Corso di formazione

"VENTILAZIONE NON INVASIVA

FUORI DALLA TERAPIA INTENSIVA"

SETTING UP - NIV

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NIV

- ✓ Perché?
- ✓ Dove?
- ✓ Chi?
- ✓ Quando?
- ✓ Equipaggiamento
- ✓ Monitoraggio
- ✓ Protocolli

Razionale dell'uso della NIV nell'insufficienza respiratoria

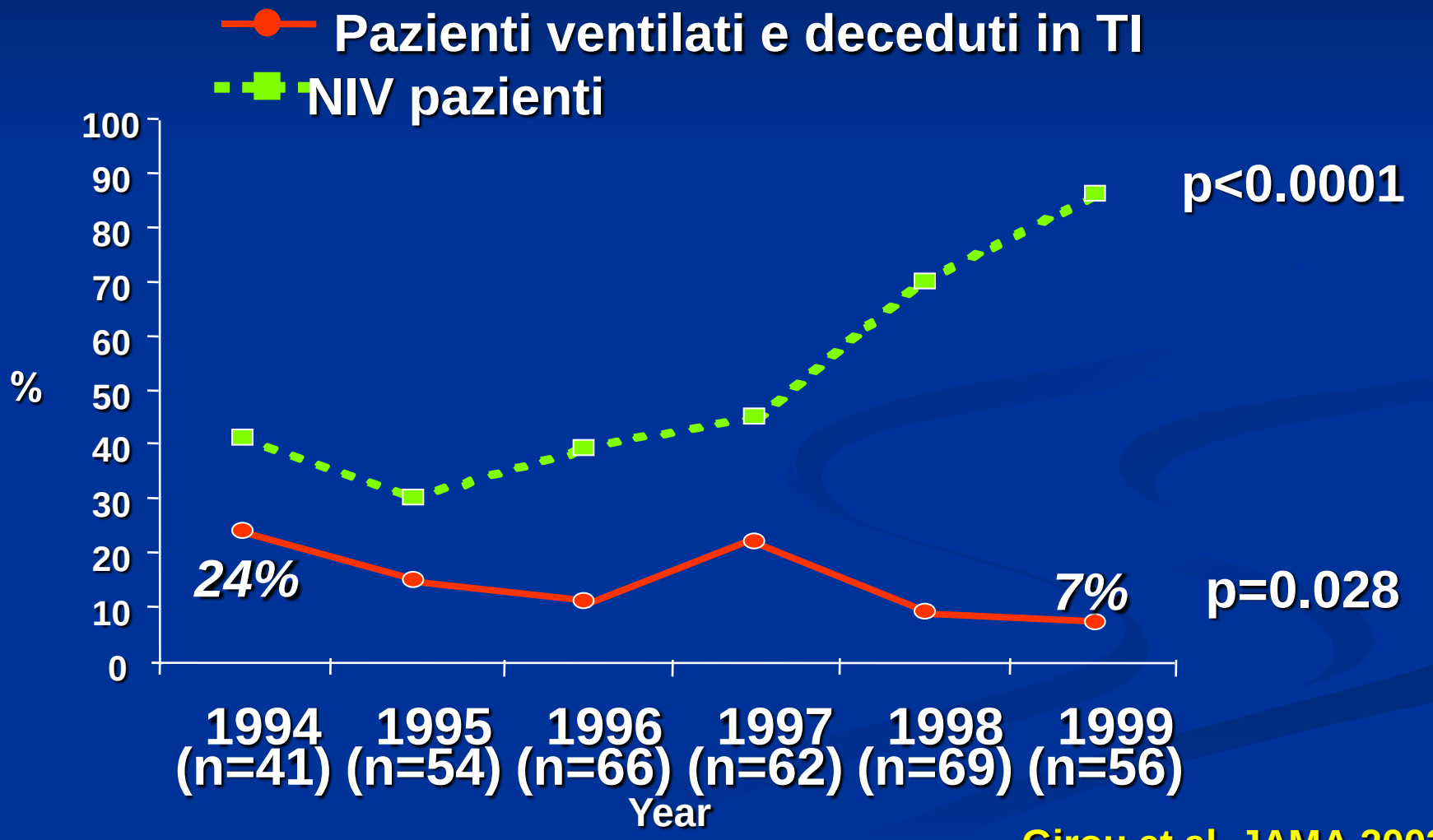
Ipossiemico

- Reclutare volume polmonare
- Ridurre lo sforzo inspiratorio
- Migliorare il pattern respiratorio
- Aumentare PaO_2/FiO_2
- Ridurre dispnea
- Prevenire l'intubazione

Ipercapnico

- Offset PEEPi
- Ridurre lo sforzo inspiratorio
- Migliorare il pattern respiratorio
- Ridurre PaCO2 e normalizzare PH
- Ridurre dispnea
- Prevenire l'intubazione

Trend di mortalità in terapia intensiva per BPCO ed EPA



Girou et al. JAMA 2002

Necessità d'intubazione e mortalità ospedaliera

	Standard therapy	NIV	*p*
Failed	32/118 (27%)	18/118 (15%)	0.02
Died	24/118 (20%)	12/118 (10%)	0.05

PK Plant et al: The Lancet vol 355 June 3, 2000

Media del carico di lavoro infermieristico

Period (range)	Standard therapy	NIV	p
0-1 h	25(5-84)	35 (7-95)	0.001
1-8 h	54(11-130)	70 (19-179)	0.004
8-24 h	84(21-262)	103 (32-228)	NS
24-48 h	106 (34-385)	127(30-251	NS

PK Plant et al: The Lancet vol 355 June 3, 2000

Cost effectiveness of ward based non-invasive ventilation for acute exacerbations of chronic obstructive pulmonary disease: economic analysis of randomised controlled trial

P K Plant, J L Owen, S Parrott, M W Elliott

bmj.com 2003;326:956

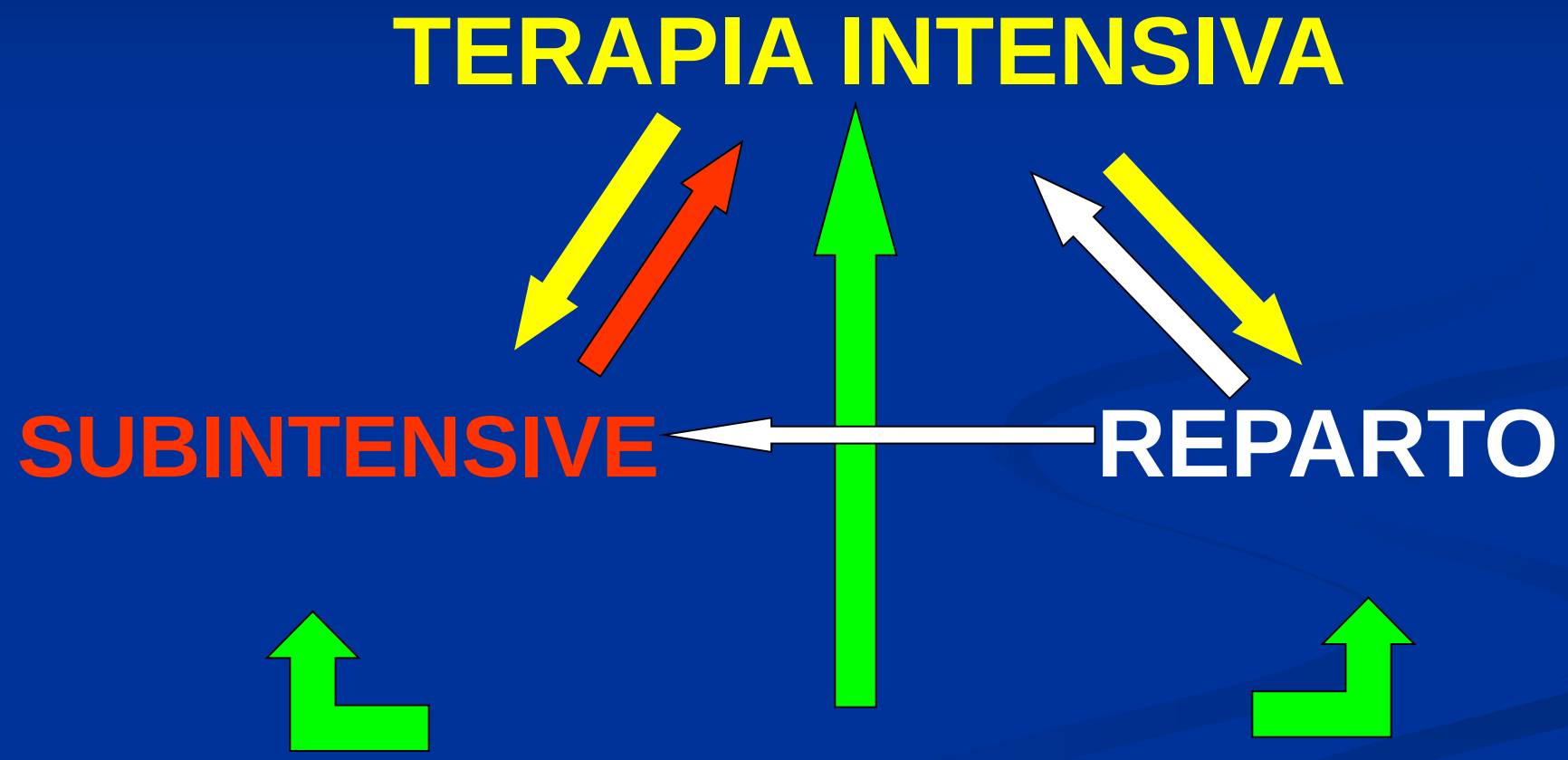
Table 3 Cost effectiveness of ward based non-invasive ventilation in reducing mortality in hospital in two groups of patients (n=236)

	Standard treatment (n=118)	Non-invasive ventilation (n=118)
Costs (£):		
Ward	127 355	139 243
Non-invasive ventilation	3 390*	26 664
Additional non-invasive ventilation nursing	67*	525
Intensive care unit	142 576	52 981
Total	337 435	288 073
Effectiveness of intervention:		
No of deaths	24	12
No discharged	98	108
Saving with non-invasive ventilation (£)	—	49 362
Deaths avoided with non-invasive ventilation	—	12

Dove ?

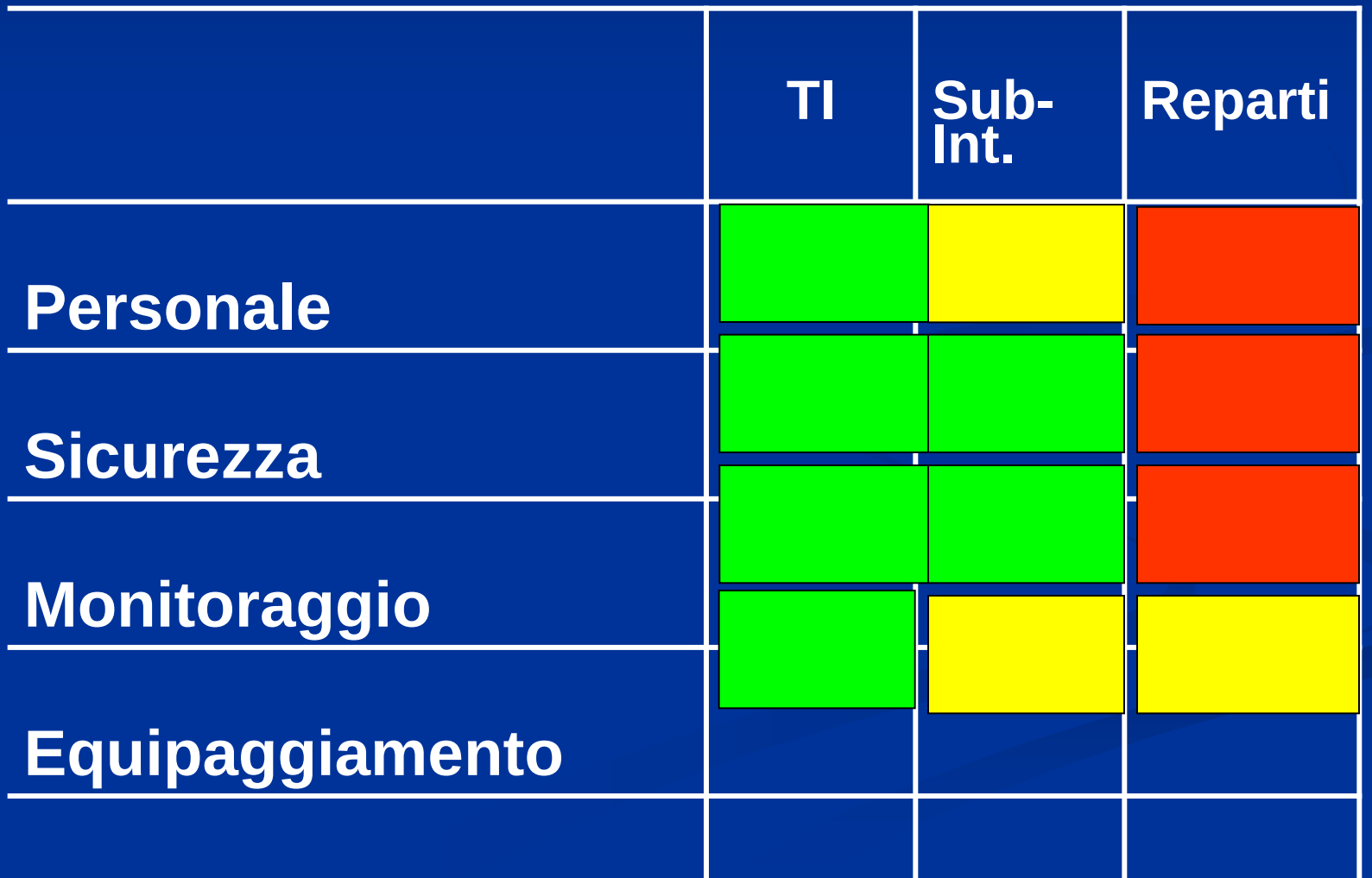
- ✓ Terapie intensive respiratorie
- ✓ Terapie intensive
- ✓ Terapie subintensive respiratorie
- ✓ Riabilitazioni respiratorie
- ✓ Reparti medici
- ✓ Dipartimenti d'emergenza
- ✓ Sale di emergenza

Location



Dove

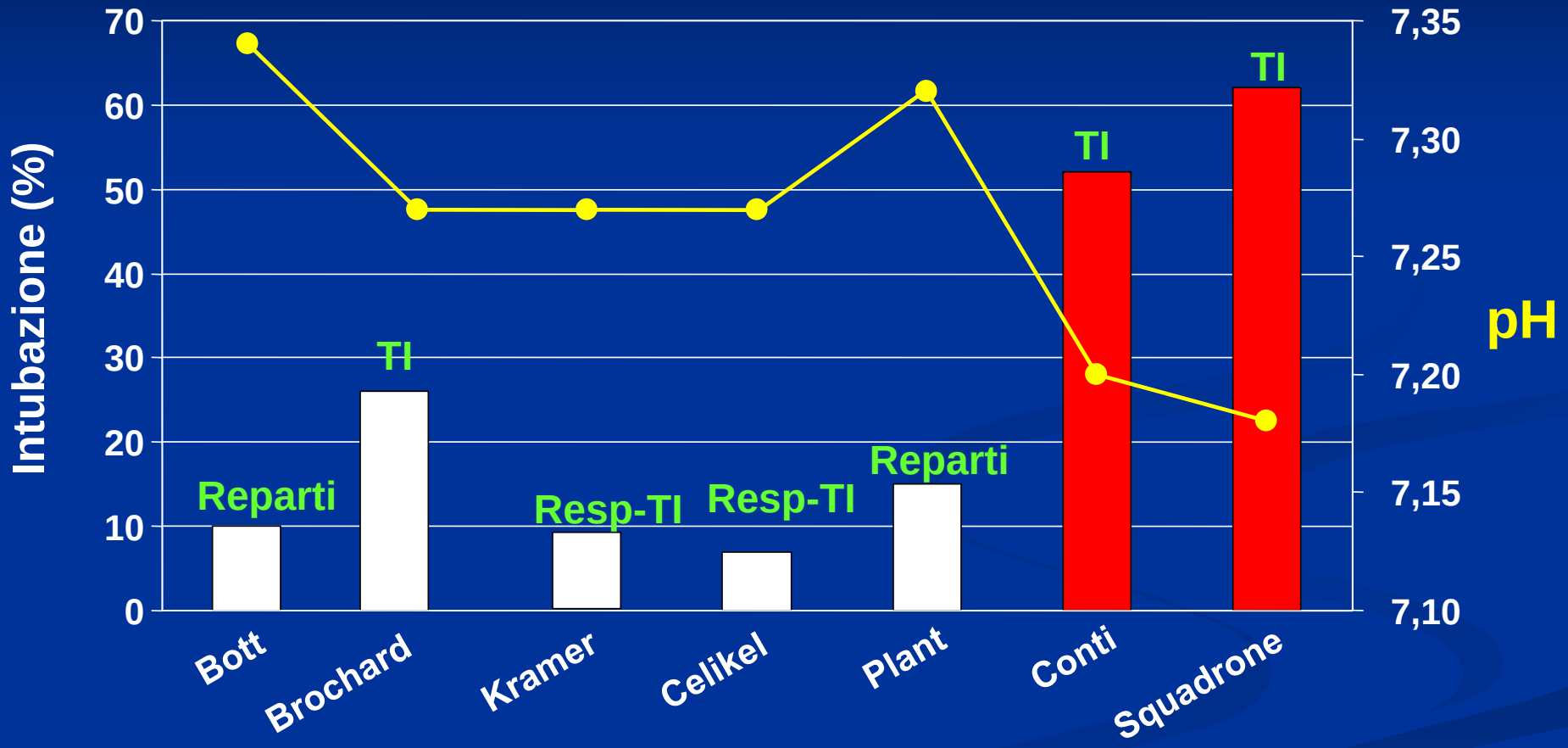
Il concetto del “Semaforo”



Dove

Il concetto del “Semaforo”

Frequenza di intubazione



Annalisa Carlucci
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Fiorenzo Rubini
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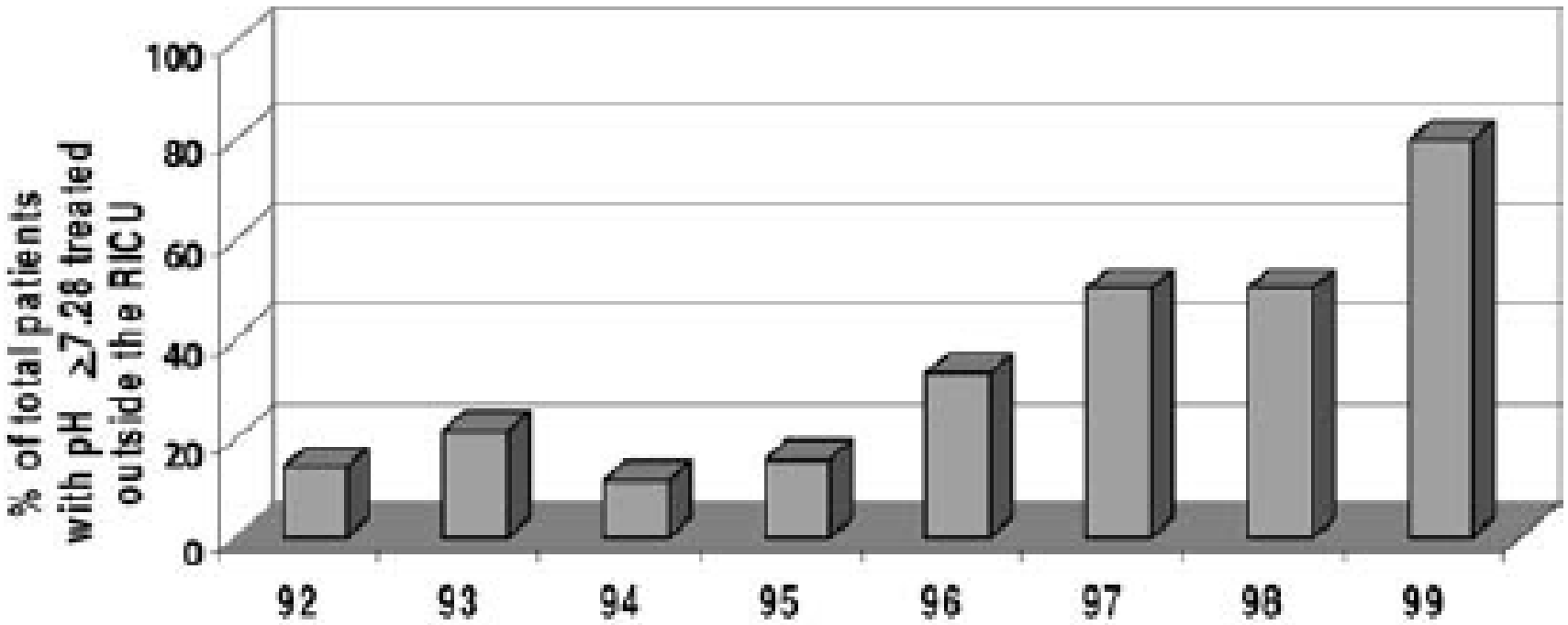
Stefano Nava

Changes in the practice of non-invasive ventilation in treating COPD patients over 8 years



Carlucci A. et al

Chi?

The department of emergency personnel were well trained and very skilled in noninvasive and invasive ventilation.

disorders. The respiratory intensive care unit is staffed by chest physicians and nurses with expertise in NPPV, NPV and invasive ventilation.

two internal medicine residents. The RCU team consisted of a pulmonary physician and a dedicated nursing staff. The respiratory therapists are not part of a specific team at our hospital, instead, there are two independent teams of respiratory therapists, one of which is located in the ICU, with the other covering the rest of the hospital.

was 1/3 during daytime shifts, and 1/6 during the night shift. Likewise, the size of the medical team (three physicians in rotation during the daytime, one physician on duty at night) remained constant during the period of the study as did that of the Respiratory Therapists (1/5 from 8 a.m. to 4 p.m.). A face mask was always used.

BTS GUIDELINE

Setting up an acute NIV service

Non-invasive ventilation in acute respiratory failure

British Thoracic Society Standards of Care Committee

Thorax 2002;**57**:192–211

- A named consultant with appropriate training should have overall responsibility for the NIV service. This will usually be a consultant respiratory physician. [**D**]

Decisioni: specialista medico

- Trained ICU staff, doctors, physiotherapists, lung function technicians, and nurses can successfully set up and maintain NIV. When setting up an acute NIV service, it is recommended that NIV be initiated and run by nursing staff. [**C**]

Applicazione: infermieri

- All staff involved in an acute NIV service should receive training appropriate to their baseline knowledge and role in providing the service. Training in NIV should be available for consultants in respiratory medicine and should be included in all specialist registrar training programmes. [**D**]

Training I: tutto lo staff

- A training programme for the provision of an NIV service should provide a combination of knowledge based learning supported by clinical experience in the workplace. [**D**]

Training II: teoria e pratica

Equipaggiamento

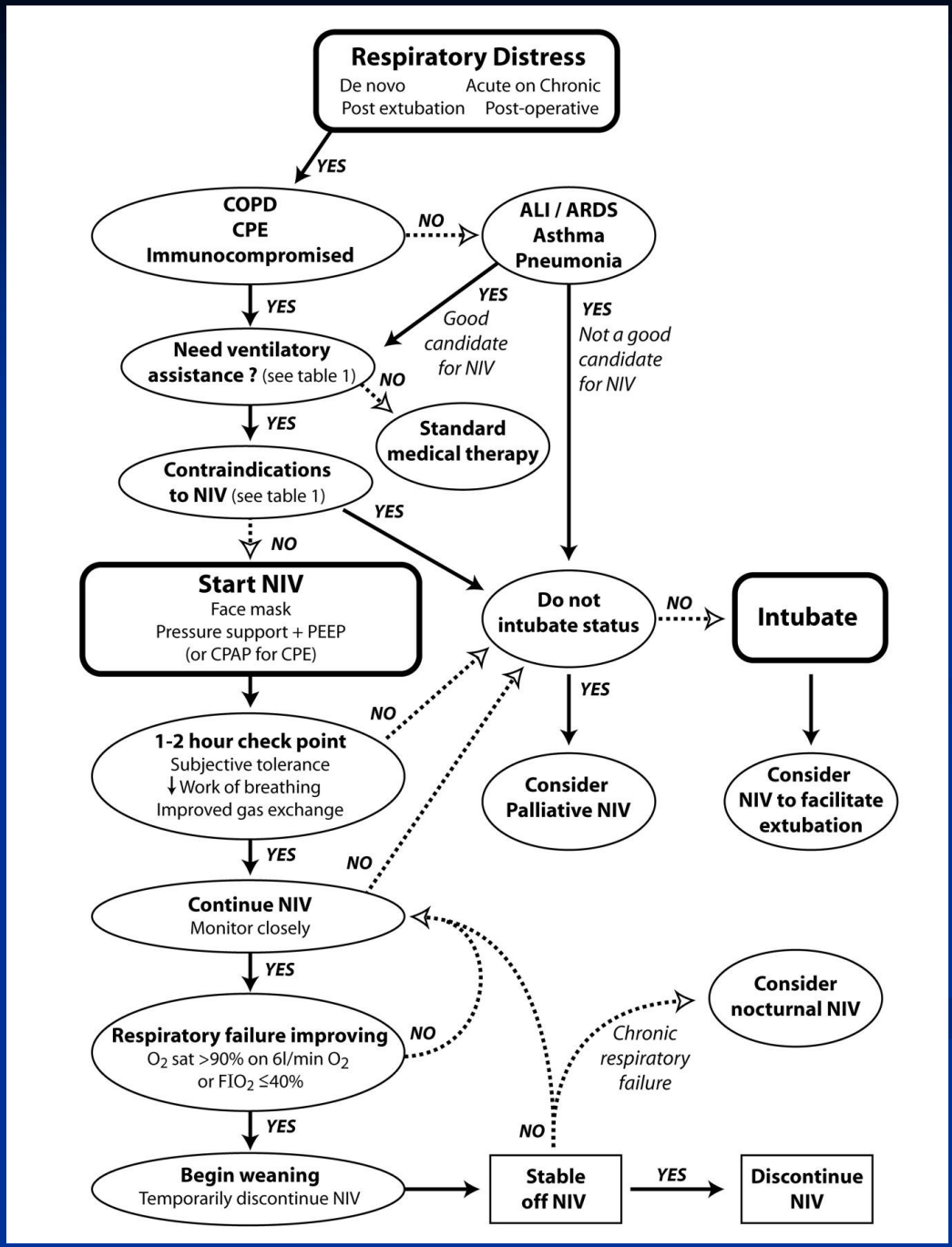
Equipaggiamento

1. Scelta del ventilatore
   - ✓ Circuiti
   - ✓ PEEP/PS
   - ✓ Sorgente gas
   - ✓ Compensazione delle perdite
   - ✓ Modalità
2. Monitoraggio

PROTOCOLLI

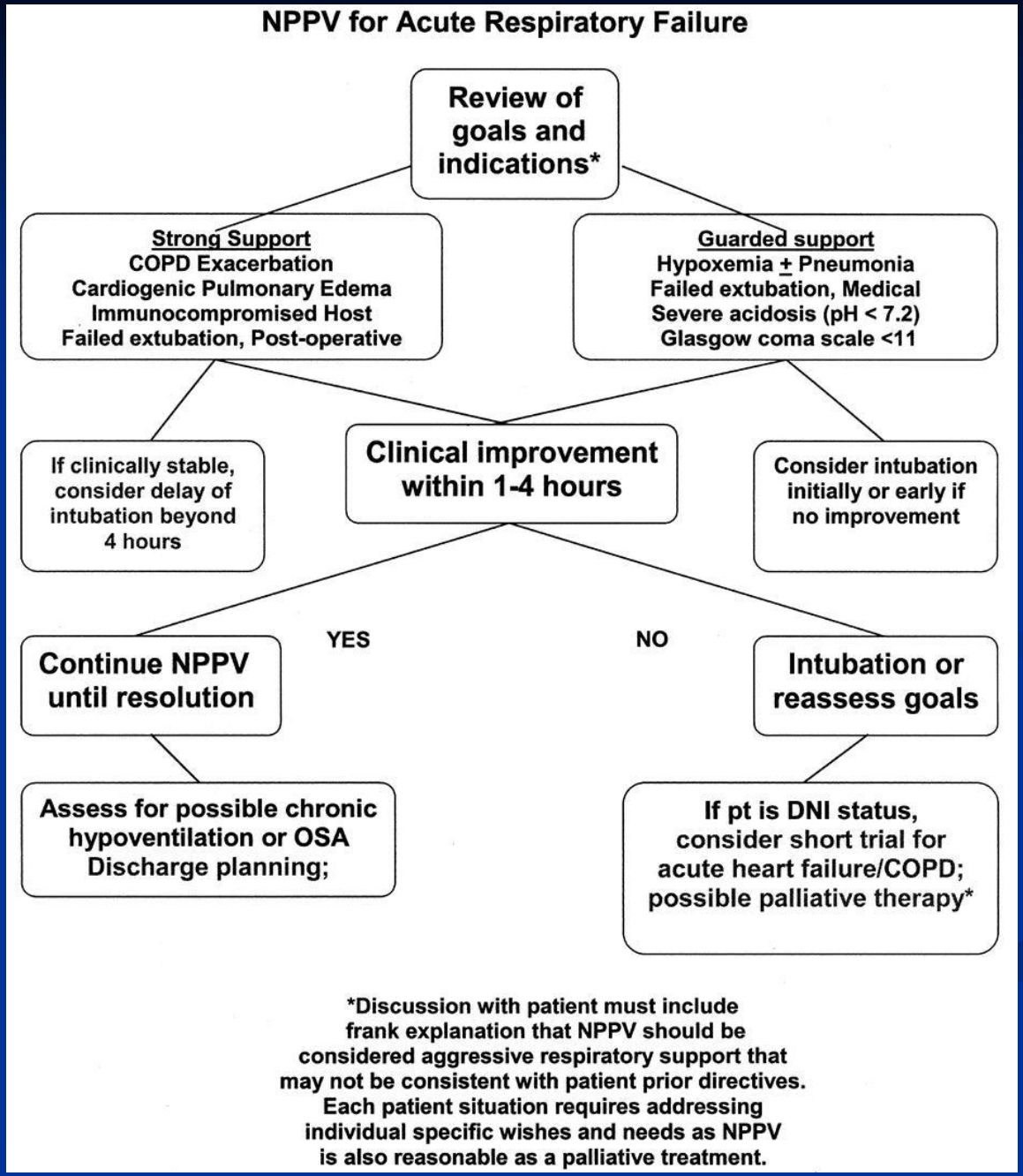
Guidelines

Garpestad, Brennan and Hill
CHEST 2007;132:711



Guidelines

Caples et al CCM 2005; 33:2651



Conclusioni

- **I Protocolli possono essere usati, ma non sono fondamentali**
- **Monitoraggio ed equipaggiamento adeguati alla gravità del paziente, ma non necessariamente sofisticati e cari.**
- **Training e buona acquisizione delle tecniche sono la chiave del successo**
- **Entusiasmo e motivazione del personale coinvolto sono determinanti per organizzare una “NIV unit” di successo.**

Grazie per l'attenzione