustment .....	24
6.3 TCM external treatment .....	25
6.4 Adjustment of TCM constitution (level of evidence IV, recommendation intensity: weak) .....	28
7 Preventing and managing existing myopia .....	29
7.1 Eye behavior, diet, and daily living adjustments .....	29
7.2 External treatment in TCM .....	29
7.3 Treatment with TCM formulas .....	31
8 Prevention and control of high myopia .....	32
9 Guidance for care .....	33
ANNEX A (Informative) Principle of evidence evaluation and recommendation .....	34
ANNEX B (Normative) Declaration of conflict of interest .....	36
Bibliography .....	37

# 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：山东中医药大学附属眼科医院、中国中医科学院眼科医院、温州医科大学附属眼视光医院、上海交通大学附属上海市第一人民医院

参与起草单位：湖南中医药大学第一附属医院、中国人民解放军总医院、广西中医药大学第一附属医院、长春中医药大学附属医院、北京中日友好医院、中国中医科学院广安门医院、天津中医药大学第一附属医院、甘肃省中医院、上海中医药大学附属龙华医院、天津市眼科医院、山西省眼科医院、浙江大学医学院附属第二医院、广东省中医院、云南大学附属医院、天津医科大学眼科医院、枣庄市中医医院、辽宁中医药大学第二附属医院、上海交通大学医学院附属第九人民医院、海南省眼科医院、成都中医药大学附属医院、香港大学、香港理工大学、台北市立联合医院、美国亚利桑那大学、新加坡中华医院、新加坡国立大学、加拿大天泉中医诊所

主要起草人：毕宏生、谢立科、瞿佳、许迅、宋继科、胡媛媛

参与起草人（按姓氏拼音排序）：

中 国：陈向东、陈小鸟、郝小波、郝晓凤、鞠援、金明、康玮、梁凤鸣、梁丽娜、路雪婧、吕帆、罗向霞、刘新泉、李丽华、李俊红、倪海龙、庞龙、彭华、曲毅、田庆梅、吴烈、魏瑞华、王哲、杨永升、左韬、张丰菊、周激波、钟兴武、郑燕林、赵健、何明光（中国香港）、翁林仲（中国台湾）

美 国：王明武

新加坡：程景煜、林秋霞

加拿大：于卫东、周悦

日 本：全选甫

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》。

本文件由世界中医药学会联合会发布，版权归世界中医药学会联合会所有。

## 引 言

本文件的撰写是在中医药理论、辨证论治原则基础上，对近视的中医诊断及治疗做一次梳理，结合现代研究成果，经过专家广泛论证而形成。本文件旨在明确近视的病名诊断、流行病学、病因病机、影响因素、中医体质、临床表现、诊断、近视的未病先防及既病防变，提供中医药的诊断和治疗建议，为国际中医师临床实践提供中医药治疗策略与方法。本文件简明实用，可操作性强，符合医疗法规和法律要求，具有指导性、普适性和可参照性，可作为临床实践、诊疗规范和质量评价的重要参考依据。

本文件在既往指南的基础上，在证据级别较高的中医药治疗近视的高质量研究中筛选临床疗效可靠、安全、便于推广的治疗方法，融合中医药技术特色，形成更具临床推广应用价值的中医药近视防控标准。

为规范临床医师对儿童青少年近视的预防、诊断、辨证（症）论治，指南制订工作组邀请中医、西医、中西医结合专家和流行病学与卫生统计学专家共同参与，借鉴循证医学指南制定的方法，广泛搜集海内外古今研究成果，在进行文献评价及 GRADE（Grading of Recommendations Assessment, Development and Evaluation）系统评价后，再通过多轮专家论证汇集群体经验和智慧，制订了有证据级别及推荐意见的《国际中医临床实践指南 近视》。

本文件不是医疗行为的标准或者规范，而是依据现有的研究证据、特定的方法制定出的声明性文件。在临床实践中，医师可参考本文件并结合患者具体情况进行个体化治疗。

# 国际中医临床实践指南 近视

## 1 范围

本文件规定了儿童青少年近视的病名诊断、流行病学、病因病机、影响因素、中医体质、临床表现、诊断、近视的未病先防及既病防变。

本文件适用于海内外各级医疗机构的中医眼科临床执业医师，作为对近视的诊断和治疗依据。西医眼科执业医师和其他学科中医师也可参照本文件中的相关内容。亦适用于已患近视人群或健康人群自我预防的健康指导。

## 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。其中，注日期的引用文件，仅该日期对应的版本适用于本文件；不注日期的引用文件，其最新版本（包括所有的修改单）适用于本文件。

GB/T 16751.1—2023 中医临床诊疗术语 第1部分：疾病

GB/T 16751.2—2021 中医临床诊疗术语 第2部分：证候

GB/T 16751.3—2023 中医临床诊疗术语 第3部分：治法

ZYYXH/T41—2008 中医临床诊疗指南 中医病证部分

## 3 术语和定义

下列术语和定义适用于本文件。

### 3.1

#### 近视

眼睛在放松调节时，平行光线通过眼球屈光系统折射后，焦点落在视网膜之前的一种屈光状态。由于在视网膜上成像不清晰，导致远视力明显降低，但近视力通常不受影响<sup>[1]</sup>。

### 3.2

#### 近视临床前期

为近视发生之前的屈光状态，眼睛在调节放松时屈光度为 $\leq +0.75D$ 且 $> -0.50D$ ，结合基线屈光年龄和其他可量化的风险因素有足够的可能性未来发展为近视，值得采取预防性干预措施。

### 3.3

#### 假性近视

又称为“调节性近视”，是由于过度刺激眼部调节功能或睫状肌痉挛表现为近视状态，有部分病人由于持续性调节痉挛可表现为高度近视状态，使用睫状肌麻痹剂放松调节后，近视度数消失，呈现为正视或远视

### 3.4

## 能近怯远

视近物清晰而视远物模糊之病证。

注：在《内经》中属“目昏”范畴。公元610年，隋·巢元方《诸病源候论》中有“目不能远视”之论；元·倪维德《原机启微》称为“能近视不能远视”；明·傅仁宇《审视瑶函·内障》称“能近怯远症”；王肯堂《证治准绳·杂病·七窍门》称经常眯眼视物者为“近觑”；清·黄庭镜《目经大成》称之为“近视”。由于近视程度较重者，常喜眯眼视物，因而民间又有“觑觑眼”之称<sup>[2]</sup>。

## 4 诊断

### 4.1 临床症状

近视最常见的症状是远距离视力模糊。其主要表现包括：

- a) 远视力下降，近视初期常有远视力波动；
- b) 注视远处物体时不自觉地眯眼、歪头；
- c) 部分近视未矫正者可出现视疲劳症状；

d) 近视度数较高者，除远视力差外，常伴有夜间视力差、飞蚊症、漂浮物和闪光感等症状，并可发生不同程度的眼底改变，特别是高度近视者，发生视网膜脱离、撕裂、裂孔、黄斑出血、新生血管和开角型青光眼的危险性增高，严重者导致失明。

### 4.2 中医体质

中医讲究整体观念，近视是整体状况在眼部的表现，研究近视与体质的关系，发现近视的易感体质并提早干预能更好地预防近视的发生；也可根据近视的偏颇体质类型辨证论治指导治疗。相对于成年人稳定的体质，小儿有着“阳常有余，阴常不足”的五脏生理特性，如脾胃化生水谷精微的能力不足，或肾脏所受藏的先后天精气不足，五脏六腑失去先后天精气的濡养，精气不能上输于目，较易形成近视。儿童青少年近视与体质关系研究发现，小儿体质偏颇与近视发生发展存在一定的相关性，青少年近视发生与偏颇体质中的气虚质、阴虚质、阳虚质具有相关性，与痰湿质、湿热质、血瘀质可能相关。具体见表1。

表1 儿童青少年近视患者主要体质类型比较

研究团队	地区	年龄	例数	主要相关体质
张清仲 <sup>[3]</sup> , 2005	广州	11岁以上中小學生	533	平和质 (29.83%) 阳虚质 (16.32%) 痰湿质 (14.63%)
王鸿章 <sup>[4]</sup> , 2009	成都	儿童	215	气虚质 (26.05%) 阴虚质 (23.72%) 平和质 (17.67%)
钟瑞英 <sup>[5]</sup> , 2013-2016	广州	6-12岁	4755	气虚质 (21.39%) 特禀质 (20.88%) 平和质 (18.80%)

韦琬 <sup>[6]</sup> , 2013	南京	六年级学生	212	平和质 (55.19%) 阴虚质 (19.87%) 气虚质 (14.15%)
谢祥勇 <sup>[7]</sup> , 2015	南宁	小学生	2648	平和质 (32.29%) 阳虚质 (23.71%) 气虚质 (14.99%)

注：张清仲等人体质分型标准采用的是《中医体质调查量表设计》，其余研究者体质分型标准采用的是《中医体质分类与判定》。

### 4.3 临床检查

眼前节及眼底检查、睫状肌麻痹验光、角膜曲率、眼轴长度等眼球生物学参数测量等。

近视常合并双眼视功能异常，易引起视物模糊、复视等症状，因此在近视检查时，视功能的检查也非常重要。常进行的视功能检查内容包括远距离和近距离隐斜量、正负相对调节、调节反应、调节灵敏度、调节幅度、Worth 4 点、正负融像性聚散、立体视等。

婴幼儿验光往往不能配合电脑验光检查，可以进行睫状肌麻痹检影验光检查。

### 4.4 近视的西医诊断和分类

4.4.1 根据睫状肌麻痹后客观验光等效球镜度 (spherical equivalent, SE)  $\leq -0.50D$  诊断为近视。

根据屈光度分类分为低度近视和高度近视： $-6.00D < SE \leq -0.50D$  为低度近视， $SE \leq -6.00D$  为高度近视。

近视临床前期屈光度为  $\leq +0.75D$  且  $> -0.50D$ ，结合基线屈光年龄和其他可量化的风险因素有足够的可能性未来发展为近视，值得采取预防性干预措施。

4.4.2 按照是否有调节作用参与，可将近视分为真性近视、假性近视和混合性近视。

a) 真性近视：是指用睫状肌麻痹剂放松调节后，屈光度检查  $SE \leq -0.50D$ 。

b) 假性近视：是指由于过度刺激眼睛的调节或睫状肌痉挛而导致的眼睛屈光力增加，表现为近视状态<sup>[3]</sup>。应用睫状肌麻痹剂后检查屈光度，近视度数消失，呈现为正视或远视。另临床上有小部分患者由于持续性调节痉挛，表现为高度近视，睫状肌麻痹效应消失后，可能再次表现出高度近视状态。

c) 混合性近视：是指使用睫状肌麻痹剂放松调节后，近视度数明显降低，但未恢复至近视临床前期或远视状态

### 4.5 进展程度评估

根据屈光度的增长量来评估近视进展情况。屈光度进展量  $\leq 0.50D/年$ ，近视进展缓慢，为非进展性近视；近视进展迅速，屈光度进展量  $\geq 0.75D/年$  为进展性近视<sup>[8]</sup>。眼轴长度也是评价近视进展的非常重要的指标，儿童青少年近视屈光度进展与眼轴长度的变化直接相关。每年眼轴增长快，近视度数进展迅速。

## 5 辨证

### 5.1 肝肾亏虚证

能近怯远，可有眼前黑花飘动，眼底可见玻璃体液化混浊、视网膜呈豹纹状改变；或有身



体虚弱，盗汗，小儿夜惊，遗尿，多动易燥，舌淡，脉弱<sup>[2,9,10]</sup>。

## 5.2 气血不足证

视近清楚，视远模糊，眼底或可见视网膜呈豹纹状改变，全身兼见头晕失眠，气短身疲，少气懒言，食欲不振，舌淡苔白脉细无力<sup>[2,9,10]</sup>。

## 5.3 心阳不足证

眼症同前。兼见面色少华，心悸神疲，健忘多梦，情绪抑郁或烦躁易怒，舌淡脉弱<sup>[2,9,10]</sup>。

## 5.4 气滞血瘀证

近视清晰，远视模糊，久视则眼球酸胀，干涩疼痛，目眶紫暗，眉棱骨疼，或见情志不舒，头晕，耳鸣，视疲劳，舌暗脉弦细<sup>[2]</sup>。

# 6 近视未病先防

## 6.1 中医治未病思想

针对儿童青少年近视发生发展的特点，将儿童青少年近视分为近视临床前期、假性近视和真性近视 3 个关键阶段，结合经典理论，总结临证经验和分析近视证治特点后，认为近视应以“肝肾为本，脑为枢纽，目为标”；治疗近视当“标本兼调，启枢明目”，近视“肝肾-脑目”脏腑相关理论学说，指导临床在近视发生发展不同阶段，采取相应的治则治法，取得较好的临床效果。

### 6.1.1 近视临床前期

本期患者发病之本在于肾，多是禀赋不足，肾精、肾阳亏损，目失濡养小儿稚阴稚阳之体，或因禀赋不足，或因劳瞻竭视，阴阳失调，肾精失充，目失濡养，则发为近视。因此本阶段近视的发生主要与遗传因素有关，《灵枢·天年》<sup>[11]</sup>曰：“人之始生……以母为基，以父为楨”，说明人类胚胎是父母两精结合而成，父母的健康状况与后代联系紧密，遗传是近视形成的一个重要因素；另一方面环境因素也是罹患近视的高危因素，唐代·孙思邈《备急千金要方》<sup>[12]</sup>中指出“极目远视，博弈不休”等是“丧明之本”。这正说明合理用眼，爱惜目力，培养良好的用眼习惯的重要性。因此本阶段的治则为填补肾精，以防为主，充分发挥中医治未病的理念，早期筛查、定期检查、健康宣教、调节用眼行为、增加户外活动、合理膳食、中医外治等治疗，预防近视的发生。

### 6.1.2 假性近视阶段

本期患者发病之本在于肝，仍为功能性改变。《诸病源候论》<sup>[13]</sup>认为“过劳伤肝，肝气受损，则不能远视”。劳瞻竭视，过用目力，肝气失和，筋脉挛急，且肝为“罢极之本”，因此，本期近视与肝脉挛急，眼睫状肌痉挛所致。本阶段的治则为养肝解痉，针对调节痉挛的不同程度、不同病程，开展中西医综合防控，在视觉训练或者睫状肌麻痹剂基础上，给予中医外治及解痉明目中药以养肝解痉多能获得良效。

### 6.1.3 真性近视阶段

本期患者发病之本在于脑目，肾生髓，脑为髓海，目系上属于脑；因此，脑既是主司眼视

觉的器官，也是连接肾与目的枢纽。髓海失充，目失所养，神光不能发越，就会形成近视。由于前期先天禀赋不足，加之后天用眼不当，肝肾受损，脏腑失调，波及脑目为病，为器质性改变。本阶段的治则为补益肝肾，充脑明目，并根据患者近视程度、病程、发病年龄等，在框架镜或者角膜塑形镜基础上给予视觉训练、中医外治法、中药辨证论治等，中西医综合防控，实现最佳防控效果。

## 6.2 用眼行为饮食起居调摄

环境因素在儿童青少年近视发病中起到非常重要的作用，近视的发生发展与户外活动和长时间持续近距离用眼密切相关。加强儿童青少年视力保护健康教育，增加阳光下日间户外活动时间，避免长时间持续近距离用眼，科学规范使用电子产品，充足睡眠，改善学习视觉环境等积极有效的行为干预措施，是预防近视发生的重要措施。

### 6.2.1 户外活动

每日日间户外活动时间达到 2 小时以上，每周日间户外活动累计达到 14 小时以上。

### 6.2.2 近距离用眼

阅读和书写时应注意标准读写姿势与习惯，做到“一拳一尺一寸”；每次连续读写不超过 30 分钟；儿童青少年夜间读写，应同时使用房间顶灯和台灯，台灯宜放置在写字手对侧前方。

### 6.2.3 电子产品

按需科学规范合理使用电子产品。使用电子产品学习 30~40 分钟后，应休息远眺放松 10 分钟。非学习目的使用电子产品每次不超过 15 分钟<sup>[14]</sup>。

### 6.2.4 睡眠饮食

家长要督促孩子保持规律健康的生活方式。每天保证充足睡眠时间 8 小时以上。注意营养均衡，多吃水果蔬菜，少吃甜食和油炸食品。

## 6.3 中医外治疗法

### 6.3.1 眼保健操（证据级别 II a，推荐强度：强推荐）

眼保健操相比其他方法而言，有着可行性强、无痛苦无毒副作用、经济简便等优点，是我国特有的预防干预方法，也是我国防控近视工作中的重要一环。眼保健操运用经络腧穴理论，采用近部取穴原则，推拿刺激眼周腧穴。

眼保健操近部选用多穴配合，调节眼部气血的输布运行，增强脏腑精气对眼睛的濡养。局部选用攒竹、四白、睛明、太阳、风池穴位。每个穴位 4 个八拍，每天坚持做 2~3 次<sup>[15,16]</sup>。

做眼保健操时应注意：在专业培训和指导下，正确按压穴位、准确操作、力度适中、长期坚持是眼睛保健操发挥疗效的前提条件。

推荐：眼保健操作为一种眼部保健手段可以随时随地的去做，可不拘泥于时间，在高强度用眼过程中出现眼部疲劳、酸胀等症状时均可随时来做。目前，保健操的频率实行情况一般是 2 次/天，如果将眼保健操的频率或时间加倍，若疗效也能倍增，则在目前青少年近视状况严峻的形式下，增加眼保健操的频率或时间也必将未来的发展方向。

### 6.3.2 针刺或经皮穴位电刺激<sup>[17, 18, 19]</sup>（证据级别 II b，推荐强度：强推荐）

取穴：常用攒竹、丝竹空、鱼腰、太阳、睛明、瞳子髎等，肝肾不足者加肝俞、肾俞；气血不足配心俞、脾俞、足三里。

方法：毫针刺每日一次，留针 30 分钟，留针期间行针 3~5 次（睛明穴除外）；使用儿童青少年近视眼周经皮穴位电刺激治疗，每次治疗时间 15~30 分钟，每日 1 次。

优势特色：针刺疗法防控近视疗效特色突出，但患儿依从性差，难以胜任广大近视儿童青少年群体的防控工作；精准经皮穴位电刺激具有安全、无创和易操作等优点。可穿戴式眼周精准经皮穴位电刺激，无需专业人员对穴位进行定位，不仅方便快捷，而且定位精度高。可根据每个患者的面部构造不同而不同，这使得患者在佩戴使用时更加舒适的同时，通过穴位个性化定位和刺激参数智能化调控，实现个性化精准治疗，且易于快速复制和大规模推广应用，解决了近视防控医疗资源不足的难题。

### 6.3.3 耳穴贴压（证据级别 II b，推荐强度：强推荐）

取穴：常用眼、目 1、目 2、脑干等，肝肾不足配肝、肾穴、气血不足配脾穴。每次根据患者具体情况，选取 6~8 个穴位。

方法：用王不留行子贴压在所选穴位敏感点上，按压强度以耳廓达到热、胀、酸、痛为度，每次压一侧耳穴，两耳交替选穴，耳部常规消毒，每日按压 4~5 次，每次按压 1 分钟，每三天更换 1 次，10 次为 1 个疗程。适用于缓解儿童青少年视疲劳，防止近视发生<sup>[20-22]</sup>。

### 6.3.4 推拿<sup>[23-25]</sup>（证据级别 II b，推荐强度：强推荐）

令患儿平躺闭眼，医生先用两拇指面自眉心起，交替向上直推发际，推 50 次；

再按揉丝竹空、太阳、阳白、四白、风池等穴，每穴按揉 50 次换揉下一穴，两手拇指腹摩擦眼轮匝肌 30 次；

然后用左手无名指和小指夹住患儿手，食指和拇指捏住患儿拇指使之屈曲，循拇指桡侧边缘向掌根方向直推；最后将患儿小指面向上，夹入医师左手虎口内，右手拇指由小指指尖推至指根。

### 6.3.5 温灸（证据级别 II b，推荐强度：弱推荐）

取穴：常用太阳、四白、攒竹、合谷等。

方法：取坐位或卧位，使用中药灸柱，点燃后距眼约 2~3cm，采用水平、垂直及画圆移动方式进行灸治，刺激眼周穴位。每穴各灸 2~3 分钟，均以皮肤发热微红为度，每日 1 次<sup>[17]</sup>。

### 6.3.6 中药离子导入（证据级别 II b，推荐强度：弱推荐）

中药汤剂：中药方由白芍、蝉蜕、沙苑子、女贞子、五味子、（蜜）黄芪、苍术、桑叶等。将上述中药水煎，滤渣，备用。

治法：解痉明目，调补肝肾。

用法：每次取适量（以浸湿整个小方纱为度）上述中药汤剂，利用离子导入机行离子导入。嘱患者轻闭双眼，取大小 4cm×5cm、7~8 厚层纱布块，浸入上述药液中，拭干药液，分别放置双侧眼睑上，患者轻闭眼睑，将导入镜架电极戴在眼上，另一电极置于手心，调节电流，每次通电 15 分钟，每日 1 次，15 次为 1 个疗程。共治疗 3 个疗程。每疗程之间间隔 3 天<sup>[26]</sup>。

### 6.3.7 揶针（证据级别 II b，推荐强度：强推荐）

取穴（双侧）：眼周取攒竹、太阳、鱼腰、丝竹空、四白，头部取百会、四神聪、风池，

四肢远端取养老、足三里、三阴交、光明。以眼周、头部穴位为主穴，每次取 3~4 个，以四肢远端穴位为配穴，每次取 3~4 个。

操作方法：选择 0.25 mm×2.0 mm 揸针，患者坐位，碘伏棉签对埋针处皮肤进行消毒，操作人员消毒手部，将揸针贴于目标筋结部位，同时告知患者对埋针各区域揉按 1 分钟，待有胀感，且可耐受即可，每日 5 次，1 天后取掉揸针，每次取下揸针时都需要进行局部穴位的消毒。隔日治疗 1 次，每周 3 次<sup>[27]</sup>。

#### 6.4 中医体质调摄（证据级别 IV，推荐强度：弱推荐）

中医讲究“未病先防”，针对近视儿童青少年的偏颇体质特点，可以通过纠正偏颇体质来预防近视发生和发展<sup>[28]</sup>。

气虚质与阳虚质者在户外体育活动时宜选择舒缓柔和的运动，如散步、慢跑、太极拳、五禽戏、八段锦等活动方式，饮食应多食怀山药、山楂、麦芽。

对于阴虚质的近视患者宜做中小强度的运动项目，控制出汗量，及时补充水分，可选择八段锦等。饮食应多食动物肝脏、鸡肉、鸡蛋、牛肉、鱼类等，也可多食桑椹、黑豆、红枣、核桃仁、桂圆肉等食品。

痰湿质人群者宜做球类运动，自行车和慢跑等。饮食方面宜多食怀山药、薏苡仁、茯苓、扁豆、赤小豆、蚕豆等，忌食生冷、油腻及过于滋补的食物。

中医药延缓近视如针刺、经皮穴位电刺激、推拿、耳穴贴压等方法有一定疗效，亦可结合体质辨体调治。

因此，面对我国青少年儿童近视患病率逐年上升，以及个体体质差异性对近视存在的易感性和倾向性，我们可以尝试从中医体质角度出发，分析近视发生与中医体质的相关性，利用体质“因人制宜”的特点对患者进行体质调理，改变其特定的偏颇体质，早期有效调控纠正偏颇体质，延缓患者的近视发展，起到中医“治未病”的作用。

### 7 近视既病防变

近视发生后，大多数儿童青少年近视屈光度将进一步进展，直到成年近视屈光度趋于稳定。对于近视发生年龄较小，近视进展较快（近视屈光度增长 $\geq 0.75\text{D}/\text{年}$ ）的儿童青少年，遵循“既病防变”思想，应在健康宣教、维持良好用眼行为、西医有效近视矫正控制措施：框架镜、角膜塑形镜、低浓度阿托品滴眼液等基础上联合中医干预措施，控制近视度数加深，延缓低度近视发展为高度近视。

#### 7.1 用眼行为饮食起居调摄

同 6.2。

#### 7.2 中医外治疗法

##### 7.2.1 针刺或经皮穴位电刺激<sup>[19, 29-36]</sup>（证据级别 II b，推荐强度：强推荐）

取穴：以睛明、承泣、风池、攒竹为主。肝肾亏虚配光明、养老、肝俞；心肾不交配肾俞、神门。穴位也可选百会、神庭、头维、合谷、太阳等。

方法：毫针刺刺每日一次，留针 30 分钟，留针期间行针 3~5 次（睛明穴除外）。可采用梅花针或针灸手法仪。或选取眼周穴位，使用儿童青少年近视眼周经皮穴位电刺激技术，进行间断或者连续性的电刺激，每日一次，每次 15~30 分钟。

### 7.2.2 推拿<sup>[25]</sup>（证据级别 II b，推荐强度：强推荐）

取穴：睛明、攒竹、鱼腰、阳白（承泣）、丝竹空（瞳子髻）、太阳、风池、脾俞、肝俞、肾俞、合谷。

方法：取仰卧位，双手拇指分推上下眼眶，方向由内向外 5~8 次。双手拇指按揉上下眼眶，方向由内向外 5~8 次，重点按揉睛明、攒竹、鱼腰、阳白（承泣）、丝竹空（瞳子髻）和太阳等穴位。取坐位，指揉颈后双侧肌群 3 分钟，点按风池、脾俞、肝俞、肾俞、合谷各 1 分钟。拿肩井 2 分钟。掌揉和拍法放松颈肩背部肌群 2~3 分钟。适用于预防中低度近视伴有视疲劳者。

### 7.2.3 耳穴贴压<sup>[22, 37, 38]</sup>（证据级别 II b，推荐强度：强推荐）

取穴：常用眼、神门、内分泌、目 1、目 2、脑干、肝、肾、脾，心、肾上腺、交感，皮质下。每次根据患者具体情况，选取 6~8 个穴位。

方法：耳部常规消毒，选取上述穴位，以王不留行籽贴于选穴处，每日按压 3 次，力度适中，每次持续 1 分钟，以耳廓充血肿胀为度，3 天更换 1 次，10 次为一疗程。适用于缓解儿童青少年视疲劳，延缓近视发展。

### 7.2.4 揪针<sup>[39-42]</sup>（证据级别 II b，推荐强度：强推荐）

取穴：眼周穴攒竹、鱼腰、太阳、丝竹空或耳穴眼、目 1、目 2、肝、肾、脾及足三里。

方法：局部 75%乙醇消毒；用镊子夹持揪针的胶布，揪针针尖对准穴位垂直刺入，使胶布与皮肤紧贴。医师现场传授患者或其监护人按压手法，每次揪入后留针 3 天，留针过程中每日刺激每个穴位，每次 20 下，每周更换 2 次，耳穴双侧交替。

## 7.3 方药治疗

#### a) 肝肾亏虚证<sup>[2,9,10]</sup>（证据级别 IV，推荐强度：弱推荐）

症状：能近怯远，可有眼前黑花飘动或有身体虚弱，盗汗，小儿夜惊，遗尿，多动易燥，舌淡，脉弱。

治法：滋补肝肾

方药：驻景丸加减方加减（《中医眼科六经要法》）。视物易疲劳者可酌加党参、黄芪，以增益气之功；口唇淡白者，加阿胶、白芍补益精血。

#### b) 气血不足证<sup>[10]</sup>（证据级别 IV，推荐强度：弱推荐）

症状：视近清楚，视远模糊，全身兼见头晕失眠，气短身疲，少气懒言，食欲不振，舌淡苔白脉细无力。

治法：补血益气。

方药：人参养荣汤加减（《太平惠民和剂局方》）。食欲不振，加淮山药、山楂、麦芽以健脾消食。

#### c) 心阳不足证<sup>[2,9,10]</sup>（证据级别 IV，推荐强度：弱推荐）

症状：眼症同前。兼见面色少华，心悸神疲，健忘多梦，情绪抑郁或烦躁易怒，舌淡脉弱。

治法：补阳益气、安神定志。

方药：定志丸加减（《审视瑶函》）。阳气虚者可加黄芪、肉桂；血虚生风者，伴头晕眼胀、视物疲劳，可加羌活、防风、荆芥；肝气郁结者，可加柴胡；心悸重者，可加五味子、酸枣仁、柏子仁。

## 8 高度近视防控

高度近视分为单纯性和病理性高度近视。

单纯性高度近视一般不伴有引起不可逆视觉损害的眼底病变，近视度数高但成年后趋于稳定，以屈光矫正为主。

病理性近视则会出现不可逆的视觉损害和眼底病变，近视度数终生都会发展，且眼轴不断地过度增长，一般眼轴>26.5mm，在屈光矫正的基础上需要预防和治疗并发症<sup>[43]</sup>，中医辨证方药治疗如下：

a) 气血不足证（证据级别 IV，推荐强度：弱推荐）

症状：视近清楚，视远模糊，眼底或可见视网膜呈豹纹状改变，全身兼见头晕失眠，气短身疲，少气懒言，食欲不振，舌淡苔白脉细无力。

治法：补血益气

方药：人参养荣汤加减（《太平惠民和剂局方》）。食欲不振，加淮山药、山楂、麦芽以健脾消食。<sup>[10,44]</sup>

b) 肝肾亏虚证（证据级别 IV，推荐强度：弱推荐）

症状：能近怯远，可有眼前黑花飘动，眼底可见玻璃体液化混浊，可见视网膜呈豹纹状改变；或有身体虚弱，盗汗，小儿夜惊，遗尿，多动易燥，舌淡，脉弱。

治法：滋补肝肾

方药：驻景丸加减方加减（《中医眼科六经要法》）。视物易疲劳者可酌加党参、黄芪，以增益气之功；口唇淡白者，加阿胶、白芍补益精血<sup>[2,44]</sup>。

c) 气滞血瘀证（证据级别 IV，推荐强度：弱推荐）

症状：近视清晰，远视模糊，久视则眼球酸胀，干涩疼痛，目眶紫暗，眉棱骨疼，或见情志不舒、头晕、耳鸣、视疲劳，舌暗脉弦细。

治法：活血化瘀，通络开窍

方药：血府逐瘀汤加减（《医林改错》）。若面红目赤，可加柴胡、钩藤清肝泻火；若胸闷暖气，可加香附、郁金理气宽中；若眼底见新鲜出血者，可加旱莲草、仙鹤草凉血止血；若眼底见渗出，可加茯苓、车前子利水渗湿<sup>[2]</sup>。

## 9 调护指导

9.1 养成良好的用眼习惯，阅读和书写时保持端正的姿势，眼与书本应保持 30m 左右的距离，不在走路、乘车或卧床情况下看书。

9.2 学习和工作环境照明要适度，照明应无眩光或闪烁，黑板无反光，不在阳光照射或暗光下阅读或写字。

9.3 定期检查视力，对近期远视力下降者应查明原因，积极治疗，对验光确诊的近视应配戴合适的眼镜以保持良好的视力及正常调节与集合。

9.4 在近视好发期做好防护，包括学龄前期、生长发育期、学业繁重期等时间段，注意用眼习惯，养成良好的作息规律，加强体育锻炼，增加户外活动，定期进行眼部健康及视力检查，要早发现早预防，预防近视从娃娃抓起。

**附录 A**  
**(资料性)**  
**证据评价及推荐原则**

**A.1 证据的评价和分级标准**

证据分类原则主要参照刘建平教授编写的《传统医学证据体的构成及证据分级的建议》。此外，本文件中规定，若单个随机对照试验判定为高风险，则证据级别降低一级。

文献筛选和评价过程由两名评价员独立进行；如双方意见不一致，通过协商解决或由第三方裁决。具体内容见表 A.1：

表 A.1 证据级别分级依据

证据级别	分级依据
I a	由随机对照试验、队列研究、病例对照研究、病例系列这 4 种研究中至少 2 种不同类型的研究构成的证据体，且不同研究结果的效应一致
I b	具有足够把握度的单个随机对照试验
II a	半随机对照试验或队列研究
II b	病例对照研究
IIIa	历史性对照的病例系列
IIIb	自身前后对照的病例系列
IV	长期在临床上广泛运用的病例报告和史料记载的疗法
V	未经过系统研究验证的专家观点和临床经验，以及没有长期在临床上广泛运用的病例报告和史料记载的疗法

**A.2 推荐原则**

目前指南的推荐分级标准一般按照 GRADE (Grading of Recommendations Assessment, Development and Evaluation) 小组制定的推荐强度级别标准进行证据推荐，该指南中推荐意见分为强、弱两级，当证据明确显示干预措施利优于弊或弊优于利时，指南小组可将其列为强推荐；当利弊不确定或无论质量高低的证据均显示利弊相当时，则视为弱推荐。

综合以上考虑，本文件规定：证据为I级并且取得专家共识则视为强推荐；证据为II级且取得专家共识则视为弱推荐。

附录 B  
(规范性)  
利益冲突的宣言

指南制定小组所有成员均声明, 完全独立进行指南的编制工作, 未与任何利益团体发生联系。

WFECMS



## 参 考 文 献

- [1] 瞿佳. 眼视光学理论和方法[M]. 第3版. 北京: 人民卫生出版社, 2018.
- [2] 段俊国, 毕宏生. 中西医结合眼科学[M]. 第10版. 北京: 中国中医药出版社, 2016.
- [3] 张清仲, 吕宗猷, 陈滢宇, 等. 广州市学生近视眼中医体质调查. 中华中医药学会第七届中医体质学术研讨会论文集. 2009:125-129.
- [4] 王鸿章, 杨芳, 谢学军, 等. 儿童近视与中医体质学的相关性分析. 四川中医, 2010, 28(09):24-27.
- [5] 钟瑞英, 王燕, 李志英, 等. 近视儿童屈光度与体质分析. 中华中医药杂志, 2019, 34(01):387-390.
- [6] 韦琬. 儿童近视与中医体质及人格特质的相关性研究. 江苏: 南京中医药大学, 2014.
- [7] 谢祥勇, 韦丽娇, 何碧华, 等. 南宁近视少儿中医体质调查. 临床医药文献电子杂志, 2017, 4(32): 6309-6313.
- [8] 姜珺. 近视管理白皮书(2019) [J]. 中华眼视光学与视觉科学杂志, 2019, 21(3): 161-165.
- [9] 曾庆华. 中医眼科学[M]. 中国中医药出版社, 2002, 246-247.
- [10] 彭清华. 中西医结合眼科学[M]. 第1版. 北京: 中国中医药出版社, 2016. 700.
- [11] 佚名. 灵枢经[M]. 田代华, 刘更生, 整理. 北京: 人民卫生出版社, 2016.
- [12] 孙思邈. 备急千金要方[M]. 焦振廉, 校注. 北京: 中国医药科技出版社, 2011.
- [13] 巢元方. 诸病源候论[M]. 宋白杨, 校注. 北京: 中国医药科技出版社, 2011.
- [14] 教育部、卫生健康委、体育总局、财政部、人力资源社会保障部、市场监管总局、新闻出版署、广电总局等八部门关于印发《综合防控儿童青少年近视实施方案》, 教体艺〔2018〕3号.
- [15] 傅雯. 规范眼保健操对学龄儿童近视防控效果的观察[D]. 广西中医药大学, 2021.
- [16] 丁宝一. 眼保健操防控儿童青少年近视的效果研究[D]. 山东中医药大学, 2021.
- [17] Shang XJ, Chen LQ, Litscher G, et al. Acupuncture and Lifestyle Myopia in Primary School Children-Results from a Transcontinental Pilot Study Performed in Comparison to Moxibustion[J]. Medicines, 2018; 5(3): 95.
- [18] 王加旺, 宋继科, 毕宏生. 针刺治疗青少年近视的概况[J]. 中国中医眼科杂志. 2019; 29(4): 335-338.
- [19] 宋继科, 吴秋欣, 田庆梅, 等. 眼周经皮穴位电刺激干预假性近视及低中度近视伴调节功能异常临床观察[J]. 山东中医杂志. 2023; 42(3):1260-265+283.
- [20] Haixia Gaoa, Lei Zhangc, Jianghong Liu. Auricular acupressure for myopia in children and adolescents: A systematic review. Complementary Therapies in Clinical Practice[J]. 2020; 38:101067.
- [21] 徐柏升, 王山红, 周洁, 等. 耳穴贴压疗法干预青少年近视的 Meta 分析[J]. 中国现代医生. 2019; 57(33):19-25.
- [22] CK Liang, TY Ho, TC Li, et al. A combined therapy using stimulating auricular acupoints enhances lower-level atropine eyedrops when used for myopia control in school-aged children evaluated by a pilot randomized controlled clinical trial [J]. Complement Ther Med, 2008; 16(6):305-310.
- [23] 赵忠辉, 罗高俊, 喻伟强, 等. 梅花针配合推拿治疗青少年假性近视疗效观察[J]. 上海针灸杂志. 2017; 32(7):578-580.

- [24] 钟瑞英,郎建英,张曼曼,等. 不同的推拿频率防控近视进展的临床研究[J].2018;38(11):1304-1307.
- [25] 吕贤蕊. 推拿治疗青少年假性近视疗效分析[J].实用中医药杂志, 2020, 36 (4) : 512-513.
- [26] 高延娥, 吴秋欣, 田庆梅, 等. 中药离子导入治疗假性近视的临床研究[J]. 辽宁中医杂志.2022;49(5):56-58.
- [27] 刘伙生, 宣守松, 赵海龙, 等. 经筋推拿手法联合揠针治疗青少年假性近视的疗效观察.河北中医 [J]. 2022; 44(2):298-317.
- [28] 韦琬.儿童近视与中医体质及人格特质的相关性研究[D].江苏:南京中医药大学,2014..
- [29] Németh J, Tapasztó B, Aclimandos WA, et al. Update and guidance on management of myopia. European Society of Ophthalmology in cooperation with International Myopia Institute[J]. Eur J Ophthalmol. 2021; 31(3):853-883.
- [30] 陶晓雁, 赵百孝, 韩笑, 等. 捻转补泻法与提插补泻法对青少年近视患者裸眼远视力的影响:随机对照研究[J].中国针灸, 2014; 34(5): 465-468.
- [31] 王雁, 张亚妮, 高云仙. 针刺治疗青少年中度近视的随机对照试验[J]. 中国中医眼科杂志. 2015; 25(4): 231-235.
- [32] 韩贯宇, 解孝锋, 吴建峰, 等. 穴位电刺激与传统针刺疗法治疗青少年近视效果对比观察[J]. 山东医药. 2016; 56(30): 69-71.
- [33] 蔡文丽. 针刺结合中药熏眼治疗青少年近视患者的临床可行性[J].中临床临床. 2016; 8(22): 91-93.
- [34] 田昭春, 吴建峰, 毕宏生. 针刺治疗儿童低度近视疗效观察[J]. 中华中医药学刊. 2018; 3: 569-572.
- [35] 黄艳, 莫春燕. 穴位埋线与传统针刺治疗青少年近视对比观察[J]. 中国继续医学教育. 2019; 11(32):149-151.
- [36] 任莲芳. 针刺联合视功能训练治疗低度近视的疗效及对眼调节功能的改善作用[J]. 上海针灸杂志. 2019; 38(8): 888-891.
- [37] 侯昕玥, 亢泽峰, 王健全, 等. 中医适宜技术耳穴压丸疗法防控儿童青少年近视的 meta 分析[J].中国中医眼科杂志, 2021, 31(11): 832-837.
- [38] 薛定明. 耳穴压丸配合耳穴电夹治疗少年儿童近视[C]//中国针灸学会. 新时代新思维新跨越新发展——2019 中国针灸学会年会暨 40 周年回顾论文集. 北京: 中国针灸学会, 2019: 451-453.
- [39] 范海梅. 近视康口服液联合揠针治疗青少年轻度近视(肝肾不足、脾气亏虚证)的临床观察[D]. 成都: 成都中医药大学, 2018:40.
- [40] 邹国莹. 揠针疗法对气虚质近视患者调节功能的影响[D]. 福建: 福建中医药大学.2019.
- [41] 邓宇, 訾迎新, 农璐琪, 等. 结膜IV号方联合揠针治疗儿童低中度近视的疗效观察[J]. 中国中医眼科杂志, 2020, 30(7): 487-490.
- [42] 李华宏. 揠针联合补精益视片对小学生轻度近视的临床疗效观察[D].成都:成都中医药大学, 2019:1-53.
- [43] 王利华, 刘薇, 杨慧英. 揠针针刺耳穴治疗青少年近视 635 例临床分析[J].青岛大学医学院学报, 2006, 42(4):294.
- [44] 吴桢泉, 赵秀娟, 陈士达, 等. 黄斑扣带术治疗高度近视眼牵拉性黄斑病变的疗效观察

[1]. 中华眼科杂志, 2021, 57(06):433-439.

WFECMS

## Foreword

Some aspects of this document are proprietary. The authority issuing this document is not liable for patent identification.

Main drafting units: Affiliated Ophthalmology Hospital of Shandong University of Traditional Chinese Medicine, Ophthalmology Hospital of Chinese Academy of Sciences, Ophthalmology Hospital of Wenzhou Medical University, and Shanghai First People's Hospital of Shanghai Jiaotong University

Participating drafting units: The First Affiliated Hospital of Hunan University of Chinese Medicine, Chinese People's Liberation Army (PLA) General Hospital, First Affiliated Hospital of Guangxi University of Chinese Medicine, First Affiliated Hospital of Changchun University of Chinese Medicine, Beijing Sino-Japanese Friendship Hospital, Guang'anmen Hospital of Chinese Academy of Chinese Medical Sciences, First Affiliated Hospital of Tianjin University of Chinese Medicine, Gansu Provincial Hospital of Traditional Chinese Medicine, Longhua Hospital of Shanghai University of Chinese Medicine, Tianjin Eye Hospital, Shanxi Eye Hospital, Second Affiliated Hospital of Zhejiang University Medical College, Guangdong Provincial Hospital of Traditional Chinese Medicine, Yunnan University Hospital, Eye Hospital of Tianjin Medical University, Zaozhuang City Hospital of Traditional Chinese Medicine, Second Affiliated Hospital of Liaoning University of Traditional Chinese Medicine, Ninth People's Hospital Affiliated to Medical College of Shanghai Jiaotong University, Hainan Provincial Eye Hospital, Chengdu University of Traditional Chinese Medicine Affiliated Hospital, University of Hong Kong, Hong Kong Polytechnic University, Taipei City United Hospital, University of Arizona, China Hospital Singapore, National University of Singapore, and Tian Quan Chinese Medicine Clinic

Main drafters: Bi Hongsheng, Xie Like, Qu Jia, Xu Xun, Song Jike, and Hu Yuanyuan.

Contributors (sorted by last name):

China: Chen Xiangdong, Chen Xiaoyi, Hao Xiaobo, Hao Xiaofeng, Ju Yuan, Jin Ming, Kang Wei, Liang Fengming, Liang Lina, Lu Xuejing, Lu Fan, Luo Xiangxia, Liu Xinquan, Li Lihua, Li Junhong, Ni Hailong, Pang Long, Peng Hua, Quyi, Tian Qingmei, Wu Lie, Wei Ruihua, Wang Zhe, Yang Yongsheng, Zuotao, Zhang Fengju, Zhou Shong, Zhong Xingwu, Zheng Yanlin, Zhao Jian, He Mingguang (China Hong Kong), and Weng Linzhong (Taiwan, China)

The United States: Wang Mingwu

Singapore: Cheng Jingyu and Lin Qiuxia

Canada: Yu Weidong and Zhou Yue

Japan: Qi Xuanfu

The drafting process of this document follows the SCM 1.1-2021 *Directives for Standardization-Part 1: Procedures or Standard Development, Revision and Publication*, issued by the World Federation of Chinese Medicine Societies.

This document is issued by WFCMS, all rights reserved to WFCMS.

WFCMS

## Introduction

Based on the theory of traditional Chinese medicine (TCM) and the principle of treatment based on syndrome differentiation, this document is prepared to provide a comprehensive understanding of the diagnosis and treatment of myopia using TCM, incorporating modern research results and expert demonstrations. It aims to cover various aspects, including the disease nomenclature, diagnosis, epidemiology, etiology and pathogenesis, influencing factors, TCM constitution, clinical manifestations, diagnosis, and pre-disease prevention of myopia. It provides recommendations on TCM diagnosis and treatment strategies, offering guidance for international TCM practitioners in clinical settings. This document is concise, practical, and in accordance with medical regulations and legal requirements. It provides guidance, universality, and references, making it an important resource for clinical practice, diagnosis and treatment specifications, and quality evaluation.

Based on previous guidelines, this document aims to identify treatment methods for myopia with reliable clinical efficacy, safety, and convenience. The goal is to promote high-quality research and establish TCM myopia prevention and control standards that are more valuable for clinical promotion and application. These standards will incorporate the technical characteristics of TCM at a higher level of evidence.

To standardize clinicians' prevention, diagnosis, and treatment based on the syndrome differentiation of myopia in children and adolescents, the guideline development working group invited experts from TCM, Western medicine (WM), and integrative medicine, as well as experts on epidemic diseases and health statistics. By drawing on the methods developed by evidence-based medicine guidelines, the group extensively reviewed domestic and international research findings, conducted literature assessments, and graded recommendations using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system. Multiple rounds of expert argumentation were then conducted to gather the experience and wisdom of the group, resulting in the development of the International Guide to Clinical Practice of Traditional Chinese Medicine for Myopia, which includes evidence-based levels and recommendations.

This document is not a standard or specification for medical conduct. Rather, it is a declarative document based on existing research and specific methods. In clinical practice, physicians can refer to this document and tailor treatment according to the specific situation of the patient.

# International Guidelines for Clinical Practice of Traditional Chinese Medicine for Myopia

## 1 Scope

This document specifies the disease nomenclature, diagnosis, epidemiology, etiology and pathogenesis, influencing factors, TCM constitution, clinical manifestations, diagnosis, pre-disease prevention, and transformation of myopia in children and adolescents.

This document is applicable to clinical practitioners of TCM ophthalmology in medical institutions at all levels in China and abroad as a basis for the diagnosis and treatment of myopia. Practitioners of Western ophthalmology and practitioners of TCM in other disciplines may also refer to the relevant contents of this document. It is also suitable for health guidance for self-prevention in people with myopia or healthy people.

## 2 Normative references

The following documents constitute the essential clauses of this document through normative reference. For dated references, only the version corresponding to that date applies to this document. For undated references, the latest version (including all amendments) applies to this document.

GB/T 16751.1-2023 Clinic Terminology of Traditional Chinese Medical Diagnosis and Treatment Diseases - Part 1: Diseases.

GB/T 16751.2-2021 Clinical Terminology of Traditional Chinese Medical Diagnosis, and Treatment - Part 2: Syndromes/Patterns

GB/T 16751.3-2023 Clinical Terminology of Traditional Chinese Medical Diagnosis and Treatment - Part 3: Therapeutic Methods

The TCM Diseases and Syndromes sections within the ZYXH/T41-2008 Guidelines for the Clinical Diagnosis and Treatment of TCM

## 3 Terms and definitions

The following terms and definitions apply to this document.

### 3.1

#### Myopia

A refractive state in which parallel rays of light are refracted through the eyeball's refractive system and the focus falls before the retina when the eye is

relaxed. Blurred imaging of the retina may lead to a significant decrease in the far vision; however, the near vision is usually not affected [1].

### 3.2

#### **Preclinical myopia**

For the refractive state prior to the occurrence of myopia, the refractive power of the eye at accommodation release is  $\leq +0.75D$  and  $> -0.50D$ , and when considered alongside the baseline refractive age and other quantifiable risk factors, there is a considerable likelihood of developing myopia in the future. Therefore, it is advisable to implement preventive interventions.

### 3.3

#### **Pseudomyopia**

Also known as “accommodative myopia,” is a myopic state manifested as excessive stimulation of the ocular regulatory function or ciliary muscle spasm. Some patients may experience a high level of myopia due to persistent accommodation spasms. However, when the accommodation is relaxed using a ciliary muscle paralysis agent, the myopia disappears and the patient shows either emmetropia or hyperopia.

### 3.4

#### **Neng jin qie yuan**

For patients with myopia, near objects appear clear, while far objects appear vague.

Note: It is classified as *muhun* in the Internal Classic. In 610 AD, Chao Yuan Fang of the Sui Dynasty wrote in “Zhu bing yuan hou Lun” that “the eyes cannot see distant objects.” Ni Weide of the Yuan Dynasty referred to it as “can be nearsighted but not far-sighted” in “Yuan ji qi wei”; Fu Renyu of the Ming Dynasty referred to it as *neng jin qie yuan* in “Shenshiyaohan·Cataract.” Wang Kantang’s “Zhengzhi Zhunsheng·Za Bing·Qi Qiao Men” refers to those who frequently squint to see things as *jin qu*. Huang Tingjing of the Qing Dynasty called it “myopia” in his book “Mujing Dacheng.” Due to the more severe degree of myopia in certain individuals, they often squint to see things, hence the colloquial term *qu qu eye* [2].

## **4 Diagnosis**

### **4.1 Clinical symptoms**

The most common symptom of myopia is blurred vision at long distances. Its main manifestations are as follows:

- a) Far visual acuity decreases, and fluctuations in far visual acuity are common in the early stages of myopia;
- b) Involuntary squinting and tilting of the head when staring at distant



objects;

c) Visual fatigue (in myopic uncorrected patients);

d) Impaired night vision, accompanied by floaters, flashes, and other symptoms. Additionally, various degrees of fundus changes may occur. Notably, individuals with high myopia are at an elevated risk of complications such as retinal detachment, tears, hiatus, macular hemorrhage, neovascularization, and open-angle glaucoma, which can lead to blindness.

## 4.2 TCM constitution

TCM emphasizes the concept of holism, paying attention to the connection between various aspects of health. In the case of myopia, it is seen as an external manifestation of general eye conditions. By studying the relationship between myopia and constitution, TCM has discovered that individuals with a susceptible constitution are more prone to developing myopia. Early intervention can help prevent its occurrence. Additionally, treatment can be tailored based on the syndrome differentiation of different constitutional types of myopia.

Compared to adults, children have physiological characteristics that make them more prone to imbalances in the five *zang*-organs, with *Yang* being usually excessive and *Yin* frequently deficient. For example, children may have insufficient ability of the spleen and stomach to transform food nutrients, or a deficiency in the innate and acquired essence *qi* stored in the kidney. As a result, the five *zang*-organs and six *fu*-organs do not receive adequate nourishment from the essence *qi*, and this imbalance can contribute to the development of myopia.

Research on children and adolescents has revealed a correlation between biased constitutions and the occurrence and progression of myopia. Adolescents with a constitution characterized by *qi* deficiency, *Yin* deficiency, or *Yang* deficiency are more likely to develop myopia. Additionally, certain constitutions such as phlegm and dampness, dampness and heat, and blood stasis, may also be related to the occurrence of myopia. For further details, please refer to Table 1.

**Table 1 Comparison of main constitution types in children and adolescent patients with myopia**

研究团队	地区	年龄	例数	主要相关体质
张清仲 <sup>[3]</sup> , 2005	广州	11 岁以上中小學生	533	平和质 (29.83%) 阳虚质 (16.32%) 痰湿质 (14.63%)
王鸿章 <sup>[4]</sup> , 2009	成都	儿童	215	气虚质 (26.05%) 阴虚质 (23.72%) 平和质 (17.67%)
钟瑞英 <sup>[5]</sup> , 2013-2016	广州	6-12 岁	4755	气虚质 (21.39%) 特禀质 (20.88%) 平和质 (18.80%)

韦琬 <sup>[6]</sup> , 2013	南京	六年级学生	212	平和质 (55.19%) 阴虚质 (19.87%) 气虚质 (14.15%)
谢祥勇 <sup>[7]</sup> , 2015	南宁	小学生	2648	平和质 (32.29%) 阳虚质 (23.71%) 气虚质 (14.99%)

注：张清仲等人体质分型标准采用的是《中医体质调查量表设计》，其余研究者体质分型标准采用的是《中医体质分类与判定》。

### 4.3 Clinical examinations

Clinical examinations for myopia encompass a range of assessments aimed at evaluating both the structural and functional aspects of the eye. These examinations typically include anterior segment and fundus examination, cycloplegia refraction, corneal curvature, eye axis length, and other eyeball biological parameters.

Myopia is often associated with binocular vision dysfunction, which can lead to blurred vision, diplopia, and other symptoms. Therefore, examination of visual function is very important during myopia examinations. Frequently performed visual function tests include assessments of long- and short-distance implicit tilt, positive and negative relative accommodation, reaction adjustment, sensitivity adjustment, amplitude adjustment, Worth 4 dot data, positive and negative fusibility vergence, and stereoscopic vision. Often, infantile optometry cannot be combined with computer optometry; however, cycloplegic optometry can be conducted.

### 4.4 Myopia diagnosis and Western medicine classification

**4.4.1** Myopia is diagnosed according to an objective refraction equivalent spherical equivalent (SE)  $\leq -0.50D$  after ciliary muscle paralysis.

Based on diopter measurements, myopia is categorized into low and high types: low myopia falls within the range of  $-6.00 D < SE \leq -0.50D$ , while high myopia is designated by  $SE \leq -6.00D$ .

Pre-myopia is characterized by a diopter ranging from  $\leq +0.75D$  and  $> -0.50D$ . When coupled with the baseline refractive age and other quantifiable risk factors, it is likely that myopia will develop in the future, warranting preventive intervention.

**4.4.2** Myopia can be divided into true myopia, pseudomyopia, and mixed myopia based on the involvement of regulatory mechanisms.

a) True myopia: This refers to a refractive error with an SE of  $\leq -0.50D$  after ciliary muscle paralysis.

b) Pseudomyopia: This occurs due to excessive stimulation of eye regulation or ciliary muscle spasm, resulting in increased refractive power of the eye, manifesting as myopia <sup>[3]</sup>. When the refractive error is measured after the

administration of a cycloplegic agent, the myopia disappears, revealing either stigmatism or hypermetropia. Additionally, some patients may experience high myopia as a result of persistent regulatory spasms. These spasms can occur again once the effect of ciliary muscle paralysis diminishes.

c) Mixed myopia: This type of myopia is characterized by a significant reduction in refractive error but not a complete restoration to the pre-myopic or hyperopic state after ciliary muscle paralysis.

#### **4.5 Assessment of progress**

The progression of myopia is evaluated by measuring the increase in diopters. If the increase in diopter is  $\leq 0.50D$  per year, it indicates slow progression, which is known as non-progressive myopia. On the other hand, if the increase in diopter is  $\geq 0.75D$  per year, it indicates rapid progression, which is known as progressive myopia [8]. Axial length is an important factor in assessing the progression of myopia. In children and adolescents, the progression of myopia is directly related to changes in axial length. Each year, there is rapid axial growth, which leads to a rapid increase in myopia.

### **5 Ocular patterns in TCM**

#### **5.1 Deficiency of the liver and kidney pattern**

Symptoms may include black spots fluttering in front of the eyes, liquefaction and opacity of the vitreous body, and leopard-print changes in the retina visible in the fundus. Patients may also experience physical weakness, night sweats, night terrors (in children), enuresis, hyperactivity, dryness, a pale tongue, and a weak pulse [2,9,10].

#### **5.2 Syndrome of qi and blood deficiency**

Patients typically have clear near vision but blurred far vision, accompanied by leopard-print changes in the fundus or visible retina. Other symptoms include dizziness, insomnia, shortness of breath, physical fatigue, shortage of *qi*, no desire to speak, loss of appetite, pale tongue with a white coating, and thin and weak pulses in the whole body [2,9,10].

#### **5.3 Syndrome of deficiency of heart yang**

This manifests with similar eye symptoms as the previous patterns. Patients may experience a mild complexion, palpitations, a fatigued mind, forgetfulness, dreaminess, depression, irritability, a pale tongue, and a weak pulse [2,9,10].

#### **5.4 Qi stagnation and blood stasis pattern**

Patients may have clear near vision but blurred far vision, leading to a sour and distended eyeball, dry and painful eyes, purple eye sockets with dark circles,

and painful eyebrow ridges. Other associated symptoms include emotional distress, dizziness, tinnitus, visual fatigue, a dark and wiry tongue, and a thin pulse<sup>[2]</sup>.

## **6 Myopia prevention**

### **6.1 How TCM approaches disease prevention**

Based on the characteristics of how it occurs and develops in children and teenagers, myopia can be divided into three key stages: preclinical myopia, pseudomyopia, and true myopia. By combining classical theories, summarizing clinical experience, and analyzing the characteristics of myopia syndrome and its treatment, it is believed that myopia is mainly related to the liver, kidney, brain, and eyes. For the treatment of myopia, treatment strategies based on the “liver-kidney-brain-eye” theories of *zang-fu* viscera can guide clinical practice during the different stages of myopia and help determine the appropriate therapeutic principles and treatments, leading to better clinical outcomes.

#### **6.1.1 Preclinical stage of myopia**

The root cause of the disease in patients during this period is kidney problems. Most have insufficient kidney function, resulting in a deficiency of kidney essence and kidney *Yang*. If the eyes fail to properly care for the balance of *Yin* and *Yang* in children, whether due to insufficient genetic endowment or exhaustion resulting in an imbalance, the kidney essence will not be sufficient to care for the eyes, leading to myopia. Therefore, the main cause of myopia at this stage is primarily related to genetic factors. According to Lingshu Tiannian<sup>[11]</sup>: “The beginning of human life ... takes the mother as the foundation and the father as the shield,” indicating that human embryos are formed from the combination of genetic material from both parents, highlighting the significant impact of parental health on offspring well-being. In the *Tang* Dynasty, Sun Simiao noted in his book “Valuable Prescriptions for Emergencies”<sup>[12]</sup> that “extreme farsightedness and endless games” are “the foundation of enlightenment.” This demonstrates the importance of using eyes reasonably, cherishing one’s eyes, and cultivating good eye-use habits. Therefore, the therapeutic principles at this stage are to replenish the kidney essence, prioritize prevention, fully utilize the concept of preventive treatment by TCM, and prevent myopia through early screening, regular examinations, health education, regulation of eye behavior, increased outdoor activities, a balanced diet, and TCM external treatment.

#### **6.1.2 Pseudomyopia stage**

In this stage, the origin of the patient’s condition lies within the liver, representing a functional alteration. According to the *Zhu bing yuan hou Lun*<sup>[13]</sup> theory, “hyperopia cannot be diagnosed if the liver is injured due to overwork

and the liver *qi* is damaged.” As the symptoms of vision exhaustion, excessive use of the eyes, loss of harmony of liver *qi*, and spasm and jerking of tendons and arteries are associated with the liver as the root of *ba ji*, myopia in the current stage is caused by the spasm and jerking of liver arteries and veins, as well as ciliary muscle spasm of the eye. Therefore, the therapeutic principle at this stage is to nourish the liver and alleviate the spasms. Both Chinese and Western medicines are used for comprehensive prevention and control to regulate the degree and duration of spasms. Visual training or ciliary muscle paralysis agents, TCM external therapy, and spasmodic relief and vision improvement through TCM are administered to nourish the liver, alleviate the masses, and achieve good results.

### **6.1.3 True myopia stage**

The origin of the disease at this stage lies in the eyes and brain. The kidneys produce marrow, the brain is a sea of marrow, and the eyes are connected to the brain. Therefore, the brain not only controls vision but also serves as a hub connecting the kidneys to the eyes. If the sea of marrow is not filled and the eye lacks nourishment, light cannot escape, leading to the development of myopia. At this stage, the disease involves both the brain and eyes due to congenital deficiencies in the early stage, compounded by improper use of the acquired eye, liver, and kidney damage, and disorder of the *zang-fu* viscera, constituting an organic change. At this stage, the therapeutic principles aim to invigorate the liver and kidneys, replenish the brain, and improve vision. Depending on the degree of myopia, the progression of the disease, and the age of onset of the patient, visual training, external therapy of TCM, and syndrome differentiation of TCM are provided alongside a frame lens or keratoplasty lens. The integrated prevention and control approach using both Chinese medicine and Western medicine has proven to be the most effective in preventing and managing the condition.

## **6.2 Eye behavior, diet, and daily life adjustment**

Environmental factors are known to have a significant impact on the development of myopia in children and adolescents. The incidence and progression of myopia are closely linked to the amount of time spent outdoors and the prolonged use of close-up vision. To prevent the onset of myopia, it is crucial to enhance health education on vision protection for youngsters, encourage increased outdoor activities during daylight hours, discourage prolonged close-up eye use, promote the proper and regulated use of electronic devices, ensure sufficient sleep, and improve both learning and visual environments. These positive and effective behavioral interventions play a vital role in preventing myopia.

### **6.2.1 Outdoor activities**

Daily outdoor activities should last for more than 2 h, and daily outdoor activities should last for more than 14 h per week.

### **6.2.2 Close-range eye use**

When it comes to reading and writing, it is important for us to maintain proper posture and habits to ensure optimal visual health. This means following the “one punch, one foot, one inch” rule, which suggests taking short breaks after every 30 minutes of continuous reading or writing. Additionally, children and teenagers who engage in these activities at night should make use of both overhead room lights and desk lamps. These desk lamps should be positioned in front of the writer, on the side.

### **6.2.3 Electronic products**

Scientific and standardized rational use of electronic products is essential. After studying for 30–40 minutes using electronic devices, one should rest and relax for 10 minutes. The use of electronic devices for non-learning purposes should not exceed 15 minutes each time <sup>[14]</sup>.

### **6.2.4 Sleep and diet**

Parents should encourage their children to maintain a regular and healthy lifestyle. This includes getting a sufficient amount of sleep, ideally 8 hours or more per day. It is also important to pay attention to balanced nutrition by eating more fruits and vegetables while reducing the consumption of sweet and fried foods.

## **6.3 TCM external treatment**

### **6.3.1 Eye exercises (level of evidence IIa; recommendation intensity: strong)**

Compared to other methods, eye exercises have several advantages. They are highly feasible, painless, nontoxic, and free of side effects. Additionally, they are cost-effective and simple to perform. Eye exercises are a unique prevention and intervention method in China, and they play an important role in the prevention and control of myopia.

Ocular gymnastics is based on the theory of meridians and acupoints. It involves selecting acupoints near the eyes and applying *Tuina* stimulation to these points. The coordination of multiple acupoints in proximal eye exercises helps regulate the circulation of *qi* and blood in the eyes. This, in turn, enhances the nourishment of *zang-fu* essence and *qi* to the eyes. Local acupoints, including *Cuanzhu*, *Sibai*, *Jingming*, *Taiyang*, and *Fengchi*, are selected for this purpose. Each acupoint should be pressed four to eight times, and the exercises should be performed two to three times a day <sup>[15,16]</sup>. To ensure the effectiveness of eye exercises, it is important to receive professional training guidance. Correct

acupoint pressing, accurate operation, moderate strength, and long-term adherence are prerequisites for achieving the desired results.

Recommendation: Eye exercises can be performed anytime and anywhere as a means of eye healthcare. They are not limited by time constraints. If experiencing symptoms such as eye fatigue or swelling during periods of high-intensity eye use, exercises can be performed at any time. Currently, it is recommended that eye exercises be performed twice daily. However, doubling the frequency or duration of eye exercises can double their efficacy. Given the increasing prevalence of myopia among young people, increasing the frequency or duration of eye exercises is a potential direction for future development.

### **6.3.2 Acupuncture or eye transcutaneous electrical acupoint stimulation (eye-TEAS) <sup>[17,18,19]</sup> (level of evidence I Ib; recommendation intensity: strong)**

For acupoint selection, commonly used points include *Cuanzhu*, *Sizhukong*, *Yuyao*, *Taiyang*, *Jingming*, and *Tongziliao*. If patients have liver and kidney deficiencies, *Ganshu* and *Shenshu* are added. To address *qi* and blood deficiencies, *Xinshu*, *Pishu*, and *Zusanli* are combined.

Methods: Acupuncture is performed once daily using a filiform needle, which is retained for 30 minutes. During the retention period, needle manipulation is performed three to five times (except at the *Jingming* acupoint). For treating myopia in children and adolescents, eye-TEAS is used once a day, with each session lasting 15–30 minutes.

Advantages: Acupuncture therapy has shown significant efficacy in preventing and controlling myopia. However, poor compliance among children and teenagers makes it challenging for them to effectively manage myopia. This is where Accurate Eye-TEAS offers a promising solution. Eye-TEAS combines the benefits of acupuncture with modern technology, providing safety, non-invasiveness, and ease of use. Additionally, wearable eye-TEAS eliminates the need for professional acupoint positioning, making it convenient and fast with high precision. By personalizing the positioning of acupuncture points and intelligently adjusting stimulation parameters based on each patient's facial structure, it ensures comfort and enables personalized and precise treatment. This allows for easy replication and widespread application, addressing the issue of insufficient medical resources for myopia prevention and control.

### **6.3.3 Auricular point sticking (level of evidence I Ib, recommendation intensity: strong)**

Acupoint selection: Commonly used acupoints include those of the eye (eye 1 and eye 2) and brainstem. For patients with liver and kidney deficiencies or *qi* and blood deficiencies, acupoints associated with the liver, kidney, and spleen are selected. Six to eight acupoints are chosen each time based on the specific

condition of each patient.

Methods: *Wangbuliuxing* plaster is applied to the sensitive points of the selected acupoints, inducing sensations of heat, distension, soreness, and pain. Each time, one side of the auricle is pressed, and the acupoints are alternately selected from both ears. The ears are routinely sterilized and pressed 4–5 times a day, for 1 minute each time, with a frequency of once every 3 days. A total of 10 treatments constitutes one course of treatment. This method is suitable for relieving visual fatigue in children and teenagers, as well as preventing myopia [20–22].

#### **6.3.4 Tuina [23–25] (level of evidence IIb, recommendation intensity: strong)**

When using this method, children are asked to lie flat with their eyes closed. The doctor begins by using both thumb surfaces to alternately and vertically push the hairline between the eyebrows a total of 50 times. The *Sizhukong*, *Taiyang*, *Yangbai*, *Sibai*, and *Fengchi* acupoints are massaged. Each acupoint is massaged 50 times, and then each point is kneaded 50 times before moving on to the next point. The orbicularis oculi muscle is massaged 30 times by rubbing both thumbs on the abdomen.

To perform the technique, the ring and little fingers of the left hand are used to grip the child's hand. The index finger and thumb are used to hold the child's thumb, flexing it. The child's thumb is then pushed straight toward the palmar root along the radial edge. Finally, the little finger of the child is turned upward and held by the physician's left hand, while the thumb of the right hand is pushed from the tip of the little finger to the finger root.

#### **6.3.5 Gentle moxibustion (level of evidence IIb, recommendation intensity: weak)**

Acupoint selection: *Taiyang*, *Sibai*, *Cuanzhu*, and *Hegu* are commonly used.

Methods: The moxibustion treatment using a TCM moxibustion column is performed while the patient is in a sitting or lying position. The column is ignited and then moved in horizontal, vertical, and circular motions approximately 2–3 cm away from the eye to stimulate the acupoints surrounding the eye. Moxibustion is applied to each acupoint for 2–3 minutes, once a day. The treatment is considered complete when the skin around the eye becomes reddish, indicating the presence of fever [17].

#### **6.3.6 Myopia management through TCM ion implementation (level of evidence IIb, recommendation intensity: weak)**

TCM consists of *radix paeoniae alba*, *Cicadae periostracum*, *Astragali complanati semen*, *Fructus ligustri lucidi*, *Fructus schisandrae chinensis*, (honey) *Radix astragali*, *Rhizoma atractylodis*, and *Mori folium*. These Chinese medicinal materials are decocted and filtered to obtain the corresponding residues.



Treatment: The purpose of the treatment is to induce spasmolysis, improve eyesight, and regulate and tonify the liver and kidney.

Usage: To administer the treatment, an appropriate amount of the Chinese medicinal decoction is used each time (the whole small square yarn is soaked), and iontophoresis is performed using an iontophoresis machine. The patient is asked to gently close their eyes, and a block of gauze measuring 4 cm × 5 cm and consisting of 7–8 thick layers is immersed in the liquid medicine, wiped dry, and placed on both eyelids. The patient gently closes their eyes while the electrode leading into the frame is placed on their eyes. The other electrode is then placed on their palm, and the current is adjusted accordingly. The current is applied for 15 minutes once a day, for a total of 15 times as a course of treatment. The treatment lasts for three courses, with an interval of 3 days<sup>[26]</sup>.

### **6.3.7 Thumbtack needle therapy (level of evidence IIb, recommendation intensity: strong)**

Acupoints (bilateral): *Cuanzhu*, *Taiyang*, *Yuyao*, *Sizhukong*, and *Sibai* are selected around the eyes, *Baihui*, *Sishencong*, and *Fengchi* are selected on the head, and *Yanglao*, *Zusanli*, *Sanyinjiao*, and *Guangming* are selected at the distal ends of the four limbs. Three to four acupoints are selected around the eyes and head as the main acupoints each time, with the distal acupoints of the limbs serving as matching points (3–4 matching points selected each time).

Operational method: A 0.25 mm × 2.0 mm thumbtack needle is selected, and the patient is placed in a sitting position. The skin where the needles will be inserted is disinfected using a cotton swab. The operator disinfects their hand and places a thumbtack needle on the target tendon junction. Simultaneously, the patient is instructed to rub each area where the needle is inserted for 1 minute. When swelling is felt and tolerated, the thumbtack needle is removed five times a day. The treatment is then repeated the following day. Each time the pressing needles are removed, the local acupoints are disinfected. Treatment is administered once every other day, for a total of three times per week<sup>[27]</sup>.

### **6.4 Adjustment of TCM constitution (level of evidence IV, recommendation intensity: weak)**

TCM emphasizes the importance of “preventing diseases before they occur.” By addressing the specific constitutional characteristics of children and teenagers with myopia, it is possible to prevent the occurrence and progression of myopia<sup>[28]</sup>. For patients with *qi* deficiency and *Yang* deficiency, outdoor sports activities should focus on soothing and gentle sports such as walking, yoga, *Tai Chi Chuan*, *Wu qin xi*, and *Baduanjin*, and diets should include common foods such as yam rhizome, hawthorn, and malt.

For myopic patients with *Yin* deficiency, engaging in moderate- and low-intensity exercise to control sweating is recommended. Adequate hydration and the practice of *Baduanjin* can also be beneficial. Their diets should consist of

animal livers, chicken, eggs, beef, and fish, as well as mulberries, black beans, red jujube fruits, walnut meat, and longan meat.

Individuals with phlegm dampness should participate in ball games, cycling, and yoga. Their diet should include foods such as yam rhizomes, coix seeds, *Poria* cocos, lentils, red beans, and broad beans. It is important to avoid raw, cold, greasy, and non-nourishing foods.

TCM employs various methods, such as acupuncture, TEAS, *Tuina*, and auricular point sticking, to delay the progression of myopia. These treatments can be tailored to individual constitutions and body differentiations. Therefore, with the growing occurrence of myopia among adolescents and children in China each year, and considering the influence of individual constitution differences on myopia, it is worth analyzing the correlation between myopia and TCM constitution. By utilizing the principles of TCM constitution, we can tailor individualized treatment plans to condition patients' constitutions, modify their specific imbalances, and effectively regulate and correct these imbalances in the early stages. This approach can help delay the progression of myopia and serve as a form of preventive treatment.

## **7 Preventing and managing existing myopia**

After myopia develops, it typically continues to worsen in most children and teenagers until it stabilizes in adulthood. However, for those who experience an early onset of myopia and rapid progression (myopia increasing by  $\geq 0.75D$  per year), it is important to consider interventions aimed at preventing further degeneration. TCM interventions should be combined with health education, the promotion of good eye-use behaviors, and the implementation of effective myopia correction measures in Western medicine. These measures may include the use of framework lenses, orthokeratology lenses, and low-concentration atropine eye drops. By utilizing these interventions, the worsening of myopia and the progression from low-grade myopia to high myopia can be controlled and delayed.

### **7.1 Eye behavior, diet, and daily living adjustments**

Please refer to section 6.2.

### **7.2 External treatment in TCM**

#### **7.2.1 Acupuncture or TEAS <sup>[19,29-36]</sup> (level of Evidence IIb, recommendation intensity: strong)**

Acupoint selection: The *Jingming*, *Chengqi*, *Fengchi*, and *Cuanzhu* acupoints are typically selected. However, it is important to note that liver and kidney deficiencies, when combined with *Guangming*, *Yanglao*, *Ganshu*, *Shenshu*, and *Shenmen*, are not compatible with the heart and kidneys. Additional acupoints

selected include *Baihui*, *Shenting*, *Touwei*, *Hegu*, and *Taiyang*.

Methods: Filiform needle acupuncture is performed once a day, and the needle is retained for 30 minutes. During the needle retention period, the needles are inserted three to five times (except at *Jingming*). Either a plum-bloom needle or an acupuncture manipulation instrument is used. Alternatively, acupoints near the eye are selected, and intermittent or continuous electrical stimulation is applied for 15–30 minutes once a day using eye-TEAS technology for children and adolescents with myopia.

### **7.2.2 Tuina <sup>[25]</sup> (level of evidence IIb, recommendation intensity: strong)**

Acupoint selection: *Jingming*, *Cuanzhu*, *Yuyao*, *Yangbai (Chengqi)*, *Sizhukong (Tongziliao)*, *Taiyang*, *Fengchi*, *Pishu*, *Ganshu*, *Shenshu*, and *Hegu*.

Methods: In the supine position, the thumbs of both hands were used to press against the upper and lower orbits from the inside to the outside, repeating this motion 5–8 times. Next, the thumbs are used to press and knead the upper and lower orbits from the inside, focusing on specific acupoints such as *Jingming*, *Cuanzhu*, *Yuyao*, *Yangbai (Chengqi)*, *Sizhukong (Tongziliao)*, and *Taiyang*. In a sitting position, the bilateral muscle groups at the back of the neck are kneaded for 3 minutes, and acupoints such as *Fengchi*, *Pishu*, *Ganshu*, *Shenshu*, and *Hegu* are pressed for 1 minute. The shoulder well is also pressed for 2 minutes. Palm kneading and patting are then used to relax the muscles of the neck, shoulders, and back for 2–3 minutes. This method is suitable for preventing moderate and low myopia accompanied by visual fatigue.

### **7.2.3 Auricular point sticking <sup>[22,37,38]</sup> (level of evidence IIb, recommendation intensity: strong)**

Acupoint selection: Acupoint selection for this treatment regimen includes a variety of points, including the eye, *Shenmen*, Endocrine, eye 1, eye 2, brainstem, liver, kidney, spleen, heart, adrenal, sympathetic, and subcortical points. Six to eight acupoints were selected each time according to the specific situation of each patient.

Methods: Ears are routinely disinfected. Next, specific acupoints are selected and *Wangbuliuxing* plaster is applied to them. These acupoints should be pressed three times a day with moderate intensity for 1 minute each. The treatment is focused on reducing auricular congestion and swelling. A course of treatment consists of changing the acupoints every 3 days, for a total of 10 times. This approach is particularly effective in relieving visual fatigue in children and teenagers, as well as in delaying the development of myopia.

### **7.2.4 Thumbtack needle treatment <sup>[39–42]</sup> (level of Evidence IIb, recommendation intensity: strong)**

Acupoint selection: acupoints near the eyes, including *Cuanzhu*, *Yuyao*, *Taiyang*, and *Sizhukong*, or auricular points such as eye, eyes 1 and 2, liver, kidney,

spleen, and *Zusanli*.

Methods: Local disinfection is performed with 75% ethanol. The adhesive plaster of the lifting needle is clamped with forceps, and the tip of the lifting needle is inserted perpendicularly into the acupoint simultaneously, ensuring that the adhesive plaster is firmly attached to the skin. The doctor then teaches the patient or their guardian how to apply pressure at the site. The needle is left in place for 3 days after each lift. During needle retention, each acupoint is stimulated 20 times daily, and the needle is changed twice a week. Auricular points are alternated on both sides.

### 7.3 Treatment with TCM formulas

a) Liver and kidney pattern <sup>[2,9,10]</sup> (level of evidence IV, recommendation intensity: weak).

Symptoms: Symptoms may include black spots fluttering in front of the eyes, liquefaction and opacity of the vitreous body, and leopard-print changes in the retina visible in the fundus. Patients may also experience physical weakness, night sweats, night terrors (in children), enuresis, hyperactivity, dryness, a pale tongue, and a weak pulse.

Treatment: Nourish the liver and kidneys.

TCM formula: Modified *Zhu Jing* pill recipe (incorporating the six meridians of TCM ophthalmology). For patients prone to fatigue owing to blurred vision, *Dangshen* (*Codonopsis pilosula*) and *Huangqi* (*Astragalus membranaceus*) can be added to enrich *qi*. For pale lips, *Colla corii asini* and *radix paeoniae alba* can be added to replenish one's essence and blood.

b) Syndrome of *qi* and blood deficiency <sup>[10]</sup> (level of evidence IV; recommendation intensity: weak)

Symptoms: Patients typically have clear near vision but blurred far vision, accompanied by leopard-print changes in the fundus or visible retina. Other symptoms include dizziness, insomnia, shortness of breath, physical fatigue, shortage of *qi*, no desire to speak, loss of appetite, pale tongue with a white coating, and thin and weak pulses in the whole body.

Treatment: Tonify the blood and replenish *qi*.

TCM formula: Modified *Renshen Yangrong* decoction (*Tai Ping Hui Min He Ji Ju Fang*). To address appetite issues, include *Huai* mountain yam, hawthorn, and malt for spleen digestion.

c) Syndrome of heart-*Yang* deficiency <sup>[2,9,10]</sup> (level of evidence IV; recommendation intensity: weak).

Symptoms: This manifests with similar eye symptoms as the previous patterns. Patients may experience a mild complexion, palpitations, a fatigued mind, forgetfulness, dreaminess, depression, irritability, a pale tongue, and a weak pulse.

Treatment: Tonify *Yang*, replenish *qi*, and calm the mind.

TCM formula: Modified *Dingzhi* pill (*Shenshi Yaohan*). Mongolian milkvetch

root and cassia bark can be added for patients with *Yang* deficiency. For blood deficiency and wind-generating symptoms such as dizziness, eye distension, and asthenopia, incised notopterygium rhizome and root, *Saposhnikoviae Radix*, and fineleaf schizonepeta herb can be added. For liver-*qi* stagnation, *Radix Bupleuri* can be added to treat liver *qi* stagnation. Chinese magnolia vine fruits, spine date seeds, and *Platycladi Semen* can also be added to treat palpitations.

## 8 Prevention and control of high myopia

High myopia is divided into simple and pathological high myopia. Simple high myopia usually does not have accompanying fundus lesions that cause permanent visual impairment. While the degree of myopia is high, it tends to stabilize in adulthood, and the main treatment is refractive correction. Pathological myopia, on the other hand, is characterized by irreversible visual impairment and fundus disease. The degree of myopia progressively worsens over a lifetime, with the axis constantly and excessively increasing, usually with an average axis of >26.5 mm. Therefore, it is important to focus on preventing and treating complications through refractive correction [43].

The treatments for TCM syndrome differentiation and prescriptions are as follows:

a) Syndrome of *qi* and blood deficiency (level of evidence IV; recommendation intensity: weak)

Symptoms: Patients typically have clear near vision but blurred far vision, accompanied by leopard-print changes in the fundus or visible retina. Other symptoms include dizziness, insomnia, shortness of breath, physical fatigue, shortage of *qi*, no desire to speak, loss of appetite, pale tongue with a white coating, and thin and weak pulses in the whole body.

Treatment: Tonify the blood and replenish *qi*.

TCM formula: Modified *Renshen Yangrong* decoction (*Tai Ping Hui Min He Ji Ju Fang*). To address appetite issues, include *Huai* mountain yam, hawthorn, and malt for spleen digestion [10,44].

b) Deficiency in the liver and kidney patterns (level of evidence IV, recommendation intensity: weak).

Symptoms: Symptoms may include black spots fluttering in front of the eyes, liquefaction and opacity of the vitreous body, and leopard-print changes in the retina visible in the fundus. Patients may also experience physical weakness, night sweats, night terrors (in children), enuresis, hyperactivity, dryness, a pale tongue, and a weak pulse.

Treatment: Nourish the liver and kidneys.

TCM formula: Modified *Zhu Jing* pill recipe (incorporating the six meridians of TCM ophthalmology). For patients prone to fatigue owing to blurred vision, *Dangshen* (*C. pilosula*) and *Huangqi* (*A. membranaceus*) can be added to enrich *qi*. For pale lips, *colla corii asini* and *radix paeoniae alba* can be added to replenish

one's essence and blood [2,44].

c) *Qi* stagnation and blood stasis patterns (level of evidence IV, recommendation intensity: weak)

Symptoms: Patients may have clear near vision but blurred far vision, leading to a sour and distended eyeball, dry and painful eyes, purple eye sockets with dark circles, and painful eyebrow ridges. Other associated symptoms include emotional distress, dizziness, tinnitus, visual fatigue, a dark and wiry tongue, and a thin pulse.

Treatment: Focuses on activating blood and resolving stasis, as well as dredging collaterals and opening orifices.

TCM formula: Modified *Xuefu Zhuyu* decoction (*Yilin Gaicuo*). If the patient's face and eyes are red, *Radix Bupleuri* and *Uncariae Ramulus Cum Uncis* can be added to clear the liver and reduce inflammation. If there is chest tightness, *Cyperi Rhizoma* and *Curcumae Radix* can be added to relieve tension and stress. If a fresh hemorrhage is observed in the fundus, *Eclipta prostrata* and *Agrimoniae herba* can be added to cool the blood for hemostasis. If exudation is observed in the fundus of the eye, *Poria* and *Plantaginis Semen* can be added to induce diuresis and drain moisture [2].

## 9 Guidance for care

9.1 Develop the habit of using your eyes properly by maintaining a correct posture while reading and writing. Keep a distance of approximately 30 cm between your eyes and your book, and avoid reading while walking, riding, or lying in bed.

9.2 Ensure that the lighting in your learning and working environment is moderate. Avoid bright or flashing lights, reflective blackboards, and reading or writing in direct sunlight or in dim lighting.

9.3 Regularly check your eyesight to identify any recent decrease in distant visual acuity. Seek appropriate treatment and wear prescribed glasses for myopia diagnosed by refraction to maintain good visual acuity and normal adjustment and collection.

9.4 During periods when myopia is more likely to develop, such as early school age, growth and development phases, and heavy school periods, pay attention to your eye habits. Develop a good routine, engage in physical exercise, increase outdoor activities, and undergo regular eye health and vision examinations. Early detection and prevention of myopia in children is crucial.

## ANNEX A (Informative)

### Principle of evidence evaluation and recommendation

#### A.1 Evaluation and classification criteria for evidence

The evidence classification principle primarily relies on Professor Liu Jianping's Evidence Body of Traditional Medicine and Recommendations for Its Evidence Grading. Additionally, this document states that the level of evidence is reduced by one level if a single RCT is deemed to be high risk.

The process of literature screening and evaluation was carried out by two reviewers independently. In the event of disagreement between the two parties, it was resolved through negotiation or decided by a third party. Please refer to the table below for further details:

**Table A.1 Classification based on level of evidence**

Level of evidence	Classification basis
I a	Evidence body consisting of at least two different types of studies, including randomized controlled trials, cohort studies, case-control studies, and case series, with consistent effects across different research results
I b	A single randomized controlled trial with sufficient confidence
II a	A semi-randomized controlled trial or cohort study
II b	A case-control study
III a	A case series of retrospective controls
III b	A self-controlled case series
IV	The therapy has been widely used in clinical case reports and historical records for a long time
V	Expert opinion and clinical experience not validated by systematic studies, and therapies not widely used clinically in long-term reports and historical records

#### A.2 Recommended principles

Currently, the grading standards for recommendations in the guidelines are generally based on the levels of recommendation strength formulated by the Grading of Recommendations Assessment, Development, and Evaluation (GRADE)

team for evidence recommendation. These levels are divided into strong and weak grades. Strong recommendations are made when the evidence clearly shows that the advantages of intervention measures outweigh the disadvantages, or vice versa. Weak recommendations are made when there is uncertainty regarding the advantages and disadvantages, or when the evidence shows comparable advantages and disadvantages, regardless of quality. Based on the above considerations, this document specifies that if the evidence is Level I and there is expert consensus, it will be considered a strong recommendation. If the evidence is Class II and there is expert consensus, the recommendation will be considered weak.

WFECMS



**ANNEX B  
(Normative)**

**Declaration of conflict of interest**

All members of the guidance development team affirmed that these guidelines were developed independently and without any contact with any interest groups.

WFECMS

## Bibliography

- [1] Jia Qu. Theory and method of ocular optometry[M].3rd Edition. Beijing: People's Medical Publishing House, 2018.
- [2] Jun-Guo Duan, Hong-Sheng Bi. Ophthalmology of integrated Traditional Chinese and Western Medicine[M].10th Edition. Beijing: China Traditional Chinese Medicine Press, 2016.
- [3] Qing-zhong Z, Zong-you L, Ying-yu C, et al. Investigation on Chinese Medicine Constitution of Students with Myopia in Guangzhou.Proceedings of the 7th Symposium on Physiology of Traditional Chinese Medicine of Chinese Medicine Society. 2009:125-129.
- [4] Hong-zhang W, Fang Y, Xue-jun X, et al. Correlation analysis between myopia in children and constitution of traditional Chinese medicine.Journal of Sichuan of Traditional Chinese Medicine. 2010, 28(09):24-27.
- [5] Rui-Ying Z, Yan W, Zhi-Ying L I, et al. Refraction and constitution analysis of myopia children[J]. China Journal of Traditional Chinese Medicine and Pharmacy. 2019, 34(01):387-390.
- [6] Wan W. Study on the Correlation between Children's Myopia and TCM Constitution and Personality Traits. Jiangsu: Nanjing University Of Chinese Medicine, 2014.
- [7] Xiang-yong X, Li-jiang W, Bi-hua H E, et al. Investigation on TCM Constitution of Myopia Children in Nanning. Electronic Journal of Clinical Medical Literature. 2017, 4(32): 6309-6313.
- [8] Jun J. The White Paper on Myopia Management (2019)[J].Chinese Journal of Optometry Ophthalmology and Visual Science, 2019,21 (3): 161-165.
- [9] Qing-hua Z. Traditional Chinese ophthalmology[M].China Traditional Chinese Medicine Publishing House, 2002,246-247.
- [10] Qing-hua P. Ophthalmology of integrated Traditional Chinese and Western Medicine[M].1st Edition. Beijing: China Traditional Chinese Medicine Press, 2016.700.
- [11] Unknown. Lingshu Jing [M]. Dai-hua Tian, Geng-sheng Liu, finishing. Beijing: People's Medical Publishing House, 2016.
- [12] Sun Simiao. Valuable Prescriptions for Emergencies [M]. Zhen-lian Jiao, school note. Beijing: China Medical Science and Technology Press, 2011.
- [13] Chao Yuanfang. *Zhu bing yuan hou Lun* [M]. Bai-yang Song, proofreading. Beijing: China Medical Science and Technology Press, 2011.
- [14] The Ministry of Education, the Health and Wellness Commission, the Ministry of Finance of the General Administration of Sport, the Ministry of

Human Resources and Social Security, the General Administration of Market Supervision, the Press and Publication Administration, and the State Administration of Radio, Film and Television issued the Implementation Plan for Comprehensive Prevention and Control of Myopia among Children and Adolescents, No.3 [2018].

[15] Wen F. Observation on the prevention and control effect of standardized eye exercises on myopia of school-age children[D].Guangxi University Of Chinese Medicine, 2021.

[16] Bao-yi D. Research on the Effect of Eye Exercises on the Prevention and Control of Myopia among Children and Adolescents[D].Shandong University Of Chinese Medicine ,2021.

[17] Shang XJ, Chen LQ, Litscher G, et al. Acupuncture and Lifestyle Myopia in Primary School Children-Results from a Transcontinental Pilot Study Performed in Comparison to Moxibustion [J]. Medicines, 2018; 5(3): 95.

[18] Jiawang W, Jike S, Hongsheng BI. Acupuncture on adolescent myopia[J].China Journal of Chinese Ophthalmology . 2019; 29(4): 335-338.

[19] Jike S, Qiuxin W, Qingmei T, et al. Clinical Observation of Eye Transcutaneous Electrical Acupoint Stimulation in Intervening Pseudomyopia and Low to Moderate Myopia with Abnormal Accommodation Function[J]. Shandong Journal of Traditional Chinese Medicine. 2023; 42(3):1260-265+283.

[20] Haixia Gaoa, Lei Zhangc, Jianghong Liu. Auricular acupressure for myopia in children and adolescents: A systematic review. Complementary Therapies in Clinical Practice [J]. 2020; 38:101067.

[21] Baisheng XU, Shanhong W, Jie Z, et al. Meta-analysis of auricular acupressure therapy in intervention of juvenile myopia [J].China Modern Doctor. 2019; 57(33): 19-25.

[22] CK Liang, TY Ho, TC Li, et al. A combined therapy using stimulating auricular acupoints enhances lower -level atropine eyedrops when used for myopia control in school-aged children evaluated by a pilot randomized controlled clinical trial [J]. Complement Ther Med, 2008; 16(6):305-310.

[23] Zhonghui Z, Gaojun L, Weiqiang YU, et al. Observation on therapeutic effect of plum blossom needle combined with massage on adolescent pseudomyopia [J]. Shanghai Journal of Acupuncture and Moxibustion. 2017; 32(7):578-580.

[24] Ruiying Z, Jianying L, Manman Z, et al. Clinical Study on Prevention and Control of Myopia with Different Frequencies of Massage [J]. 2018; 38(11):1304-1307.

[25] Xianrui LV. Analysis of therapeutic effect of massage on adolescent pseudomyopia[J]. Practical journal of traditional chinese medicine. 2020, 36

(4) :512-513.

[26] Yane G, Qiuxin W, Qingmei T, et al. Clinical Study on Treatment of Pseudomyopia in Adolescents by Ion Transduction with Chinese Medicine [J]. Liaoning Journal of Traditional Chinese Medicine. 2022; 49(5):56-58.

[27] Huosheng L, Shousong X, Hailong Zhao, et al. Clinical efficacy of tendon massage combined with press-needle for adolescent pseudomyopia [J]. Hebei Journal of TCM. 2022; 44(2): 298-317.

[28] Wan W. Study on the Correlation between Children's Myopia and TCM Constitution and Personality Traits. Jiangsu: Nanjing University Of Chinese Medicine, 2014.

[29] Németh J, Tapasztó B, Aclimandos WA, et al. Update and guidance on management of myopia. European Society of Ophthalmology in cooperation with International Myopia Institute[J]. Eur J Ophthalmol. 2021; 31(3):853-883.

[30] Tao XY, Zhao B Y, Han X, et al. Impacts of rotating or lifting-thrusting manipulation on distant vision of naked eye in patients of juvenile myopia: a randomized controlled trial[J]. Chinese Acupuncture & Moxibustion, 2014, 34(5): 465.

[31] Yan W, Yani Z, Yunxian G. Randomized controlled trials of acupuncture for adolescents with mild-to-moderate myopia [J]. China Journal of Chinese Ophthalmology. 2015; 25(4): 231-235.

[32] Guanyu H, Xiaofeng J, Jianfeng WU, et al. The Comparative Observation on the Effect of Acupoint Electrical Stimulation and Traditional Acupuncture Therapy in Treating Adolescent Myopia[J]. Shandong Medical Journal. 2016; 56(30): 69-71.

[33] Wenli C. A clinical feasibility of treating adolescent myopia by acupuncture plus TCM medicine fumigation[J]. Clinical Journal of Chinese Medicine. 2016; 8(22): 91-93.

[34] Zhaochun T, Jianfeng WU, Hongsheng BI. Observation on Therapeutic Effect of Acupuncture on Low Myopia in Children[J]. Chinese Archives of Traditional Chinese Medicine. 2018; 3: 569-572.

[35] Yan H, Chunyan MO. A Comparative Study of Acupoint Catch-Embedding and Traditional Acupuncture in the Treatment of Juvenile Myopia [J]. China Continuing Medical Education. 2019;11(32):149-151.

[36] Lian-Fang R. Efficacy of Acupuncture plus Visual Function Training for Low Myopia and Its Improving Effect on Ocular Accommodation [J]. Shanghai Journal of Acupuncture and Moxibustion. 2019; 38(8): 888-891.

[37] Xinyue H , Zefeng K , Jianquan W ,et al. Meta analysis of prevention and control of myopia in children and adolescents by auricular point pressing therapy [J]. China Journal of Chinese Ophthalmology. 2021,31(11): 832-837.

[38] Dingming X . Auricular Acupoint Pressure Pcombined with Auricular Point Electric Clip to Children Myopia[C]//China Association of Acupuncture-Moxibustion: New Era, New thinking, New Leap and New Development—2019 Annual Meeting and 40th anniversary Review of Chinese Acupuncture and Moxification Society. Beijing: China Association of Acupuncture-Moxibustion. 2019: 451-453.

[39] Haimei F. Clinical observation on the treatment of adolescent mildmyopia (deficiency of liver,kidney and spleen) with jinshikang oralliquid combined with thumbtack needle[D]. Chengdu: Chengdu University of TCM. 2018: 40.

[40] Guoying Z. Effect of Thumbtack Needle Therapy on Accommodation Function of Myopia Patients with Qi-insuficiency Constitution [D]. Fujian: Fujian University of TCM. 2019.

[41] Yu D, Yingxin Z, Luqi N, et al. Clinical study of conjunctiva IV formula with press needle on auricular acupoints in management of low-moderate myopia in children[J]. China Journal of Chinese Ophthalmology. 2020, 30(7): 487-490.

[42] Hua-Hong Li. To observe the clinical effect of press-needle combined withbujingyishi tablets on mild myopia in primary school students [D]. Chengdu: Chengdu University of TCM. 2019:1-53.

[43] Lihua W, Wei L, Huiying Y. The Clinical Analysis of 635 Cases of Adolescent Myopia Treated by Pressing Needle and Auricular Point [J]. Journal Of Qingdao University (Medical Sciences). 2006, 42(4): 294.

[44] Zhenquan W, Xiujuan Z, Shida C, et al. Clinical observation of macular buckling in the treatment of traction macular degeneration in high myopia [J]. Chinese Journal of Ophthalmology. 2021, 57(06):433-439.