

屯門醫院 物理治療部
屯门医院 物理治疗部
Physiotherapy Department
Tuen Mun Hospital

發展協調障礙

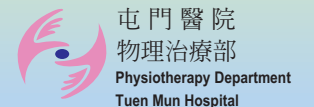
物理治療運動指南

(发展协调障碍 物理治疗运动指南)
Developmental Coordination Disorder
Physiotherapy Exercise Guide



鳴謝新界西醫院聯網 病人啓力基金
如有疑問請向物理治療師查詢

Supported by the Patient Empowerment Programme, NTW cluster
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引言 Introduction

患有發展協調障礙的兒童的協調能力比同齡的兒童弱，因而影響到日常生活甚至學業表現。然而，大部分的患者均智力正常。

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Children with Developmental Coordination Disorder (DCD) have weaker coordination than their peers, which may affect their daily lives and even their academic performance. However, most of them have normal intelligence.

1 成因 (成因) Causes

發展協調障礙的成因仍未明確，但可能與懷孕、生產或嬰兒初生時的環境因素有關，或因腦部異常發展所致。

发展协调障碍的成因仍未明确，但可能与怀孕、生产或婴儿初生时的环境因素有关，或因脑部异常发展所致。

The causes for Developmental Coordination Disorder are still unclear. It may be related to environmental factors during pregnancy, childbirth or early infancy, or caused by abnormal brain development.

2 協調障礙的特徵 (协调障碍的特徵)

Characteristics of Children with DCD

體能表現 (体能表现) Physical performance

- 『論盡』、『笨手笨腳』(笨拙) 
Clumsiness
- 上落樓梯時平衡較差 (上落楼梯时平衡较差)
Poorer balance in stairs climbing
- 容易跌倒 (容易跌倒)
Fall easily
- 跑步姿勢較奇怪、欠靈活或較慢 (跑步姿势较奇怪、欠灵活或较慢)
Run in an awkward posture, with poorer agility or slower speed
- 體能、耐力較差 (体能、耐力较差)
Poorer physical fitness and exercise tolerance
- 節奏感差 (节奏感差)
Poorer sense of rhythm
- 較難掌握拋接球、跳繩、踏單車等動作 (较难掌握抛接球、跳绳、踏自行车等动作)
More difficult to master skills like throwing and catching balls, rope skipping and riding a bike
- 動作計劃及模仿能力欠佳 (动作计划及模仿能力欠佳)
Have trouble with motor planning and imitating action
- 時常碰跌物件或碰撞別人 (时常碰跌物件或碰撞别人)
Frequently bump into things or people
- 易跌掉手執物件 (易跌掉手执物件)
Objects slip from hands easily

學習表現 (学习表现) Learning Performance

- 寫字慢，字體不正，容易疲倦 (写字慢，字体不正，容易疲倦)
Slow writing speed, poor handwriting, easy to get tired from writing
- 手握力弱 (手握力弱)
Weak hand grip strength

日常自理表現 (日常自理表现) Activities of Daily Living

- 自理能力弱 - 穿著衣服、綁鞋帶、拿筷子等能力較弱
(自理能力弱 - 穿著衣服、绑鞋带、拿筷子等能力较弱)
Have difficulties in performing self-care activities – e.g. wearing clothes, tying shoelaces, holding chopsticks

心理表現 (心理表现) Psychological Aspect

- 抗拒體能活動，不願嘗試新活動
(抗拒体能活动，不愿尝试新活动)
Reluctant to perform physical activity or to try new task
- 自信低，有情緒或行為問題，人際關係差
(自信低，有情绪或行为问题，人际关系差)
Have low self-confidence, emotional or behavioral problems, and poor interpersonal relationships

3 發生率 (发生率) Incidence

年齡介乎5至11歲之兒童，發病率為5-6%。男孩的發生率大約是女孩的1.7-2.8倍。

年齡介乎5至11岁之儿童，发病率为5-6%。男孩的发生率大约是女孩的1.7-2.8倍。

For children aged between 5 and 11, the incidence rate of DCD is 5-6%. The incidence rate of DCD for boys is 1.7 to 2.8 times the rate for girls.

4 影響 (影响) Impact

若有發展協調障礙之兒童未能得到合適的治療，他們的體能與心理問題可能會持續至青少年及成年階段，對日常生活（例如處理／烹調食物）造成困難。合適和針對性的治療可幫助他們改善基本協調，讓小孩了解自己的能力及增強自信，同時讓家長訂立合理的期望。

若有发展协调障碍之儿童未能得到合适的治疗，他们的体能与心理问题可能会持续至青少年及成年阶段，对日常生活（例如处理／烹调食物）造成困难。合适和针对性的治疗可帮助他们改善基本协调，让小孩了解自己的能力及增强自信，同时让家长订立合理的期望。

If children with DCD do not receive proper treatment, their physical and psychological problems may persist until their youth and even adulthood, leading to difficulties in their everyday life (e.g. handling/ cooking food). Appropriate and targeted therapy can help these children to improve basic coordination, understand their own ability, and boost their confidence, while allowing parents to set reasonable expectations of their children.

5 其他常見問題 (其它常见问题) Other Common Problems

發展協調障礙的兒童 (发展协调障碍的儿童) Children with Developmental Coordination Disorder

- 50%有學習困難 (50%有学习困难)
50% with learning difficulties
- 33%有行為問題 (33%有行为问题)
33% with behavioral problems
- 33%有語言問題 (33%有语言问题)
33% with language problems
- 65%有過度活躍及/或專注力不集中
(65%有过度活跃及/或专注力不集中)
65% have hyperactivity and / or short attention span

6 物理治療 (物理治疗) Physiotherapy

體能成長對孩子的智力、社交及情緒發展有很大的影響。物理治療透過合適的感官刺激來引發正確的反應，從而改善孩子的功能、活動能力、協調與平衡反應。例如：前庭(內耳平衡系統)、本體感覺及視覺系統是幫助平衡的主要系統，透過適當運動可刺激各系統的靈敏度及反應，使平衡力得以改善。

体能成长对孩子的智力、社交及情绪发展有很大的影响。物理治疗透过合适的感官刺激来引发正确的反应，从而改善孩子的功能、活动能力、协调与平衡反应。例如：前庭(内耳平衡系统)、本体感觉及视觉系统是帮助平衡的主要系统，透过适当运动可刺激各系统的灵敏度及反应，使平衡力得以改善。

Physical growth has a great impact on children's cognitive, social and emotional development. Physiotherapists make use of appropriate sensory stimulation to trigger respectable reactions, so as to improve children's functions, mobility, coordination and balance response. For example, the vestibular (inner ear balance system), proprioception (joints feel), and visual systems are three main systems which help maintain balance. Proper exercises can improve the sensitivity and reaction of each system, thus enhancing the balance of the children.

當孩子活動能力改善，他們更能參與、投入群體活動，從而增強社交能力，認識自我及建立自信。

当孩子活动能力改善，他们更能参与、投入群体活动，从而增强社交能力，认识自我及建立自信。

When children have their mobility and functions improved, they can participate more and enjoy more in group activities so that their social skills, self-confidence and self-understanding could also be enhanced.

外國研究顯示，適當的物理治療療程配合每星期四次特定的家居運動(每次十分鐘)，能有效改善孩子的活動及協調能力。

外国研究显示，适当的物理治疗疗程配合每星期四次特定的家居运动(每次十分钟)，能有效改善孩子的活动及协调能力。

Foreign studies have shown that physiotherapy treatment with specific home exercise program (4 times/ week, 10 minutes/ time) can effectively improve the child's mobility and coordination.

7 日常生活小貼士 (日常生活小贴士) Tips in Everyday Life

- 1 多讓孩子參與家務，使他們從中學習組織能力及動作計劃。這亦可訓練自理能力，增強自信及自尊。

多让孩子参与家务，使他们从中学习组织能力及动作计划，这亦可训练自理能力，增强自信及自尊。

Encourage children to take part in housework. It can train their organizational skills and motor planning, which can enhance their self-care ability and hence boost their self-confidence and self-esteem.

- 2 將體能運動分拆成簡單的步驟。例：若想訓練手眼協調，可先訓練視覺追蹤，再練習原地拋接，進而練習反彈拋接及遠距離拋接。

将体能运动分拆成简单的步骤。例：若想训练手眼协调，可先训练视觉追踪，再练习原地抛接，进而练习反弹抛接及远距离抛接。

Tasks can be broken down into small steps for practice. For example, in training children's eye-hand coordination, we can start with visual tracking, followed by catch and throw in situ, and finally catch and throw at a distance.

- 3 鼓勵孩子多參與課外活動，發掘優點。避免競爭性運動。合適的運動或興趣包括：游泳、跆拳道、瑜伽、跳舞、體操、童軍、騎馬、彈床訓練、樂器訓練、美術或手工等。

鼓励孩子多参与课外活动，发掘优点。避免竞争性运动。合适的运动或兴趣包括：游泳、跆拳道、瑜伽、跳舞、体操、童军、骑马、弹床训练、乐器训练、美术或手工等。

Encourage children to participate in various activities to explore their strengths. Avoid competitive sports. Examples of suitable sports or activities: swimming, Taekwondo, yoga, dancing, gymnastics, scout, horse riding, trampoline training, playing musical instruments, learning art or handicraft.



4 利用空閒時間做運動，例如多行樓梯，等候電梯時練習單腳企，坐車時練習手部運動。

利用空闲时间做运动，例如多走楼梯，等候电梯时练习单脚站，坐车时练习手部运动

Make use of spare time to do exercise. For example, use stairs instead of escalator, practice single-leg-stand while waiting for elevator, practice hand exercises when traveling on public transport.

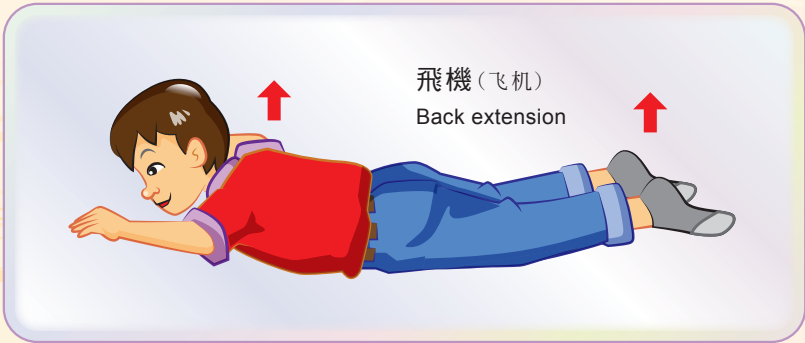
5 建立健康的生活模式，父母以身作則，定期參與運動，實行“健康家庭，健康孩子”。

建立健康的生活模式，父母以身作则，定期参与运动，实行“健康家庭，健康孩子”。

Establish a healthy lifestyle. Parents should act as role models by participating in sports in order to encourage their children to do more exercise. Practice "Healthy Families, Healthy Kids."

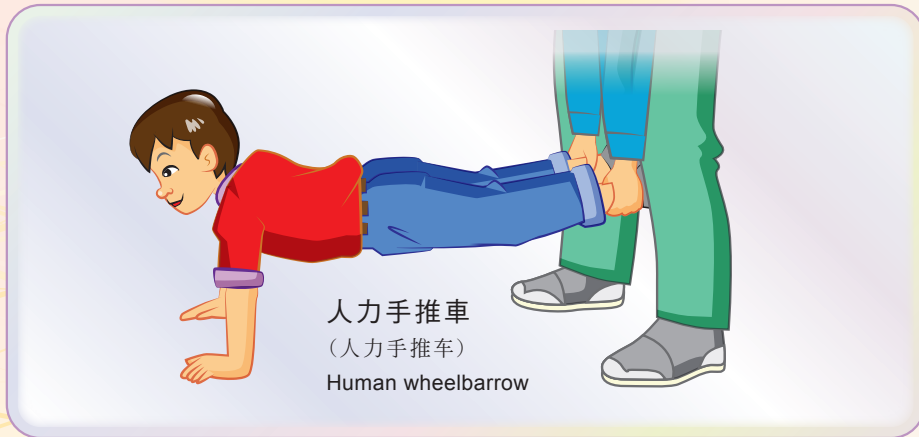
8 家居運動 (家居运动) Home exercises

A 姿勢控制 / 軀幹穩定力 (姿勢控制 / 軀干稳定力)
Postural control / Core stability



B 肩膊 / 盤骨關節穩定力 (肩膊 / 盘骨关节稳定力)

Girdle stability



C 平衡及下肢協調 (平衡及下肢协调)

Balance and coordination



0 手指 / 手腕靈活性 (手指 / 手腕靈活性)

Fingers / wrist dexterity



單腳踏球
(单脚踏球)
Single leg
standing
on ball



單腳企拍球
(单脚站拍球)
Bouncing ball
on single leg



弓步行
(弓步行)
Lunges



鴨行(鴨行)
Duck walking



數手指(数手指)
Counting on finger



拍打手指(拍打手指)
Finger tapping



打鼓(打鼓)
Drumming



毛蟲(毛虫)
Caterpillar



手腕拍動(手腕拍动)
Wrist tapping



手指爬筆(手指爬笔)
Pen climbing



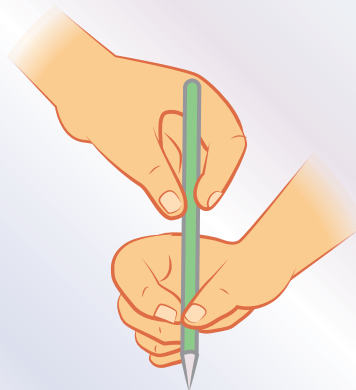
屋仔(固定/開關門窗)
小屋(固定/开关门窗)
Opening & closing window

E 手眼協調 / 手力鍛練 (手眼协调 / 手力锻炼)

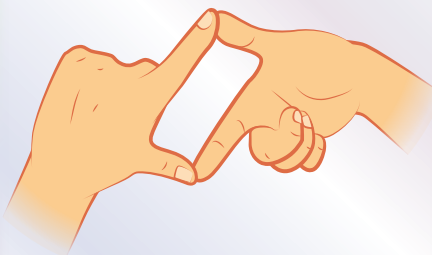
Eye-hand coordination / hand strengthening



手指掌上壓
(手指掌上压)
Finger push-ups



手指扯大攬
(手指拔河)
Finger tug of war



蜘蛛 (蜘蛛)
Spider



手指鬥力
(手指斗力)
Finger fighting

I am 6 years old.

織網 (织网)
Netting



蝸牛 (蜗牛)
Drawing snail



拋接(大球/網球) (彈地接/向上拋)
拋接(大球/网球) (弹地接/向上抛)
Big ball/ Tennis ball (Bounce & catch/ throw & catch)

F 肌肉/筋腱牽拉 (肌肉/筋腱牽拉)

Muscle/ tendon stretching

貼牆坐(膕繩肌)
貼牆坐(膕繩肌)
Wall-sit (Hamstrings)



坐 - 腳伸直 (膕繩肌)
坐 - 腳伸直 (膕繩肌)
Straight leg in sitting
(Hamstrings)



雙手後提(胸肌)
双手後提(胸肌)
Chest stretching (pectoralis muscles)



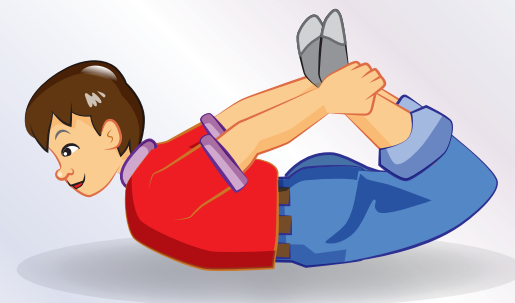
小腿後肌
小腿后肌
Calf stretching
(gastrocnemius)



蹲下-雙腳合攏 (小腿後肌)
蹲下-雙腳合攏 (小腿後肌)
Deep squat with feet together (soleus)



雙手拉腳(胸腹肌及四頭肌)
双手拉脚(胸腹肌及四头肌)
Hands grab feet in prone
(Pectoralis, rectus abdominal and quadriceps muscles)



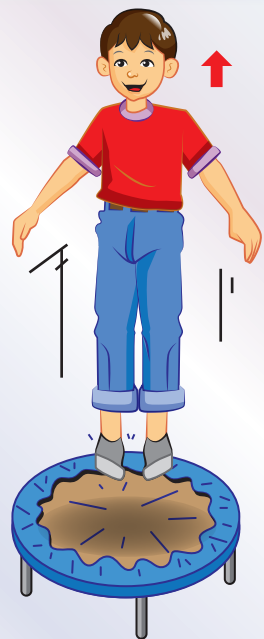
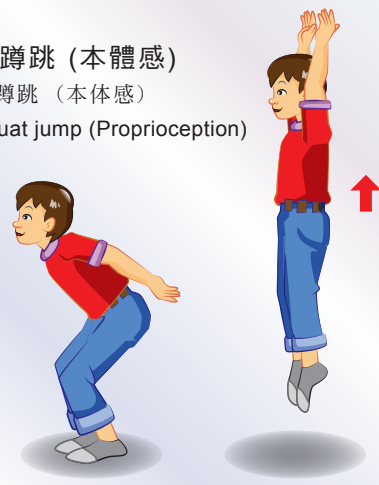
G 感官刺激 (感官刺激)

Sensory Stimulation



追視訓練 (視覺)
追视训练 (视觉)
Pursuit training (Vision)

深蹲跳 (本體感)
深蹲跳 (本体感)
Squat jump (Proprioception)



跳彈床 (本體感、前庭感)
跳弹床 (本体感、前庭感)
Jumping on trampoline
(Proprioception, vestibular senses)



單腳站軟墊 (本體感)
单脚站软垫 (本体感)
Single leg stand on soft surface
(Proprioception)

兩邊拋接球 (前庭感)
两边抛接球 (前庭感)
Catch and throw to both sides (Vestibular sense)



我的家居運動記錄 (我的家居运动记录)

Home Exercise Record

每星期四次，每次十分鐘 (每星期四次，每次十分钟)
4 times/week, 10 minutes each

週數 (周数) Weeks	1	2	3	4	5	6	7	8	9	10	11	12
運動 (运动) Exercise												
星期一 MON												
星期二 TUE												
星期三 WED												
星期四 THU												
星期五 FRI												
星期六 SAT												
星期日 SUN												
總次數 (总次数) Total times												

我的家居運動記錄 (我的家居运动记录)

Home Exercise Record

每星期四次，每次十分鐘 (每星期四次，每次十分钟)
4 times/week, 10 minutes each

週數 (周数) Weeks	13	14	15	16	17	18	19	20	21	22	23	24
運動 (运动) Exercise												
星期一 MON												
星期二 TUE												
星期三 WED												
星期四 THU												
星期五 FRI												
星期六 SAT												
星期日 SUN												
總次數 (总次数) Total times												

我的家居運動記錄 (我的家居运动记录)

Home Exercise Record

每星期四次，每次十分鐘 (每星期四次，每次十分钟)
4 times/week, 10 minutes each

週數 (周数) Weeks	25	26	27	28	29	30	31	32	33	34	35	36
運動 (运动) Exercise												
星期一 MON												
星期二 TUE												
星期三 WED												
星期四 THU												
星期五 FRI												
星期六 SAT												
星期日 SUN												
總次數 (总次数) Total times												

我的家居運動記錄 (我的家居运动记录)

Home Exercise Record

每星期四次，每次十分鐘 (每星期四次，每次十分钟)
4 times/week, 10 minutes each

週數 (周数) Weeks	37	38	39	40	41	42	43	44	45	46	47	48
運動 (运动) Exercise												
星期一 MON												
星期二 TUE												
星期三 WED												
星期四 THU												
星期五 FRI												
星期六 SAT												
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