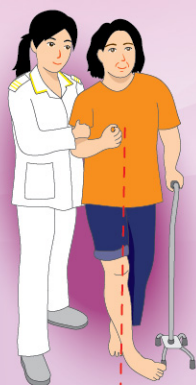


膝蓋過度伸展 膝蓋過度伸展 Knee hyperextension

常見的原因有大腿前方或/和小腿的肌肉痙攣，膝蓋過度伸展令步行壓力無法有效分散，並集中在膝關節上，從而減低膝關節的穩定性，縮短在站立相的時間並影響在站立相的穩定性。

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Common reasons including spasticity of anterior thigh or/and calf muscles. Knee hyperextension leads to uneven stress distribution during walking. The compression stress in the knee is hence increased, resulting in decreased stability of knee joint. As a result, stance phase time and stability will also decrease.



剪形步態 剪形步態 Scissoring gait

大腿內側肌肉痙攣會造成剪形步態，容易令患者在搖擺相時受大腿內側的張力影響把下肢跨過中線著地，影響平衡，向患側方向跌倒的機會增高。

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Spasticity of medial thigh muscles will lead to scissoring gait. Their affected leg tends to cross the midline in swing phase. Due to hip extreme adduction affected by the spasticity, their balance are hence affected. They are more likely to fall toward affected side.



足部下垂，內翻和爪形趾 足部下垂，內翻和爪形趾 Plantar flexed and inverted ankle & claw toes

小腿及足部痙攣會造成足部下垂，內翻和爪形趾，導致足部和地面接觸的面積減少，在站立相時會令足部不穩定和疼痛，有機會引致跌倒。另外，由於足部與地面的磨擦增加，造成在搖擺相把足部抬離地面有困難，影響平衡。

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Due to the spasticity of calf and toe muscles, they are presented with plantar flexed and inverted ankle & claw toes. The contact area between the foot and ground then decreases, leading to foot and ankle instability and pain in stance phase. Besides, as the friction between the foot and ground is higher, the difficulty of foot clearance from ground increases, in swing phase. As a result, the balance is disturbed.

退縮行為 退縮行為 Withdrawal behavior

後大腿肌肉痙攣、中線感知偏差、患肢疼痛或/和害怕跌倒，都有可能引致退縮行為。患者會把下肢屈起和縮向上，增加在站立相時足部負重的難度，並且影響平衡。

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Spasticity of posterior thigh muscle, midline perception deviation, pain over affected limb on loading or/and fear of fall may result in withdrawal behavior. They tend to bend the affected leg, increasing the difficulty in weight bearing on affected leg and hence disturbing the balance.



忽略症 忽略症 Neglect



忽略症令中風患者容易忽略患肢的感覺和活動，從而影響步態，並對患側空間和事物的注意力下降，容易忽略周遭環境的危險性。

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Patient with neglect will tend to ignore sensation and movement of affected limbs. Also, their attention to objects on the affected side and spatial orientation are decreased, resulting in abnormal gait and decreased ambulatory safety.

還有很多不同的原因會令中風患者的步行模式改變，例如關節本體感覺和觸覺下降，運動的協調障礙，身體疼痛，視力問題，認知能力下降或是藥物影響，從而衍生出不同的補償步態並影響步行的安全。如有疑問，請詢問你的物理治療師。

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There are lots of other reasons which will make them to change the walking pattern, such as decreased joint proprioception sense and sensation, ataxia, pain, vision problem, decreased cognitive function, medication, which results in different compensation patterns and affects walking safety. For any enquiry, please approach your physiotherapist.

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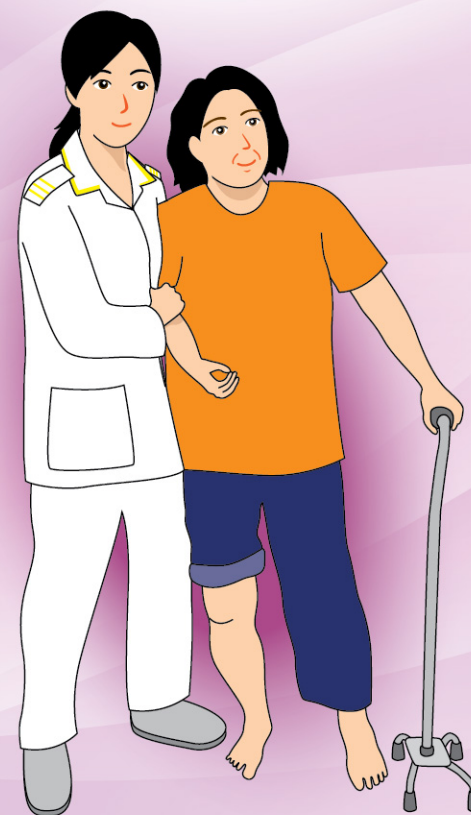
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屯门医院物理治疗部
Physiotherapy Department,
Tuen Mun Hospital

中風康復 中风康复 Stroke Rehabilitation

認識中風患者常見的步態困難
认识中风患者常见的步态困难
Understanding Common Gait Difficulties
in Stroke Patient



簡介 简介 Introduction

中風後，部分的患者會失去正常的步行能力。要改善步行能力，首先要了解步態 - 1. 何謂正常步態 及 2. 辨認中風患者常見的步態障礙，才能制定有效的步行訓練方案，從而達至安全步行。

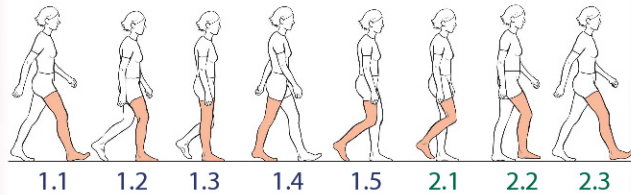
中风后，部分的患者会失去正常的步行能力。要改善步行能力，首先要了解步态 - 1. 何谓正常步态及 2. 辨认中风患者常见的步态障碍，才能制定有效的步行训练方案，从而达到安全步行。

The ability to walk is affected in some patients after stroke. To regain walking ability, it is important to understand gait pattern: 1. Understand normal gait pattern and 2. Identify common gait difficulties in stroke patients. With an effective ambulatory training program, safe walking can be achieved.

正常步態 正常步态 Normal Walking

步態週期是指步行時不斷重複的模式，分為站立相和邁步相。
步态周期是指步行时不断重复的模式，分为站立相和迈步相。

Gait cycle is the term used to describe the repetitive pattern of walking. It is composed of stance and swing phases.



1 站立相 站立相 Stance Phase

足底與地面接觸的階段
足底与地面接触的阶段
The phase when the foot is on the ground.

1.1 首次著地 首次着地 Initial contact

足跟第一次與地面接觸。
足跟第一次与地面接触。
Heel first contacts the ground.

1.2 負荷反應期 (承重期) 负荷反应期 (承重期) Loading response

足跟著地後至足底與地面全面接觸的一段時間。
跟着地後至足底与地面全面接触的一段时间。
Short period begins when the foot touches the ground and then flats.

1.3 站立中期 站立中期 Midstance

軀幹位於支撐腿正上方，單腿支撐。
躯干位于支撑腿正上方，单腿支撑。
Single leg support when the trunk is aligned over the stance leg.

1.4 站立末期 站立末期 Terminal stance

足跟離地。 足跟离地。
Heel off the ground.

1.5 邁步前期 迈步前期 Pre swing

足趾蹬地，向前推進。
足趾蹬地，向前推进。
Toes push the leg forward.

2 邁步相 迈步相 Swing Phase

足底離開地面，擺動腳的階段
足底离开地面，摆动脚的阶段
The phase when the foot is off the ground and moving forward.

2.1 邁步初期 迈步初期 Initial swing

大腿抬高，向前擺動。
大腿抬高，向前摆动。
Hip bends to swing the leg forward.

2.2 邁步中期 迈步中期 Mid swing

踝關節向上屈曲，提離地面。
踝关节向上屈曲，提高地面。
Ankle bends upwards to off the ground.

2.3 邁步末期 迈步末期 Terminal swing

膝關節伸直，為足跟著地作準備。
膝关节伸直，为足跟着地作准备。
Knee straightens to prepare for heel loading on the ground.

中風患者常見的步態問題 中风患者常见的步态问题

Common Gait Difficulties in Stroke Patient

站立平衡困難及“中正”認知偏差 站立平衡困难及“中正”认知偏差 Poor standing balance and deviated perception in midline position of body

健側推倒 健侧推倒 Pushing behavior

由於患者“中正”認知偏差，健側肢體會往患側推倒。如試圖用力攙扶或矯正，會感覺到患者推往患側的抵抗力量。

由于患者“中正”认知偏差，健侧肢体会往患侧推倒。如试图用力搀扶或矫正，会感觉到患者推往患侧的抵抗力量。

With a deviated perception in midline position of body, patients often use their non-affected limb to push themselves towards the affected side. Resistive forces towards the affected side can be felt if one tries to correct their body posture.

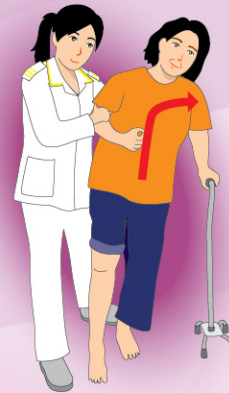


過度補償 过度补偿 Overcompensation

患者因缺乏信心使用患肢，懼怕摔往患側，往往會嘗試作出代價，過度傾向健側。

患者因缺乏信心使用患肢，惧怕摔往患侧，往往会尝试作出代偿，过度倾向健侧。

Patients having no confidence in using the weakened limbs usually have fear of fall on the affected side, and thus they overcompensate by leaning excessively on the non-affected side.



軀幹傾後 躯干倾后 Leaning back

腹肌力量減弱、腳踝控制轉差及往前摔倒的恐懼，均有機會令患者身軀向後傾。

腹肌力量减弱、脚踝控制转差及往前摔倒的恐惧，均有机会令患者身躯向后倾。

Weakened abdominal muscles, poor ankle control and the fear of falling forward may cause patients to lean backward.



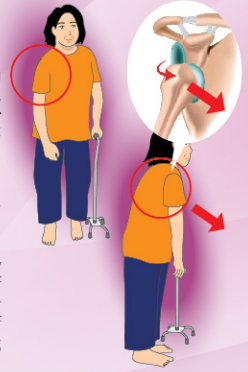
患肢力量減弱 患肢力量减弱 Muscle weakness in affected limbs

肩關節半脫位 肩关节半脱位 Shoulder subluxation

肩關節半脫位常見於肩關節肌肉軟癱的患者。上臂骨的重量把其往前及往下拉牽，脫離關節囊，使重心向前，最終影響站立平衡。

肩关节半脱位常见于肩关节肌肉软瘫的患者。上臂骨的重量把其往前及往下拉牵，脱离关节囊，使重心向前，最终影响站立平衡。

Patients with flaccid shoulder muscles usually experience shoulder subluxation. The weight of upper arm bone causes it to drop out of the shoulder socket forwards and downwards, pulling the centre of gravity of patient forward. Eventually, the standing balance is disturbed.



膝關節失穩 膝关节失稳 Knee Buckling

當患肢著地後並開始承重時，臀部和腿肌群肌力過弱的患者會無法保持患肢伸直，膝關節跪跌，出現「發軟蹄」徵狀，有機會往患側向前摔倒。

当患肢着地后，开始承重时，臀部和腿肌群肌力过弱的患者会无法保持患肢伸直，膝关节跪跌，出现“打软腿”徵状，有机会往患侧向前摔倒。

With muscle weakness of hip and knee, patients often cannot keep their affected leg straight during weight bearing. They may experience a sudden "giving away", thus, they may fall forwards and towards the affected side.



足部下垂 足部下垂 Drop Foot

當足底離開地面，大腿開始向前擺動時，臀部、腳踝及腳趾肌肉力量過弱的病人會沒法完全提腿離地面，出現拖腳情況。

当足底离开地面，大腿开始向前摆动时，臀部，脚踝及脚趾肌肉力量过弱的病人会没法完全提腿离地面，出现拖脚情况。

As the heel gets off the ground and the hip starts to swing forwards, patients with hip, ankle and toe muscle weakness often cannot clear the foot from the ground, and thus dragging toes along the ground.



肌肉痙攣 肌肉痉挛 Muscle spasticity

上肢肌肉痙攣 上肢肌肉痉挛 Upper limb's muscle spasticity

上肢在肌肉痙攣時期，相比起軟癱時期，上身的穩定性比較強。

上肢在肌肉痉挛时期，相比起软瘫时期，上身的稳定性比较强。

The stability of shoulder quadrant is better in spasticity stage when compared with flaccid stage.

