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MRI

CT

1990

MPSS

MPSS

autonomic dysreflexia AD

triggering

bladder reflex

clean intermittent catheterisation CIC

suprapubic cystostomy

1

Valsalva voiding

Credé voiding

bladder expression

GABA_b

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- (2)
- (3)
- (4)
- (5)

(vesicoureteral reflux VUR)

ASIA ()

| | |
|------------|---|
| Complete | S4-S5 髄節の運動・知覚の完全麻痺 |
| Incomplete | 神経学的レベルより下位の運動の完全麻痺、知覚は神経学的レベル以下や S4-S5 髄節で残存 |
| Incomplete | 神経学的レベルより下位の運動機能はわずかに残存しているが、MMT(徒手筋力テスト)で3未満 |
| Incomplete | 神経学的レベルより下位の運動機能が残存していて、筋力は MMT で 3 以上 |
| | 運動・知覚機能は正常 |

American Spinal Cord Injury Association, 1992

| | | |
|---------|------------------------|--|
| Frankel | Motor sensory complete | |
|---------|------------------------|--|

| | | |
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| Frankel | Motor complete sensory only | () |
|---------|-----------------------------|-----|

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|---------|---------------|-----|
| Frankel | Motor useless | () |
| | 1 2 | () |
| | 3 | () |

Frankel Motor useful ()

4 5

10m ()

Frankel

12 12

Zancolli

| | | | | |
|---|--------|--|--|--------------------------------------|
| | | | | |
| | C 5-6 | | | C 5A C 5B |
| 2 | C 6-7 | | | C 6A C 6B C 6B C 6B |
| 3 | C 7-8 | | | C 7A C 7B |
| 4 | C8-Th1 | | | C 8A C 8B C 8B |

Zancolli E : Functional restoration of the upper limbs in traumatic quadriplegia. in Structural and Dynamic Basis of Hand Surgery. 2 nd ed, Lippincott, Philadelphia, p229-262, 1979

Barthel Index BI

10

Mahoney FI, Barthel DW : Functional evaluation. The Barthel Index.
Maryland State Med J, 14 : 61-65, 1965

FIM Functional Independence Measure

()

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| | () | |
| | 75% | |
| | 50% | |
| | 25% | |
| | 25% | |

Grangwer CV et al : Guide for the use of the uniform data set for medical rehabilitation.
Uniform Data System for Medical Rehabilitation. Project Buffafo General Hospital,
New York.1990

CHART Craig Handicap Assessment and Reporting Technique

| | | | | | |
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| 27 | | | 1) | | |
| 2) | | 3) | | | |
| 4) | | | | | 5) |

Whiteneck GG et al : Quarifying handicap. A new measure of long-term rehabilitation outcomes.
Arch Phys Med Rehabil 73: 519-526, 1992

IV.

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回復期

維持期

Zancoll i

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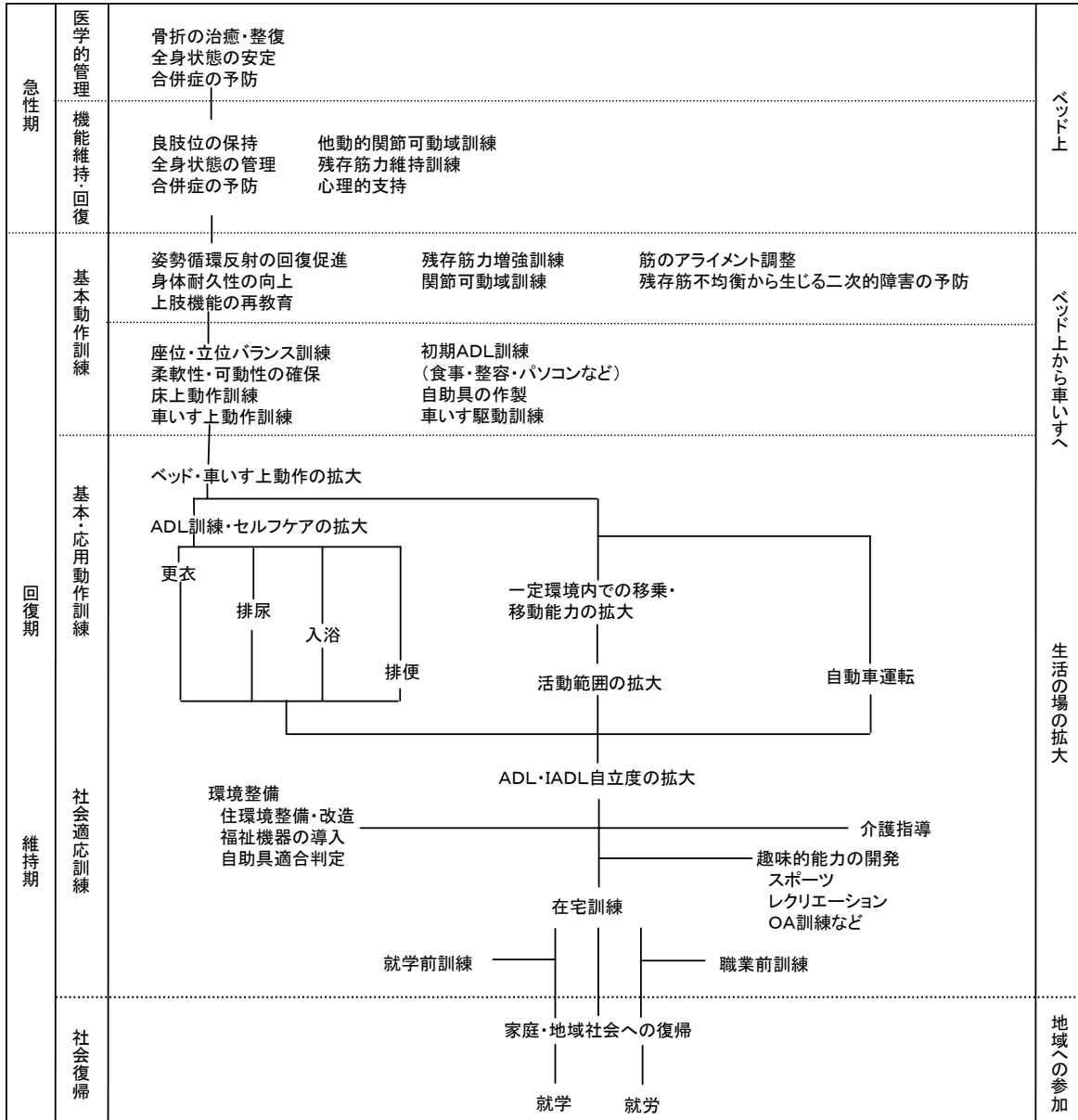
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図1 脊髄損傷者のリハビリテーションの流れ



※IADL=instrumental ADL(炊事や洗濯などの家事動作や交通機関の利用、就業、読書など(日常生活関連動作))

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図2 どれくらいの可動域が必要なのか？



①肩関節水平外転
床上動作に影響



②肩関節伸展
床上動作に影響



③片側上肢での体重支持
床上動作に影響



④肘関節伸展・手関節背屈
移乗動作に影響



⑤脊柱の屈曲
座位バランスに影響



⑥脊柱の伸展
移乗動作に影響



⑦股関節屈曲
ベッド上での更衣・移乗動作に影響



⑧股関節外転・外旋
靴・靴下着脱に影響

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Zancolli

表1 レベル別ADL到達度

| | C4 | C5 A | C5 B | C6 A | C6 B I | C6 B II | C6 B III | C7 | C8 | Th | L |
|--|----|---------|---------|---------|-----------|------------|-------------|----|----|----|---|
| | △ | △ | ○ | ○ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| | × | △ | ○ | ○ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| | × | × | △ | △ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| | × | × | △ | ○ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| | × | × | △ | △ | △ | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| | × | × | △ | ○ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| | × | × | △ | △ | ○ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ |
| | △ | △ | ○ | ○ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ |
| | × | △ | ○ | ○ | ○ | ○ | ◎ | ◎ | ◎ | ◎ | ◎ |
| | × | × | × | △ | ○ | ○ | ○ | ○ | ○ | ◎ | ◎ |

×:全介助

△:条件(福祉用具、自助具、環境設定など)によって自立可能な場合がある

○:条件によってほとんどの場合が自立可能

◎:特異例を除いて福祉用具、自助具などを活用せず自立可能

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<http://web.mac.com/sciot1994>

Independence Measure

Functional

FIM FIM FIM×

| | 64.0 (1) | 113.0 | 48.0 (1) | 105.0 |
|--|----------|-------|-----------|-------|
| | 79.0 (5) | 114.6 | 96.2 (9) | 112.4 |
| | | | 94.7 (7) | 116.4 |
| | 79.0 (1) | 105.0 | 95.0 (2) | 113.5 |
| | 64.0 (2) | 110.5 | 97.8 (5) | 112.8 |
| | | | 106.3 (3) | 104.0 |
| | | | | |

():

FIM

FIM

| | 69.6 (7) | 105.7 | 86.5 (2) | 109.0 |
|--|-----------|-------|----------|-------|
| | 81.8 (11) | 106.7 | 79.0 (4) | 112.8 |
| | 72.1 (13) | 106.3 | 82.4 (5) | 96.0 |
| | 71.8 (6) | 109.3 | 89.5 (4) | 97.5 |
| | 73.2 (9) | 94.3 | 80.8 (6) | 105.2 |
| | 47.5 (2) | 75.5 | 79.8 (6) | 107.3 |
| | | | 96.5 (2) | 101.0 |

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Zancolli

| | 52.0 (7) | 64.0 | | |
|--|-----------|------|----------|------|
| | 55.9 (24) | 70.6 | 65.3 (7) | 88.1 |
| | 52.7 (7) | 62.3 | 77.3 (4) | 88.0 |
| | 53.5 (2) | 66.5 | 56.6 (8) | 93.6 |

| | | | | |
|--|----------|------|-----------|------|
| | 56.2 (6) | 71.2 | 65.8 (18) | 84.1 |
| | 47.5 (2) | 50.5 | 66.9 (18) | 83.4 |
| | 38.0 (1) | 40.0 | 78.0 (11) | 97.0 |

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| | | | (%) |
| | 47.7 (3) | 47.3 | - 6.3 |
| | 48.4 (10) | 51.0 | 5.4 |
| | 52.8 (8) | 58.8 | 11.3 |
| | 52.1 (8) | 73.9 | 41.7 |
| | 56.0 (8) | 79.6 | 42.1 |
| | 72.3 (3) | 82.7 | 14.2 |
| | 67.0 (3) | 84.3 | 25.8 |
| | 55.5 (2) | 88.0 | 58.6 |
| | 48.0 (1) | 58.0 | 20.8 |

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Frankel
ASIA

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(2006)

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