

**中风患者的日常生活训练：
运动再学习及神经发展治疗的应用**
**Activities of Daily Living Training Manual for
Stroke: Application of Motor Relearning and
Neuro-development Treatment Approach**

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(一)背景 Background

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在脑卒中康复中，运动再学习
(**Motor Relearning**) 及神经发展治
疗 (**NDT**) 是两种常被采用的治疗
原则。

*Motor relearning approach and
Neurodevelopment techniques (NDT) are two
common and renowned approaches applied in
stroke rehabilitation (Lettinga et al, 1999).*

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香港医院管理局职业治疗统筹
委员会属下的中风工作小组于
2004-2006年间编写及于2006年发
行了一本脑卒中患者在日常生活
上的训练手册。

*The Working Group on Stroke Rehabilitation
OTCOC/HA had published a training manual in 2006 to
describe on the application of motor relearning approach
and neurodevelopment techniques (NDT) in the training of
activities of daily living (ADL) for stroke clients.*

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对象 Target
脑卒中或偏瘫患者
CVA / Stroke

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目的 Objectives

1. 有系统地将运动再学习及神经发展治疗应用到日常生活上的训练，从而同步达到促进脑卒中患者的功能康复及肢体控制质量。

To illustrate the functional application of NDT & MRA in retraining and promoting performance in activities of daily living (OT domain of concern) for stroke rehabilitation

2. 这套训练手册能够成为日后作业治疗在脑卒中复康中的蓝本或规范。

To provide a systematic reference or guidelines for OT practitioners in their daily practice

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(二) 理论架构 Theoretical Framework

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两套理论 Two Approaches

运动再学习 Motor Relearning Approach

+

神经发展技巧 Neuro-development Theory



日常生活 Activity of Daily Living

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运动再学习-四个假设 Motor Relearning – Assumptions

1. 重新掌握活动功能确是一个「学习」的过程。即使是残障者，他们所拥有的学习需要及学习过程，跟其它人相比并没有分别。

Regaining the performance of motor tasks is a learning process, and people with disability have the same learning needs and go through the same processes as those who are not disabled.

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运动再学习-四个假设

Motor Relearning – Assumptions

2. 控制活动功能的过程中包括预测及持续两个模式。躯干协调及四肢活动是相辅相成。

Motor control take forms in both anticipatory and ongoing modes. The postural adjustments and focal limb movements are interrelated.

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运动再学习-四个假设 Motor Relearning – Assumptions

3. 若要将某项活动功能控制达至完美，最佳方法便是在不同环境下，不断重复练习这套动作。

Control of a specific motor task can best be regained by the practice of that specific motor task, and such tasks need to be practiced in their various environmental contexts.

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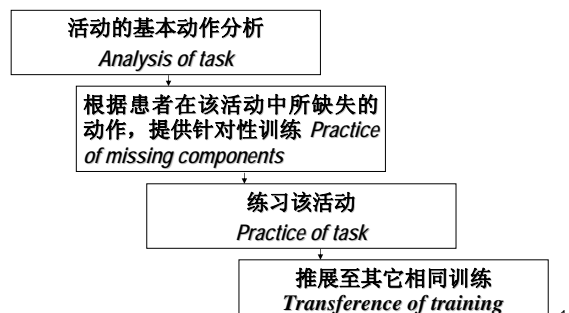
运动再学习-四个假设 Motor Relearning – Assumptions

4. 感觉功能对重新掌握活动功能这个「学习」过程是非常重要的。

The sensory input related to the motor tasks helps to modulate the action.

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运动再学习 - 四个步骤 Motor Relearning – 4 Steps



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运动再学习 *Motor Relearning*

- 作为整套脑卒中患者在日常生活上的训练手册的蓝本

Lay the framework of the ADL training manual

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神经发展技巧 *NDT*

- 神经发展治疗提倡使用合适的手法，避免及纠正补偿性的肢体活动，促进正常的肢体活动及控制。

The approach is directed towards the goal of retraining normal, functional patterns of movement and inhibiting inappropriate compensatory movement strategies in clients with stroke.

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神经发展技巧 *NDT*

- 手法 *Handling*
- 主控点 *Key points of control (proximal or distal)*
- 复位 *Realignment*
- 促进手法 *Facilitation*
- 补偿 *Appropriate Compensation*
 - use movement patterns that resemble normal movements and incorporate the involved trunk, arm and leg into the activities.

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神经发展技巧 *NDT*

- 训练不同日常生活活动的基本动作的手法及回馈方式

Provide facilitation techniques, manual guidance, sensory input and feedback during the training of missing components and the task

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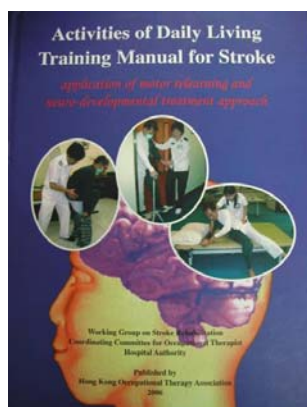
理论 Theories

运动再学习 (*Motor Relearning Approach*) 及神经发展技巧 (*Neuro-development Theory*) 这两种治疗原则都建基于相类似的学习理论, 还可互补不足。

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(三) 脑卒中患者在日常生活上的训练手册简介 Outline of the ADL Manual

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主要内容 Main Content

十个基本的自理活动 10 BADL items	第四章	进食 <i>Feeding</i>
	第五章	梳洗 <i>Grooming</i>
	第六章	穿上衣 <i>Dressing upper garment</i>
	第七章	床上转移 <i>Bed mobility</i>
	第八章	床边转移 <i>Bed chair transfer</i>
	第九章	厕所转移 <i>Toilet transfer</i>
	第十章	浴缸转移 <i>Bathing transfer</i>
	第十一章	穿裤子 <i>Lower garment dressing</i>
	第十二章	如厕 <i>Toileting</i>
	第十三章	洗澡及洗头 <i>Bathing</i>

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章节内容 Content of Chapters 4-13

个别自理活动	该自理活动的基本动作分析 <i>Task analysis</i>
	确认脑卒中后所缺失的动作及针对性的训练建议 <i>Identification & training missing components</i>
	该自理活动练习 <i>Practice of the task</i>
	推展至其它类似自理活动 <i>Transfer of training</i>

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其它内容 Other Content

第一章	简介 <i>Introduction</i>
第二章	日常生活训练与运动再学习 <i>ADL training & motor relearning approach</i>
第三章	日常生活与神经发展治疗 <i>ADL & NDT theory</i>
参考书目	<i>Reference</i>
附录一	肩关节复位 <i>Shoulder realignment</i>
附录二	肩胛肱骨的协调活动 <i>Scapulohumeral rhythm</i>
附录三	上肢复位 <i>Upper limb realignment</i>
附录四	踝关节复位 <i>Ankle realignment</i>

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(四)实例应用 - 进食 Feeding - Illustration

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进食 - 活动分析 Feeding - Task Analysis

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进食 - 活动分析 Feeding - Task Analysis 活动定义 Definition

1. 进食: 使用匙或筷子将食物从器皿送进口中
Eating: using of chopsticks or spoon to bring food from bowl or plate to the mouth
2. 饮水: 以单或双手紧握水杯至口部饮用
Drinking: using one hand or both hands to bring a glass of liquid to the mouth while sitting upright.

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进食 - 活动分析 Feeding - Task Analysis 动作要求 Movement Components

1. 坐姿平衡 *Sitting in a chair*
 - 骨盆微向前倾或保持中正 *pelvic slightly anterior tilt / neutral*
 - 腰及胸椎挺直 *thoracic spine is upright & straight*
 - 髋及膝关节屈曲90° *hips & knees at 90° flexion*
 - 脚掌平放地上 *feet rested on the floor*
 - 头颈微微向下 *head/neck slightly flexed (facilitate swallowing)*
2. 患侧上肢 *Affected upper limb*
 - 视乎上肢功能而作前臂支撑、固定、伸展或操控日用品等动作 *forearm-supported posture on the table, reaching, stabilization or manipulation of objects depending on its UL levels*

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进食 - 活动分析 Feeding - Task Analysis 训练层次 Gradation of training

1. 五个训练方法 5 methods:
 - 偏瘫上肢功能训练
the upper limb functional level (OTCOC, 2000) and
 - 患侧是强或非强手
dominant or non-dominant nature of the affected upper limb

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进食 - 活动分析 Feeding - Task Analysis 训练层次 Gradation of training

Methods of Eating				
Method (A)	Method (B-1) Hemi. side = non-dominant	Method (B-2) Hemi. side = dominant	Method (C-1) Hemi. side = non-dominant	Method (C-2) Hemi. side = dominant
1. Unaffected upper limb - holds the spoon &/or chopsticks in feeding.	1. Unaffected upper limb - holds the spoon &/or chopsticks in feeding.	1. Unaffected upper limb - stabilize the bowl on the table during feeding.	1. Unaffected upper limb - manipulate spoon and chopsticks to bring food to mouth.	1. Unaffected upper limb - hold the bowl.
2. Affected upper limb - forearm weight bearing on table.	2. Affected upper limb - stabilize the bowl on the table during feeding.	2. Affected upper limb - manipulate spoon to bring food from bowl to mouth.	2. Affected upper limb - hold or stabilize the bowl in feeding.	2. Affected upper limb - use the spoon or chopsticks to bring food to the mouth with or without external assistance.

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进食 - 活动分析 Feeding - Task Analysis

环境 Environment

1. 椅子或治疗床
A chair with back and armrest or stable plinth with feet flat on the floor
2. 桌子
A stable table top at the height allowing the client to have comfortable forearm weight bearing

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进食 - 活动分析 Feeding - Task Analysis

治疗目标 Treatment goal

1. 促进患者进食时能保持良好的坐姿及坐态平衡
allow client to perform feeding in an upright trunk and neutral neck-head posture to perform feeding
2. 同时增强患侧上肢在进食时的不同角式 (如前臂支撑、固定、伸展或操控日用品等等)
maximizing the involvement of the affected upper limb from the role as support, stabilization, reaching to manipulation


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进食 - 确认脑卒中后所缺失的动作及针对性的训练建议 Feeding - Identification and training of missing components

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进食 - 缺失的动作 Feeding - Missing Components

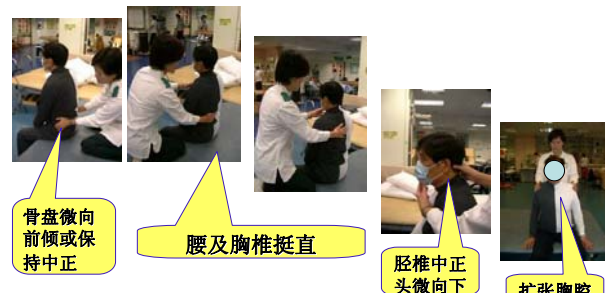
坐姿平衡 Sitting Posture



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进食 - 训练建议 Feeding - Training Missing Components


坐姿平衡 Sitting Posture



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方法A (上肢功能一至三级)
进食 - 缺失的动作 Feeding - Missing Components

Method A (U/L at level 1, 2 or 3)



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进食-训练建议 Feeding - Training Missing Components
方法A Method A



1. 肩关节复位 *Shoulder realignment*
2. 肩胛肱骨的协调活动 *Scapulohumeral rhythm*
3. 肩关节co-contraction及前臂负重训练 *forearm weight bearing*




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进食-训练建议 Feeding - Training Missing Components
方法A Method A

4. 增加患者对患侧上肢的感觉及减少患肢联缩活动的训练





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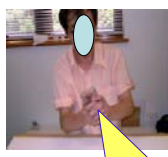
进食-缺失的动作 Feeding - Missing Components
方法B1及B2 (上肢功能四至五级)
Method B1 & B2 (U/L at level 4 or 5)



联缩活动 (associated reaction) 令患肢不能固定饭碗



患侧上肢缺乏分离动作 (lack of dissociation) 影响伸手取物的动作



未能协调前臂转动影响患肢操控杓的动作或控杯的稳定性

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进食-缺失的动作 Feeding - Missing Components
方法B1及B2 Method B1 & B2



患手握放能力欠佳 (grasp & release)



患手紧握及操控杓子能力欠佳 (tripod / lateral pinch)

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进食-训练建议 Feeding - Training Missing Components
方法B1及B2 Method B1 & B2


1. 肩胛肱骨的协调活动 *Scapulohumeral rhythm*
2. 上肢复位 *Upper limb realignment*
3. 直手负重训练 *weight bearing*




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进食-训练建议 Feeding - Training Missing Components
方法B1及B2 Method B1 & B2


4. 患侧上肢缺乏分离动作练习 *Dissociation training*



伸手动作(前臂向下)



伸手动作(前臂正中)



伸手固定动作(前臂向下)

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进食-训练建议 Feeding - Training Missing Components

方法B1及B2 Method B1 & B2

5. 患侧上肢缺乏分离动作练习 *Dissociation training*



手口模拟动作
(手指张开)



手口模拟动作
(手指屈曲)

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进食-训练建议 Feeding - Training Missing Components

方法B1及B2 Method B1 & B2

6. 手握放能力练习 *Grasp & Release*



握 - 促进技巧



放 - 促进技巧

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进食-训练建议 Feeding - Training Missing Components

方法B1及B2 Method B1 & B2

7. 手指捏的练习 *Lateral pinch & thumb on finger / finger on thumb movement*





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进食-缺失的动作 Feeding - Missing Components

方法C1及C2 (上肢功能六至七级) Method C1 & C2 (U/L at level 6 or 7)

1. 伸手取物及手口模拟的分离动作
2. 患手紧握及操控杓子能力不够灵活
3. 患手紧握杯子或饭碗还是不够稳定
4. 患手未能操控筷子

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进食-训练建议 Feeding - Training Missing Components

方法C1及C2 Method C1 & C2

1. 肩胛肱骨的协调活动 *Scapulohumeral rhythm*
2. 上肢复位 *Upper limb realignment*
3. 手指捏的练习 *Lateral pinch (more resistance)*




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进食-训练建议 Feeding - Training Missing Components

方法C1及C2 Method C1 & C2

4. 患手握物稳定性练习 *Scapulohumeral rhythm*




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进食-训练建议 Feeding - Training Missing Components

方法C1及C2 Method C1 & C2

5. 手指活动训练 *dynamic tripod and translation skill*

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进食 -该自理活动练习

Feeding - Practice of the task

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进食-进食练习 Feeding - Practice of the task

方法A Method A

患肢复位、前臂负重、增强肌力、减少挛缩反应、增加感觉

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进食-进食练习 Feeding - Practice of the task

方法B1及B2 Method B1 & B2

利用饮管加强视觉效果，增强患肢固定功能、减少挛缩反应

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进食-进食练习 Feeding - Practice of the task

方法B1及B2 Method B1 & B2

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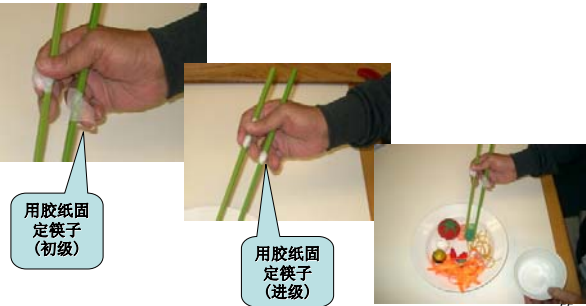
进食-进食练习 Feeding - Practice of the task

方法B1及B2 Method B1 & B2

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进食-进食练习 Feeding - Practice of the task

方法C1及C2 Method C1 & C2



用胶纸固定筷子 (初级)

用胶纸固定筷子 (进阶)

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进食-进食练习 Feeding - Practice of the task

方法C1及C2 Method C1 & C2



推展至其它类似自理活动 Transfer of training

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进食-推展至其它类似自理活动 Feeding - Transfer of training

方法A Method A

- 患肢保持前臂负重的姿势进行其它类似活动，如梳洗、抹桌子、写字、阅报、下棋等。
- With forearm weight bearing on table and sitting upright, client can transfer the practice to any one handed table task e.g. grooming, writing, wiping table, reading magazine and chess game etc.*

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进食-推展至其它类似自理活动 Feeding - Transfer of training

方法B1及B2 Method B1 & B2

- 在日常生活中，患者应尽量使用双手操控物件，如握杯、抹视液等。或以固定患肢物件。
- Client should perform all functional activities with bilateral or using affected hand for stabilization*

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进食-推展至其它类似自理活动 Feeding - Transfer of training

方法C1及C2 Method C1 & C2

- 在日常生活中，患者应尽量使用患肢，尤其是一些手部操控活动，如扣钮、用剪刀、指甲钳、写字、下棋等。
- Client should practice manipulative skills in all functional activities with affected hand.*

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Thank You

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