



52° Congresso Nazionale SIGG
Firenze, 28 novembre-2 dicembre 2007
Riabilitazione geriatrica: realtà e
prospettive 1° corso per fisioterapisti e
terapisti occupazionali

Quale intensività in riabilitazione geriatrica?

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State of the Science on Postacute Rehabilitation Setting: a Research Agenda and Developing an Evidence Base for Practice and Public Policy

- Rehabilitation-focused health services research has concentrated on patients' natural recovery in single types of rehabilitation settings—rehabilitation hospitals and units, SNFs, LTCHs, and HHAs. It is often too expensive and unfeasible to evaluate costs and benefits of rehabilitation across sites of care, let alone specific paths of care such as from hospitals to nursing homes to home. **We know that the functional independence of most patients improves during rehabilitation, but we know little about the “active ingredients” of rehabilitation and which types of patients are best suited for which setting so that optimal outcomes are achieved at a reasonable cost.**

Heinemann AW, Arch Phys Med Rehabil 2007;88:1478-81

**It's more than a black box;
it's a Russian doll: defining
rehabilitation treatments**

Whyte J et al. Am J Phys Med Rehabil 2003; 82:639-52

Key questions

- È possibile misurare (separare) l'efficacia di interventi specifici nell'ambito del processo di recupero?
- Intensità in che area (clinico-assistenziale, diagnostica, fisioterapica?)
- Che durata dell'intervento e quali barriere al trattamento riabilitativo?

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Stroke unit Trialists Collaboration

Cochrane Database Syst Rev 2007 Oct 17;(4):CD000197

- Organised stroke unit care is provided by **multidisciplinary teams** that exclusively manage stroke patients in a **dedicated ward (stroke, acute, rehabilitation, comprehensive)**, with a **mobile stroke team** or within a generic disability service (mixed rehabilitation ward)
- Outcomes were independent of patient age, sex or stroke severity, but appeared to be better in stroke units based in a discrete ward.
- Stroke patients who receive **organised inpatient care** in a **stroke unit** are **more likely to be alive, independent, and living at home one year after the stroke**.
- No systematic increase in length of stay was observed

Geriatric rehabilitation following fractures in older people: a systematic review

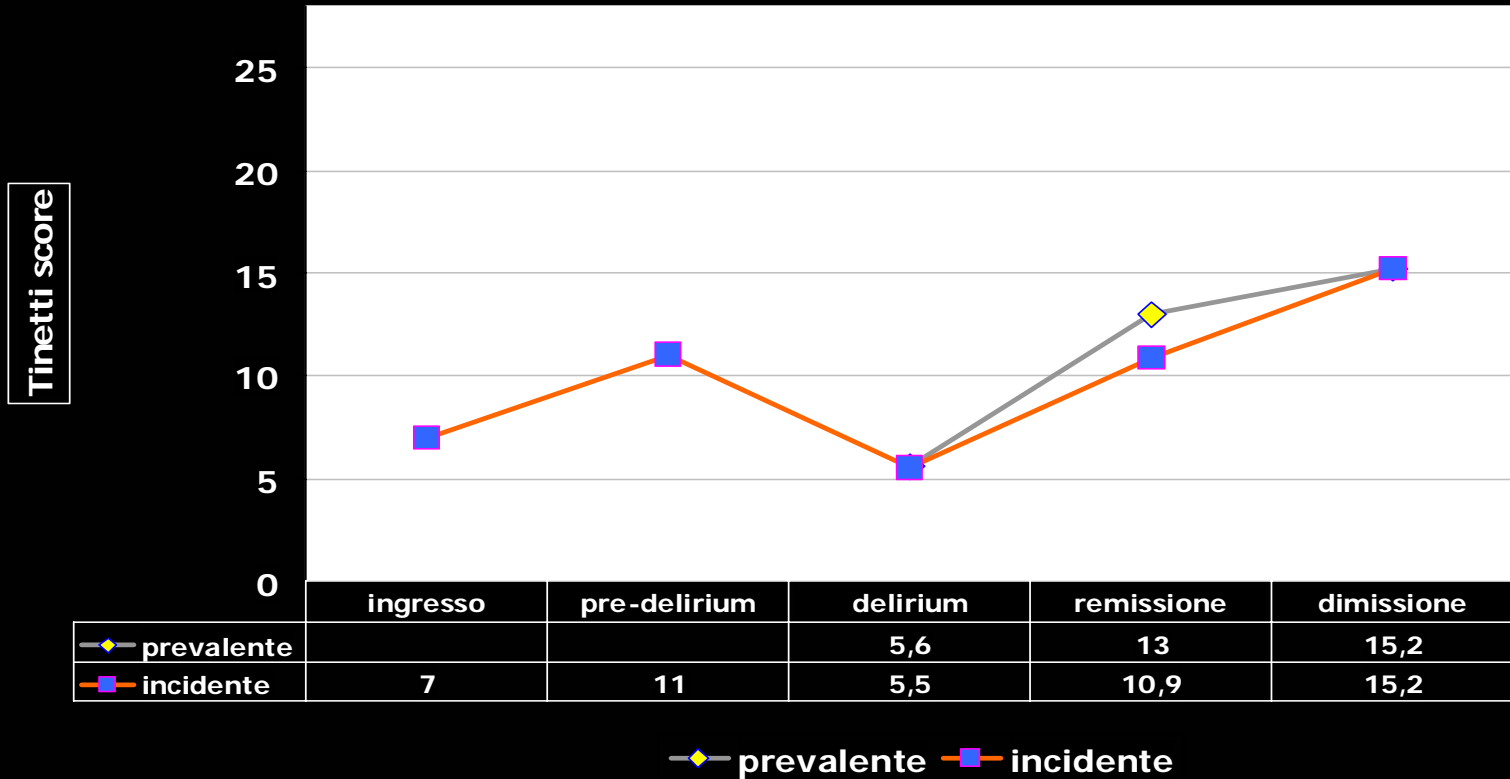
- C'è evidenza (1 Randomized Clinical Trial) che un **approccio combinato multiprofessionale** è in grado di determinare migliori **outcomes dal punto di vista funzionale** (recupero dello stato premorboso), clinico e della durata di degenza
- C'è evidenza (3 cohort studies) che **l'adozione di percorsi di cura standardizzati (percorsi di cura integrati)** è in grado di produrre risultati migliori in termini di salute

**Il delirium: un paradigma di
come le condizioni cliniche e
lo stato funzionale si
influenzano vicendevolmente
nel paziente anziano**

Criteria for Delirium (DSM IV)

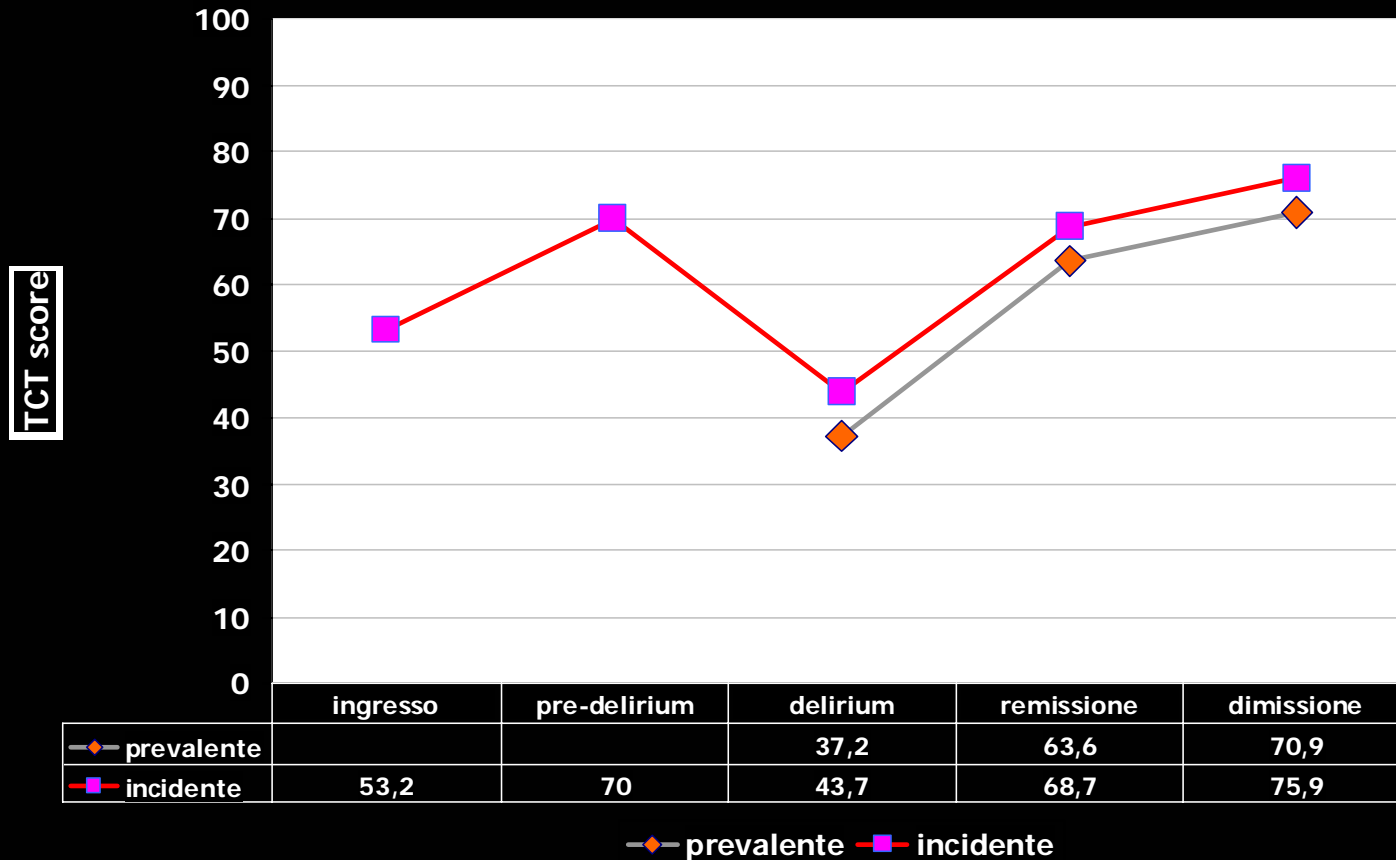
- A) **Disturbo dello stato di coscienza** con ridotta capacità di focalizzare, sostenere o shiftare l'attenzione.
- B) **Cambiamento dello stato cognitivo** o comparsa di disturbo percettivo che non è attribuibile ad una pre-esistente, definita demenza.
- C) **Il disturbo si sviluppa in un arco di tempo relativamente breve e tende a fluttuare durante la giornata.**
- D) vi è evidenza dalla storia clinica, esame fisico e/o laboratoristico che il **disturbo è causato da una condizione medica o da un uso di farmaci**, esposizione tossica o dalla combinazione di questi

Modificazioni dello score di Tinetti in 116 pazienti (100 delirium prevalente e 16 delirium incidente) durante le fasi di delirium



P < .005 per tutti i valori al t-test per misure ripetute

Modificazioni dello score di TCT in 116 pazienti (100 delirium prevalente e 16 delirium incidente) durante le fasi di delirium



P < .005 per tutti i valori al t-test per misure ripetute

Key questions

- È possibile misurare (separare) l'efficacia di interventi specifici nell'ambito del processo di recupero?
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Delirium & functional recovery in elderly patients

Table 1. Characteristics of 58 Patients With Delirium (Stratified by Duration of Delirium) on Admission to a Rehabilitation and Aged Care Unit

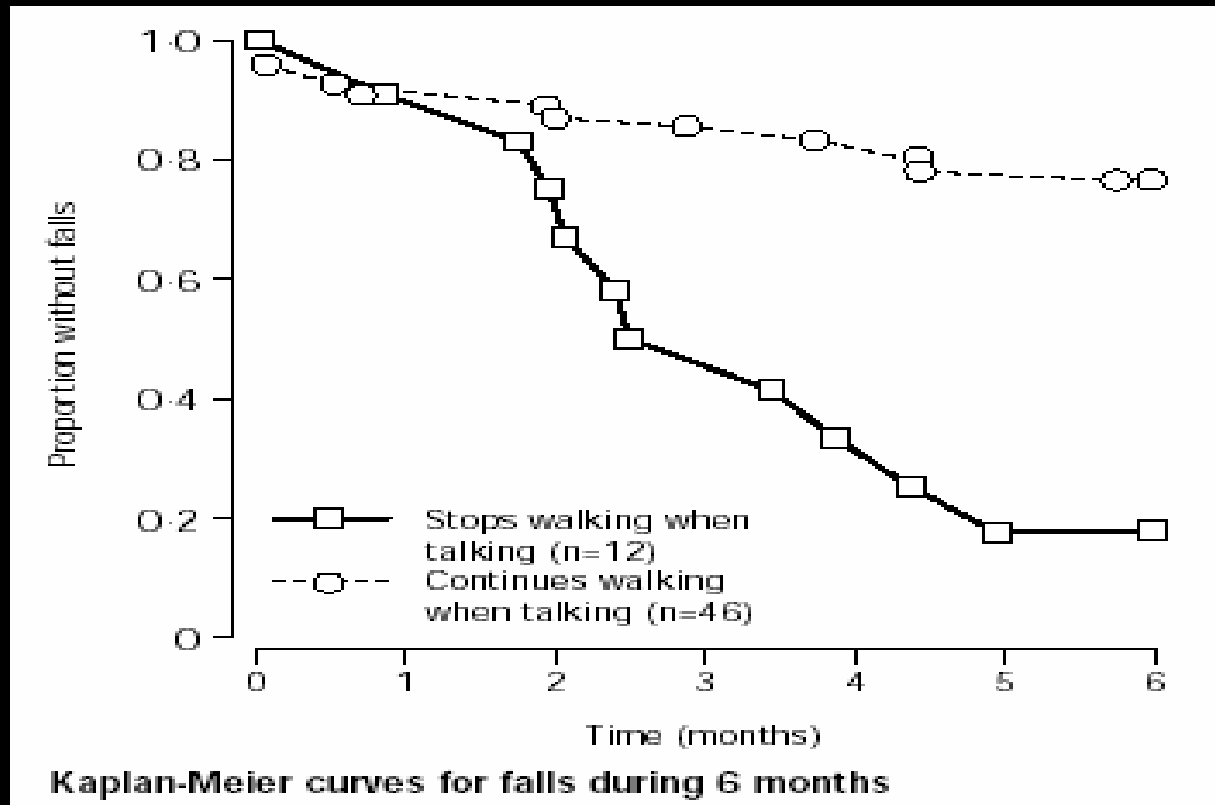
Characteristics	Delirium Resolution ≤ 1 Week (N = 15)	Delirium Resolution 1–2 Weeks (N = 25)	Delirium Resolution ≥2 Weeks (N = 18)	p
Age, y	81.7 ± 5.3	83.2 ± 5.1	82.8 ± 8.1	.78
Women, n (%)	9 (60.0)	18 (72.0)	13 (72.2)	.68
Charlson comorbidity index	2.7 ± 2.7	3.0 ± 2.0	3.5 ± 2.5	.56
Albumin serum level, g/dL	2.9 ± 0.6	2.9 ± 0.4	2.8 ± 0.3	.86
C-reactive protein	5.2 ± 5.4	5.7 ± 5.6	5.9 ± 6.1	.93
Mini-Mental State Examination (0–30)	21.1 ± 6.4	16.6 ± 6.8	14.9 ± 6.2	.03
Barthel Index on admission (0–100)	41.9 ± 26.0	33.9 ± 22.8	28.6 ± 24.4	.30
Trunk Control Test on admission (0–100)	46.7 ± 32.0	41.4 ± 27.5	38.5 ± 37.0	.76
Trunk Control Test at resolution of delirium (0–100)	66.7 ± 25.3	64.3 ± 30.1	68.2 ± 27.6	.89
Trunk Control Test at discharge (0–100)	83.7 ± 21.5	71.8 ± 25.9	68.9 ± 27.0	.22
Tinetti Score on admission (0–28)	9.0 ± 6.3	7.1 ± 7.6	5.7 ± 6.5	.42
Tinetti Score at resolution of delirium (0–28)	14.5 ± 4.4	14.0 ± 7.7	12.1 ± 7.1	.53
Tinetti Score at discharge (0–28)	18.7 ± 4.5	16.0 ± 6.7	13.3 ± 6.5	.05
Delirium duration, d	4.3 ± 1.4	9.1 ± 2.0	18.5 ± 4.6	.000
Length of stay without delirium, d	19.2 ± 6.7	15.3 ± 9.0	11.0 ± 6.8	.016
Total length of stay, d	24.3 ± 6.8	24.7 ± 8.6	30.4 ± 6.9	.03
IFRAD Trunk Control Test	0.9 ± 0.9	0.3 ± 0.6	0.03 ± 0.1	.003
IFRAD Tinetti score	0.22 ± 0.1	0.15 ± 0.2	0.09 ± 0.1	.22

Note: IFRAD = Index of Functional Recovery After Delirium (calculated as the difference in Trunk Control Test or Tinetti score from resolution of delirium to discharge divided by the length of stay [days] without delirium).

Commenti

- Tanto più si è intensivi nel risolvere il delirium tanto più e prima il paziente recupera dal punto di vista dello stato funzionale
- La necessità di un approccio integrato tra le figure dell'equipe e la difficoltà di separare il lavoro del singolo dal lavoro dell'equipe

Stops walking when talking as a predictor of falls in elderly patients



Caratteristiche funzionali e procedure riabilitative in 24 pazienti ortopedici raggruppati in base a deficit delle funzioni esecutive

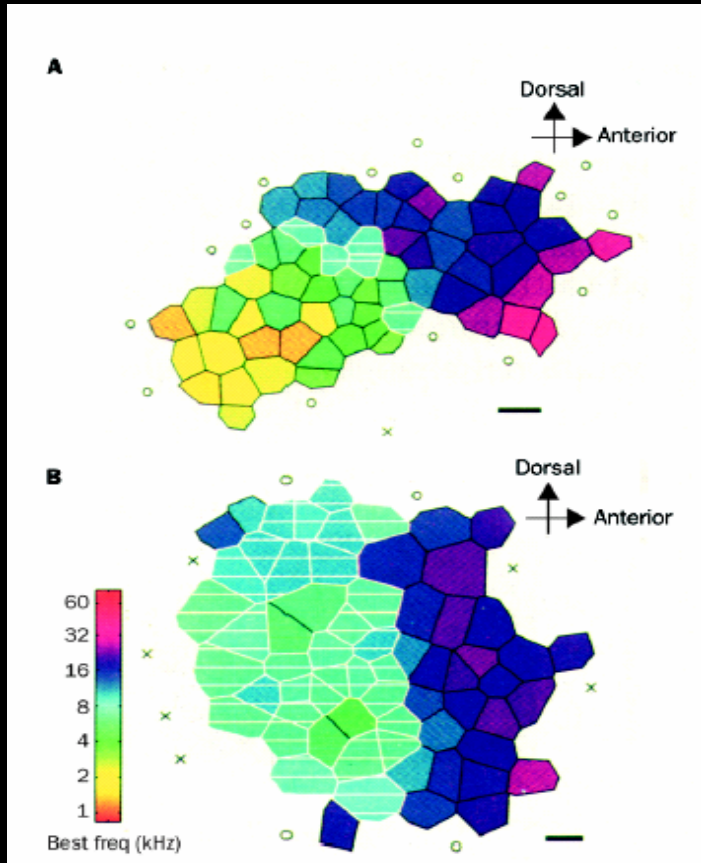
	Totale N=24	Integrità funz. esecutive N=13	Deficit funz. esecutive N=11	p
Sessioni di FKT (n°)	33.8±10.9	33.0±9.9	34.8±12.4	
Durata sessioni di FKT (minuti)	51.8±9.9	47.9±8.8	56.4±9.5	.034
N° procedure utilizzate				
Complessità A	47.2±18.8	40.8±20.3	54.7±14.4	
Complessità B	74.6±33.6	75.8±40.2	73.2±25.5	
Complessità C	58.9±27.0	60.8±34.0	56.5±16.8	
Difficoltà apprendim procedure/ausili (%)	45.8	46.2	45.5	
Ausilio alla dimissione				
Nessuno	4.2	0	9.1	
1 canadese o un bastone	33.4	53.9	9.1	
2 canadesi	54.2	38.5	72.7	
Walker	8.4	7.7	9.1	

Commenti

- I pazienti con deficit delle funzioni esecutive hanno maggiori difficoltà nell'apprendimento di procedure riabilitative nuove ed uso di ausili rispetto a soggetti con funzioni esecutive integre
- Vi è necessità (in riabilitazione) di indagare la presenza di deficit cognitivi anche lievi che interferiscono con il piano di recupero e con il risultato alla dimissione

L'intensità del trattamento fisioterapico

A paradigm shift in neurorehabilitation



Ratti che sono stati stimolati a cicli ricorrenti di 9 kHz in associazione a stimolazione del nucleo basale Meynert (per aumentare il rilascio di acetilcolina nella corteccia) mostrano un significativo rimodellamento della corteccia uditiva da un tonotipo organizzato a 1-64 kHz ad un altro organizzato a 6-12 kHz analyser

Kilgard M.P. Science 1998;279:1714-18

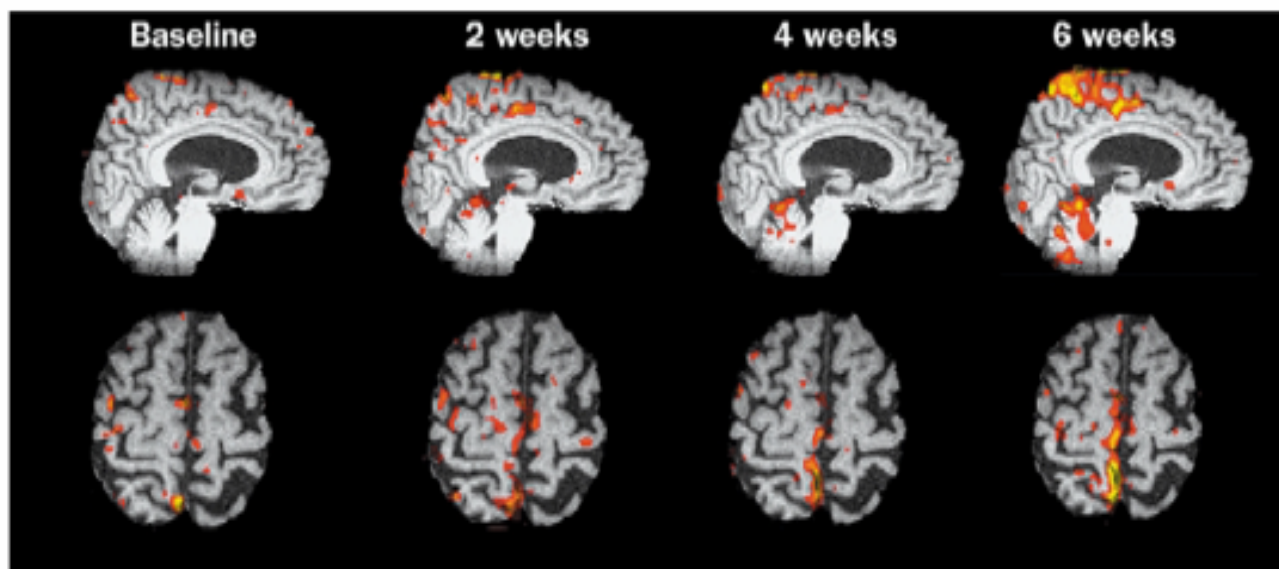
Recupero funzionale post stroke

- Modelli animali dopo stroke sviluppano una nuova rappresentazione corticale degli arti colpiti.
- Una nuova rappresentazione della corteccia motoria si sviluppa solo se i modelli animali sono ingaggiati in modo intensivo in trial riabilitativi
- Una simile riorganizzazione è stata descritta anche in pazienti che hanno recuperato dopo infarto lacunare

Jenkins WM, Prog Brain Res 1987

Nudo RJ, Science 1996

Weiller C, Ann Neur 1993



Functional MRI series with the blood-oxygen-level dependent signal and analysis of regions of interest during voluntary ankle dorsiflexion. The patient had chronic hemiparesis after a subcortical stroke 14 months earlier and still walked at less than 65 cm/s. The behavioural changes from baseline to the end of the first 12 training sessions were significant, so further therapy would probably not have been offered. The increase in fMRI activity, however, suggested ongoing recruitment within primary sensorimotor cortex (S1M1). Therapy was extended another six sessions in 2 weeks to see if gains in walking and recruitment had reached a plateau. There was a 20% increase in walking speed and improved motor control. The fMRI study at 6 weeks revealed an expansion of the foot representation medially into the representation for the back and hip muscles. Also, greater cerebellar and cingulate motor cortex activity developed. Two additional bouts of therapy led to greater motor control of the ankle during walking and focusing, rather than expanding fMRI activity within M1, consistent with greater synaptic efficacy (not shown).

Effect of severity of arm impairment on response to additional therapy early after stroke

R.H. Parry et al. *Clin Rehab* Vol. 13 No. 3 pp. 187-198, 1999

... "nel gruppo intervento, 10 ore di terapia Bobath addizionale per l'arto superiore si associano ad un miglioramento significativo delle performances motorie nei pazienti meno compromessi".

Evidence for stroke rehabilitation Royal College of Physicians

Source	Design & samples	Intervention(s)	Conclusion(s)
Patel et al, 1998	CCT; n = 184; acute stroke	Unit with impairment-focused approach, and unit with functionally oriented approach	Similar disability and placement outcomes; LOS shorter in functionally oriented unit
Richards et al, 1993 (see also Malouin et al, 1992)	RCT; n = 27 acute stroke patients	Early, intense conventional therapy; later less intense conventional therapy; early intense gait and muscle retraining	Early muscle and gait retraining (on treadmill) facilitated gait recovery; no diff between conventional groups
Langhorne et al, 1996	M/A; n = 7 trials, 597 stroke patients	Physiotherapy after stroke	More physiotherapy input was associated with a reduction in death and deterioration
Kwakkel et al, 1997	M/A; n = 9 trials, 1051 stroke patients	Daily rate of physiotherapy or occupational therapy	Higher rate of therapy associated with better outcome; but many confounding factors
Sunderland et al, 1992, 1994	RCT; n = 132 acute stroke patients	Routine therapy, or enhanced (more and different) therapy for arm	Faster recovery if some arm movement present initially, but no long-term difference

Evidence for stroke rehabilitation Royal College of Physicians

Source	Design & samples	Intervention(s)	Conclusion(s)
Feys et al, 1998	RCT; n = 100 stroke patients 3-5 weeks post-stroke	Routine therapy with additional: attention only, or sensorimotor stimulation	Additional therapy reduced motor loss (impairment) but not arm disability
Kwakkel et al, 1999	RCT; n = 101 severely disabled patients with primary middle-cerebral-artery stroke	Arm training; leg training vs control program of arm and leg immobilised with an inflatable pressure splint for 30', 5 days/wk for 20 wks after stroke	Greater intensity of leg training improved functional recovery and status; greater intensity of arm training improved dexterity
Lincoln et al, 1999 Parry et al, 1999	RCT; 282 acute stroke patients	Routine PT for the arm vs 10 additional hours with qualified physio vs additional treatment from trained therapy assistant under supervision, for 5 wks after stroke	Patients with severe arm impairment did not improve in any group. In less severe patients significant benefits in those who completed treatment (repetitive supervised movements) with trained assistant

What do the Guidelines Say for Post-Stroke Physical Activity?

TABLE 1. Summary of Exercise Programming Recommendations for Stroke Survivors*

Mode of Exercise	Major Goals	Intensity/Frequency/Duration
Aerobic		
Large-muscle activities (eg, walking, treadmill, stationary cycle, combined arm-leg ergometry, arm ergometry, seated stepper)	<ul style="list-style-type: none"> • Increase independence in ADLs • Increase walking speed/efficiency • Improve tolerance for prolonged physical activity • Reduce risk of cardiovascular disease 	<ul style="list-style-type: none"> • 40%–70% peak oxygen uptake; 40%–70% heart rate reserve; 50%–80% maximal heart rate; RPE 11–14 (6–20 scale) • 3–7 d/wk • 20–60 min/session (or multiple 10-min sessions)
Strength		
Circuit training Weight machines Free weights Isometric exercise	<ul style="list-style-type: none"> • Increase independence in ADLs 	<ul style="list-style-type: none"> • 1–3 sets of 10–15 repetitions of 8–10 exercises involving the major muscle groups • 2–3 d/wk
Flexibility		
Stretching	<ul style="list-style-type: none"> • Increase ROM of involved extremities • Prevent contractures 	<ul style="list-style-type: none"> • 2–3 d/wk (before or after aerobic or strength training) • Hold each stretch for 10–30 seconds
Neuromuscular		
Coordination and balance activities	<ul style="list-style-type: none"> • Improve level of safety during ADLs 	<ul style="list-style-type: none"> • 2–3 d/wk (consider performing on same day as strength activities)

ADLs indicates activities of daily living; RPE, rating of perceived exertion; and ROM, range of motion.

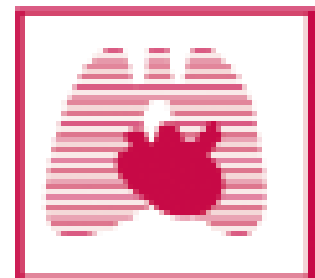
*From references 67, 71, 73, 75, 94, 95, and 96.

Recommended intensity, frequency, and duration of exercise depend on each individual patient's level of fitness. Intermittent training sessions may be indicated during the initial weeks of rehabilitation.

Source: Gordon, NF et al., 2004. Circulation. 109: 2031-41.

In-Hospital Short-term Training Program for Patients With Chronic Airway Obstruction*

(*CHEST* 2001; 120:1500–1505)



Enrico Clini, MD, FCCP; Katia Foglio, MD; Luca Bianchi, MD;
Roberto Porta, MD; Michele Vitacca, MD; and Nicolino Ambrosino, MD, FCCP

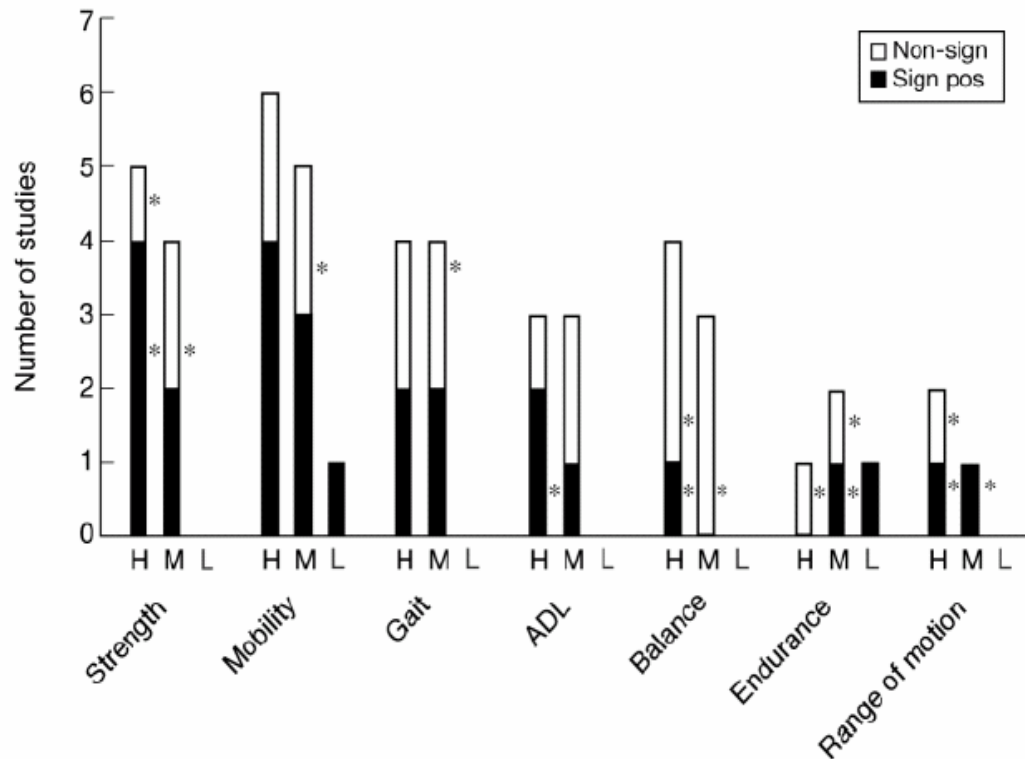
Table 2—Effects of Training on Respiratory Muscle Function and Exercise Tolerance*

Variables	Case Subjects		Control Subjects	
	T ₀	T ₁	T ₀	T ₁
MIP, % predicted	62 ± 22	68 ± 13	66 ± 12	70 ± 9
MEP, % predicted	78 ± 9	77 ± 6	77 ± 6	80 ± 10
Peak workload, W	68 ± 18	82 ± 22†	75 ± 17	87 ± 27†
$\dot{V}O_{2\text{peak}}$, mL · kg · min ⁻¹	15 ± 4	20 ± 14	10 ± 8	12 ± 7
$i\text{-}\dot{V}O_{2}$, mL · kg · min ⁻¹		14 ± 4		9 ± 6
$\dot{V}E_{\text{peak}}$, L · min ⁻¹	40.6 ± 9.1	39.2 ± 8.1	38.9 ± 7.9	39.9 ± 10.8
$i\text{-}\dot{V}E$, L · min ⁻¹		41.1 ± 7.7		39.1 ± 8.8

* $\dot{V}O_{2\text{peak}}$ = peak oxygen consumption at max load; $i\text{-}\dot{V}O_{2}$ = oxygen consumption at isoload; $\dot{V}E_{\text{peak}}$ = peak minute ventilation at max load; $i\text{-}\dot{V}E$ = minute ventilation at isoload.

†p < 0.05 vs T₀.

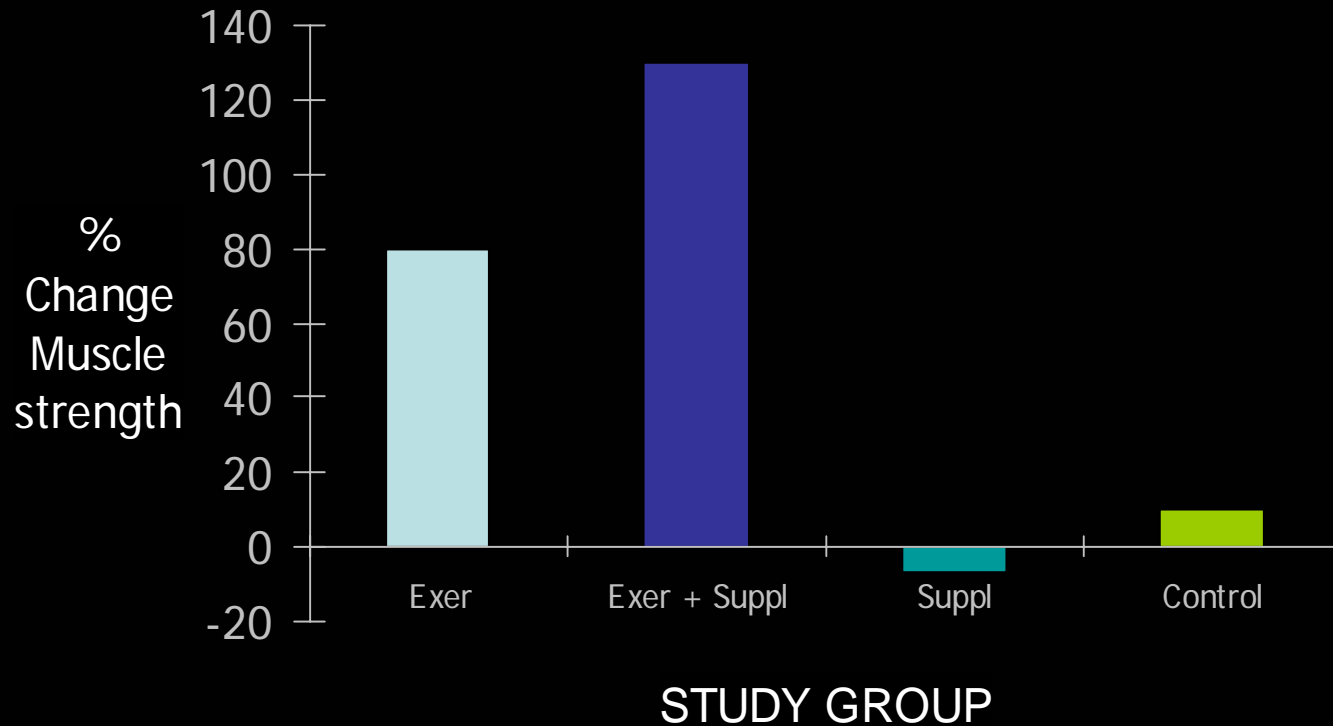
Physical training in institutionalized elderly: a systematic review



Rydwick E,
Age Ageing 2004

Figure 1. Number of RCTs showing significant positive and non-significant results grouped by methodological quality (high = H, moderate = M, low = L) and the seven different assessment variables. The studies that have combined same type of training and assessment are indicated by * to the right of each bar.

Exercise Training & Nutrition



Fiatarone et al, NEJM 1994

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Why stroke patients don't like Mondays (or Saturdays or Sundays)

O'Connell JL Age Ageing 2007

Early supported discharge services for stroke patients: a meta-analysis of individual patients' data

Peter Langhorne, Gillian Taylor, Gordon Murray, Martin Dennis, Craig Anderson, Erik Bautz-Halter, Paola Dey, Bent Indredavik, Nancy Mayo, Michael Power, Helen Rodgers, Ole Morten Ronning, Anthony Rudd, Nijasri Suwanwela, Lotta Widen-Holmqvist, Charles Wolfe

Lancet 2005; 365: 501-06

See Comment page 455

Summary

Background Stroke patients conventionally undergo a substantial part of their rehabilitation in hospital. Services have been developed that offer patients early discharge from hospital with rehabilitation at home (early supported discharge [ESD]). We have assessed the effects and costs of such services.

Methods We did a meta-analysis of data from individual patients who took part in randomised trials that recruited patients with stroke in hospital to receive either conventional care or any ESD service intervention that provided rehabilitation and support in a community setting with the aim of shortening the duration of hospital care. The primary outcome was death or dependency at the end of scheduled follow-up.

Findings Outcome data were available for 11 trials (1597 patients). ESD services were mostly provided by specialist multidisciplinary teams to a selected group (median 41%) of stroke patients admitted to hospital. There was a reduced risk of death or dependency equivalent to six (95% CI one to ten) fewer adverse outcomes for every 100 patients receiving an ESD service ($p=0.02$). The hospital stay was 8 days shorter for patients assigned ESD services than for those assigned conventional care ($p<0.0001$). There were also significant improvements in scores on the extended activities of daily living scale and in the odds of living at home and reporting satisfaction with services. The greatest benefits were seen in the trials evaluating a coordinated multidisciplinary ESD team and in stroke patients with mild to moderate disability.

Interpretation Appropriately resourced ESD services provided for a selected group of stroke patients can reduce long-term dependency and admission to institutional care as well as shortening hospital stays.

Physiotherapy for patients with mobility problems more than 1 year after stroke: a randomised controlled trial

J. Green et al. *Lancet* Vol. 359 pp. 199-203, 2002

"Community physiotherapy treatment for patients with mobility problems 1 year after stroke leads to significant, but clinically small, improvements in mobility and gait speed that are not sustained after treatment ends".

**Quali barriere
all'intervento?**

	Bassa comorbidità (*)		Elevata comorbidità (**)		p (***)
	Tinetti 0-12 (n = 24)	Tinetti 13-28 (n = 26)	Tinetti 0-12 (n = 17)	Tinetti 13-28 (n = 13)	
Età	74.5±12.6	71.5±8.9	77.8±7.2	76.0±9.1	0.41
Sesso femminile, n (%)	18 (36.0)	17 (34.0)	9 (30.0)	5 (16.7)	0.14
Body Mass Index (kg/cm ²)	25.8±4.5	27.2±4.5	23.4±4.6	24.4±7.2	0.18
Livelli serici di albumina (mg/dl)	3.5±0.4	3.5±0.2	3.5±0.5	3.5±0.6	0.99
Charlson Index	1.5±1.0	1.5±1.1	6.1±1.7	5.1±1.7	0.000
Numero di farmaci	5.0±2.0	4.5±1.4	5.4±1.5	4.3±1.6	0.24
Durata della degenza (giorni)	19.4±6.0	16.0±5.4	27.0±9.5	18.3±3.7	0.000
Mini Mental State Examination	24.7±3.7	27.0±2.6	17.0±9.7	22.1±3.6	0.000
Geriatric Depression Scale (15 item)	4.4±3.2	4.4±4.0	5.2±4.1	6.0±3.4	0.54
Instrumental ADL (funzioni perse)	2.0 ±2.3	2.3±2.2	5.7±2.7	4.2±2.4	0.008
Barthel Index	47.0±17.4	71.2±13.3	29.7±22.5	66.4±10.0	0.000
Delta Tinetti (miglioramento dimissione-ingresso)	16.6±4.6	6.0±8.0	6.5±5.8	4.9±2.6	0.000
Numero totale di procedure fisioterapiche	7.6±2.5	5.3±3.1	6.7±2.3	4.7±1.9	0.003
Rehabilitative Procedure Index (-)	21.3±14.5	13.6±16.3	11.6±10.9	8.1±5.1	0.02

Note

I dati sono rappresentati come media ± deviazione standard se non specificato altrimenti.

(*) Bassa comorbidità = Charlson Index 0-3.

(**) Elevata comorbidità = Charlson Index > 4.

(***) p = significatività all'ANOVA (simple factorial 2-way interactions).

(-) Indica il livello di complessità e intensità delle procedure fisioterapiche ed è stato ottenuto moltiplicando il numero totale di procedure per un livello predefinito di complessità/durata della degenza.

Caratteristiche cliniche, funzionali e cognitive di 80 pazienti anziani ricoverati consecutivamente in un reparto di Riabilitazione geriatrica dopo stratificazione per comorbidità e stato funzionale (scala di Tinetti) all'ingresso e rispettivi livelli di intensità riabilitativa.

(Bellelli G, Pagani M. La riabilitazione ospedaliera del paziente affetto da demenza. In: Trabucchi M. La persona affetta da demenza in ospedale. Carocci, 2007)

MMSE e intensità riabilitativa (80 anziani dopo intervento per frattura di femore)

	Non corretto			Corretto *		
	B	95% CI	P	B	95% CI	P
MMSE < 18		ref	Ref		ref	ref
MMSE = 19-24	.7	-0.3 to 1.8	.200	.5	-0.8 to 1.7	.464
MMSE = 25-26	2.4	1.2 to 3.5	<.0005	2.4	1.0 to 3.7	.001
MMSE > 27	3.1	2.0 to 4.1	<.0005	2.6	1.1 to 3.9	.001

* età, sesso, Barthel Index pre-frattura.

B = coefficienti di regressione P = significatività al T test

LETTER TO THE EDITOR

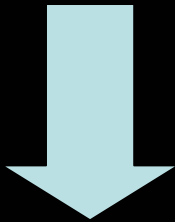
THE REHABILITATION OF PATIENTS WITH DEMENTIA AFTER HIP FRACTURE

- Communicative bias
- Deficit in attentive and executive functions
- Physical exhaustibility
- Environment
- Initial assessment
- Family support
- Ageism

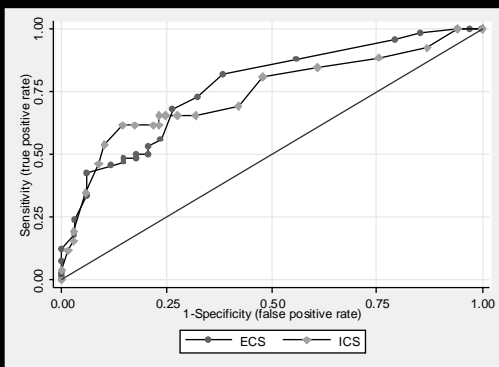
C'è differenza in termini di risultato nei settings di cura intensiva vs settings di cura estensiva?

Studio multicentrico frattura femore

Coorte di derivazione
(n=194)



“Functional Risk Index”



Coorte di validazione
(n=212)

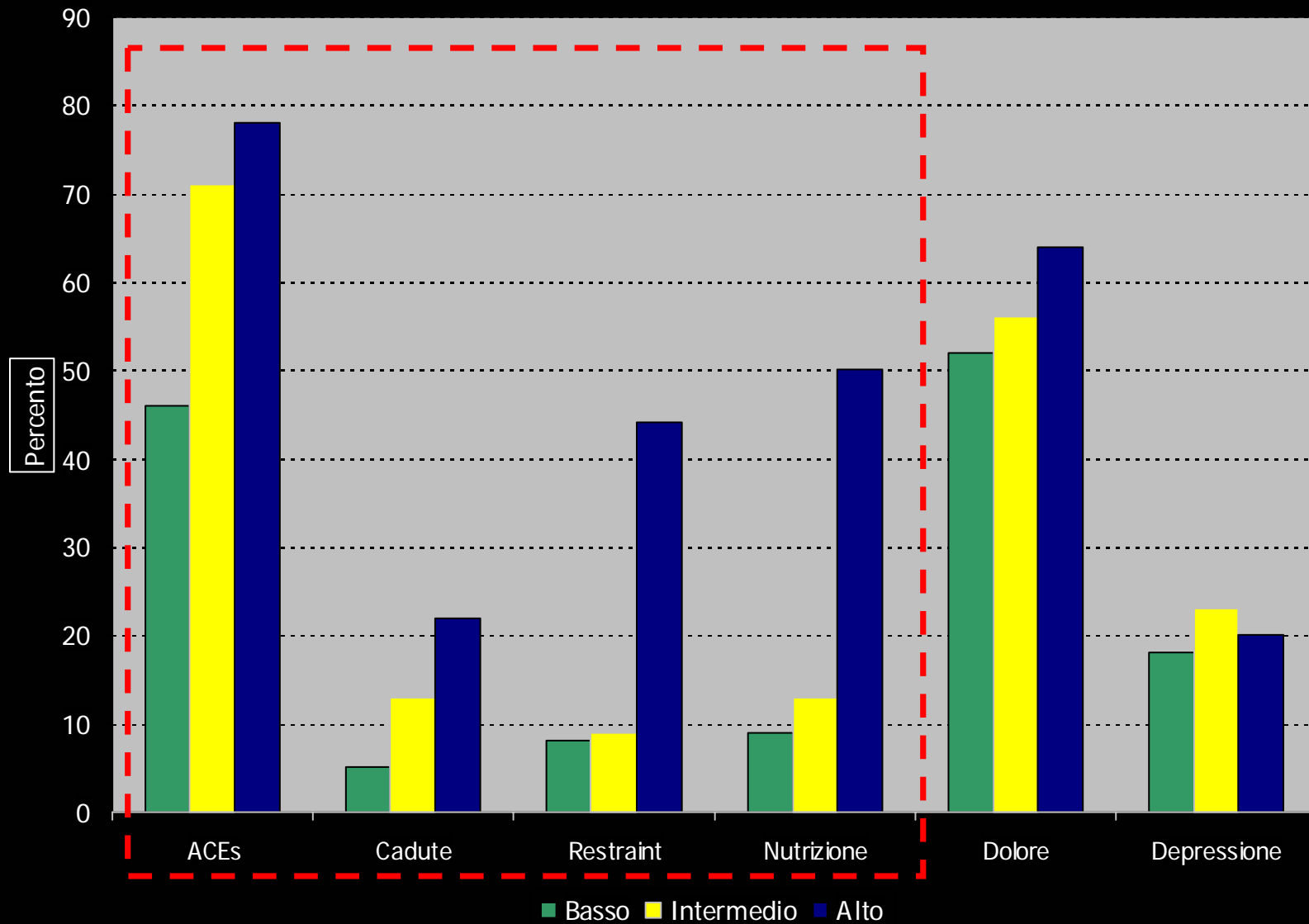
Setting Intensivo
(n=101)

Setting Estensivo
(n=111)

Obiettivi:

- Descrivere i percorsi di cura per strati di rischio,
- Verificare gli esiti funzionali tra ICS ed ECS a parità di rischio
- Verificare l'efficienza dei setting

Transizione per livelli di rischio

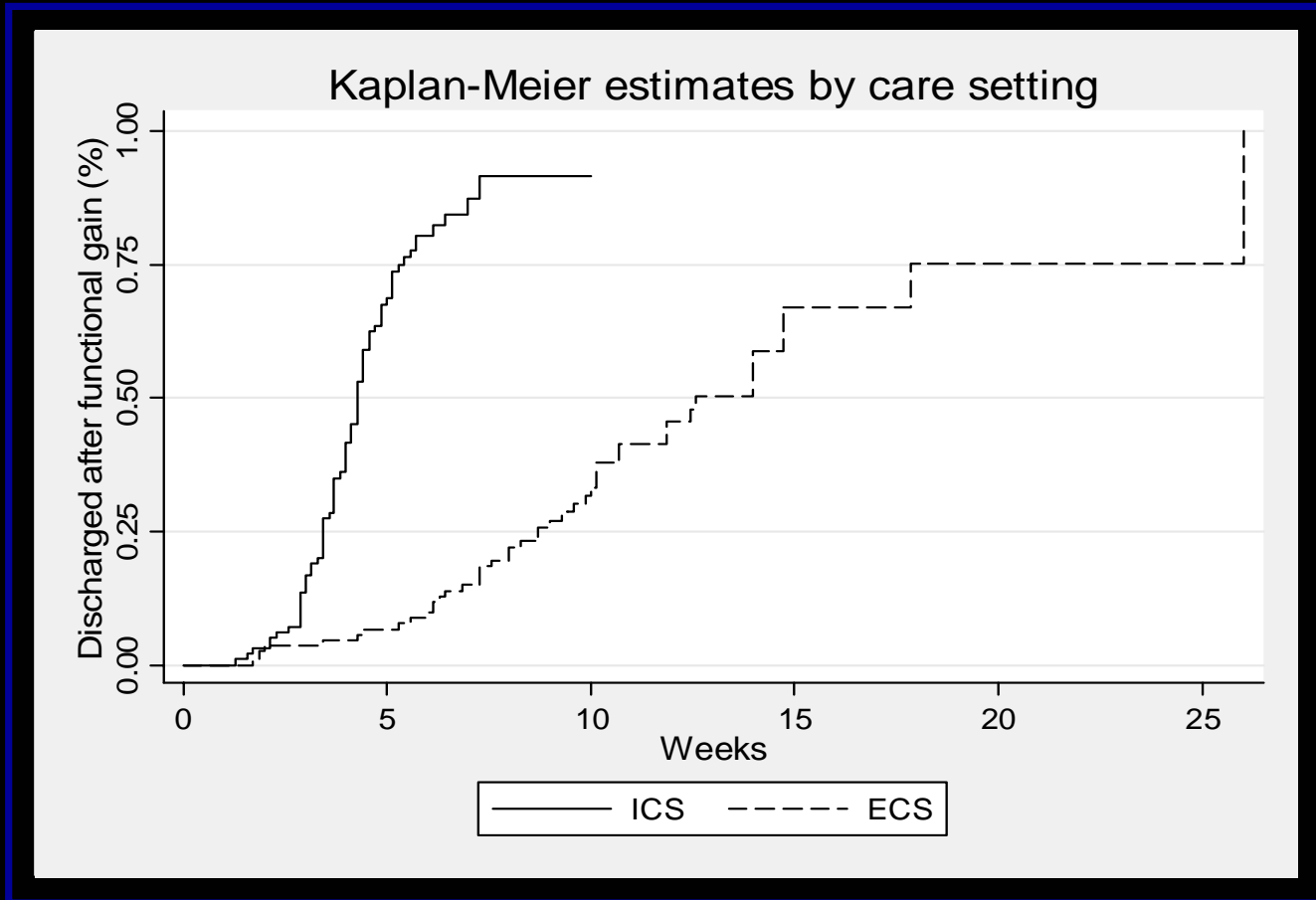


Indipendenza nel cammino per setting di cura e gruppi di rischio

Gruppi di Rischio	Riabilitazione Intensiva	Riabilitazione Estensiva	RR (95% IC)	P
Basso	87.8 (41)	62.5 (23)	2.8 (1.0-7.7)	0.031
Intermedio	82.1 (28)	34.9 (43)	3.6 (1.6-8.3)	0.000
Alto	38.5 (26)	11.8 (34)	1.4 (1.0-2.0)	0.015
Totale	72.6 (95)	34.0 (100)	2.4 (1.7-3.4)	0.000

Valori %. Tra parentesi il numero dei pazienti.
IC = intervallo di confidenza

Un intervento integrato di tipo intensivo permette degenze più brevi



Conclusioni

- La riabilitazione geriatrica è un insieme di interventi multiprofessionali il cui risultato dipende dalla capacità di lavoro in equipe; è possibile immaginare uno scenario in cui più figure (es geriatra, fisiatra, fisioterapista, infermiere, neuropsicologo) agiscano su differenti livelli di intervento, utilizzando modalità di cura specifiche e complementari
- La riabilitazione geriatrica si caratterizza per un'intensività che si esprime su più livelli di cura (clinico, diagnostico, riabilitativo)
- È necessario sviluppare paradigmi di intervento intensivo e strumenti di misurazione che permettano un confronto tra outcomes