
# Utilità degli scores: luci ed ombre. Le Polmoniti

Dr. Giovanni Pinelli Medicina d'Urgenza Baggiovara-MODENA

# Appropriatezza del ricovero: il "mondo reale"

- Molto spesso il clinico utilizza criteri non "consolidati" nel decidere il luogo di cura
- Sovrastima del rischio di mortalità a breve termine anche in pazienti oggettivamente "a basso rischio"
- Spesso tutto questo si traduce in un numero non trascurabile di ricoveri inappropriati

# Abbiamo bisogno degli scores clinici di gravità?

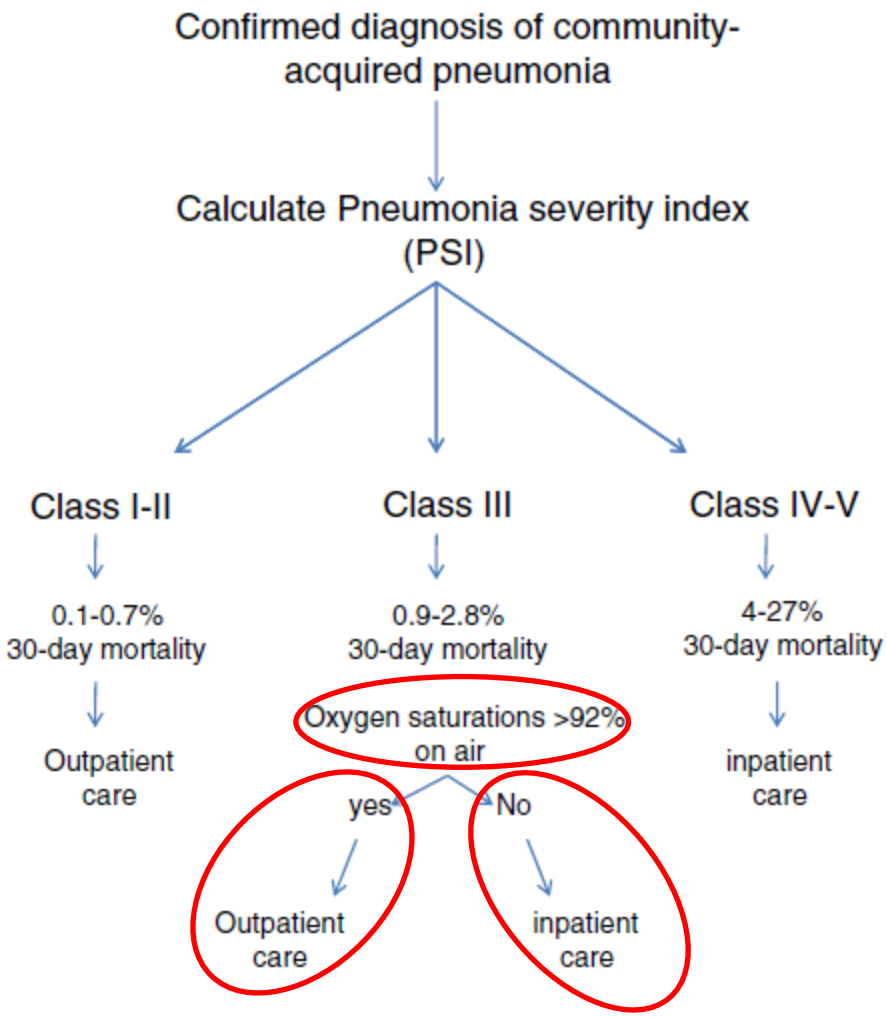
- La maggior parte dei pazienti preferisce essere curato a casa se non vi sono rischi
- Maggiore "rischio" infettivo legato all'ospedalizzazione
- Utilizzo più appropriato delle risorse (alternative al ricovero: OBI? Ambulatorio post-dimissione o ricovero breve?)
- Gli scores sono validati per predire la mortalità a 30 giorni non per indicare la possibile dimissione

PSI Score Worksheet

| Risk Factor | Points |
|---|---|
| Age | |
| Male | Age (years) |
| Female | Age (years) −10 |
| Vital signs/physical examination | |
| Temperature < 35°C or ≥ 40°C | 15 |
| Systolic blood pressure < 90 mm Hg | 20 |
| Pulse ≥ 125 beats/min | 10 |
| Respirations ≥ 30 breaths/min | 20 |
| Altered mental status | 20 |
| Past medical history | |
| Cancer (active or < 1 year ago) | 30 |
| Liver (chronic liver disease) | 20 |
| Congestive heart failure | 10 |
| Cerebrovascular (CVA/TIA) | 10 |
| Renal disease (chronic) | 10 |
| Residence in nursing facility | 10 |
| Laboratory tests | |
| Glucose ≥ 250 mg/dL | 10 |
| BUN ≥ 30 mg/dL | 20 |
| Sodium < 130 mmol/L | 20 |
| Hematocrit < 30% | 10 |
| Arterial pH < 7.35 | 30 |
| $PaO_2$ < 60 mm Hg or $O_2$ saturation < 90% | 10 |
| Studies | |
| Pleural effusion | 10 |

| PSI Class | 30-day mortality |
|---|---|
| I* | 0.10% |
| II ≤ 70 | 0.60% |
| III (71–90) | 0.90% |
| IV (91–130) | 9.30% |
| V (> 130) | 27% |

* Age < 50 years; no cancer, congestive heart failure, cerebrovascular, renal, or liver disease, normal vitals/examination.
CVA = cerebrovascular accident; TIA = transient ischemic attack; BUN = blood urea nitrogen; $PaO_2$ = partial pressure of oxygen.


Confirmed diagnosis of community-acquired pneumonia
Calculate Pneumonia severity index (PSI)
Class I-II
Class III
Class IV-V
0.1-0.7% 30-day mortality
0.9-2.8% 30-day mortality
4-27% 30-day mortality
Outpatient care
Oxygen saturations >92% on air
inpatient care
yes
No
Outpatient care
inpatient care

# Pneumonia Severity Index: luci e ombre

- Unico score con importanti studi prospettici di validazione: l'applicazione sistematica consente di ridurre l'ospedalizzazione in sicurezza
- Complesso da calcolare
- Molto peso età e comorbidità
- Non tiene conto di fattori psico-sociali o di condizioni particolari come l'esistenza di pat. neuromuscolari
- Basso valore predittivo nell'indicare il ricovero in ICU
- Le principali LG la raccomandano associata al "clinical judgement"

Pneumonia Severity Index

file:///C:/Users/Utente/Desktop/polmonite/Pneumonia%20Severity%20Index%20Calculator.htm

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Reference Abbreviations and Definitions Disclaimer About Design

*Age : *Sex :

Nursing Home Resident

## Comorbid Diseases :

Renal Disease Liver Disease CHF

Cerebrovascular Disease Neoplasia

## Physical Exam :

Altered Mental Status SBP < 90

Temp < 35 or >= 40 RR >= 30 HR >= 125

## Labs :

PH < 7.35 PO2 < 60 or Sat < 90

NA < 130 HCT < 30 Gluc > 250

BUN > 30 Pleural Effusion

Calculate Reset

*Age : 40 *Sex : Female

- [ ] Nursing Home Resident

## Comorbid Diseases :

- [ ] Renal Disease
- [ ] Liver Disease
- [ ] CHF
- [ ] Cerebrovascular Disease
- [ ] Neoplasia

## Physical Exam :

- [ ] Altered Mental Status
- [ ] SBP < 90
- [x] Temp < 35 or >= 40
- [ ] RR >= 30
- [x] HR >= 125

## Labs :

- [ ] PH < 7.35
- [ ] PO2 < 60 or Sat < 90
- [ ] NA < 130
- [ ] HCT < 30
- [ ] Gluc > 250
- [ ] BUN > 30
- [ ] Pleural Effusion

Calculate Reset

# Pneumonia Severity Index Results

Class : II
Score : 55
Mortality : 0.6%

Pneumonia Severity Index

| Risk | Class | Score | Mortality |
|---|---|---|---|
| Low | I | < 51 | 0.1% |
| Low | II | 51 - 70 | 0.6% |
| Low | III | 71 - 90 | 0.9% |
| Medium | IV | 90 - 130 | 9.5% |
| High | V | > 130 | 26.7% |

**Hospitalization is recommended for class IV and V.**
**Class III should be based on clinical judgement.**

Return to Pneumonia Severity Index Calculator

# CURB 65

CURB 65 severity score: 1 point for each feature present:

- Confusion
- Urea> 42 mg/dl
- Respiratory rate >= 30/min
- Blood pressure (SBP<90mmHg or DBP<60 mmHg)
- Age>= 65

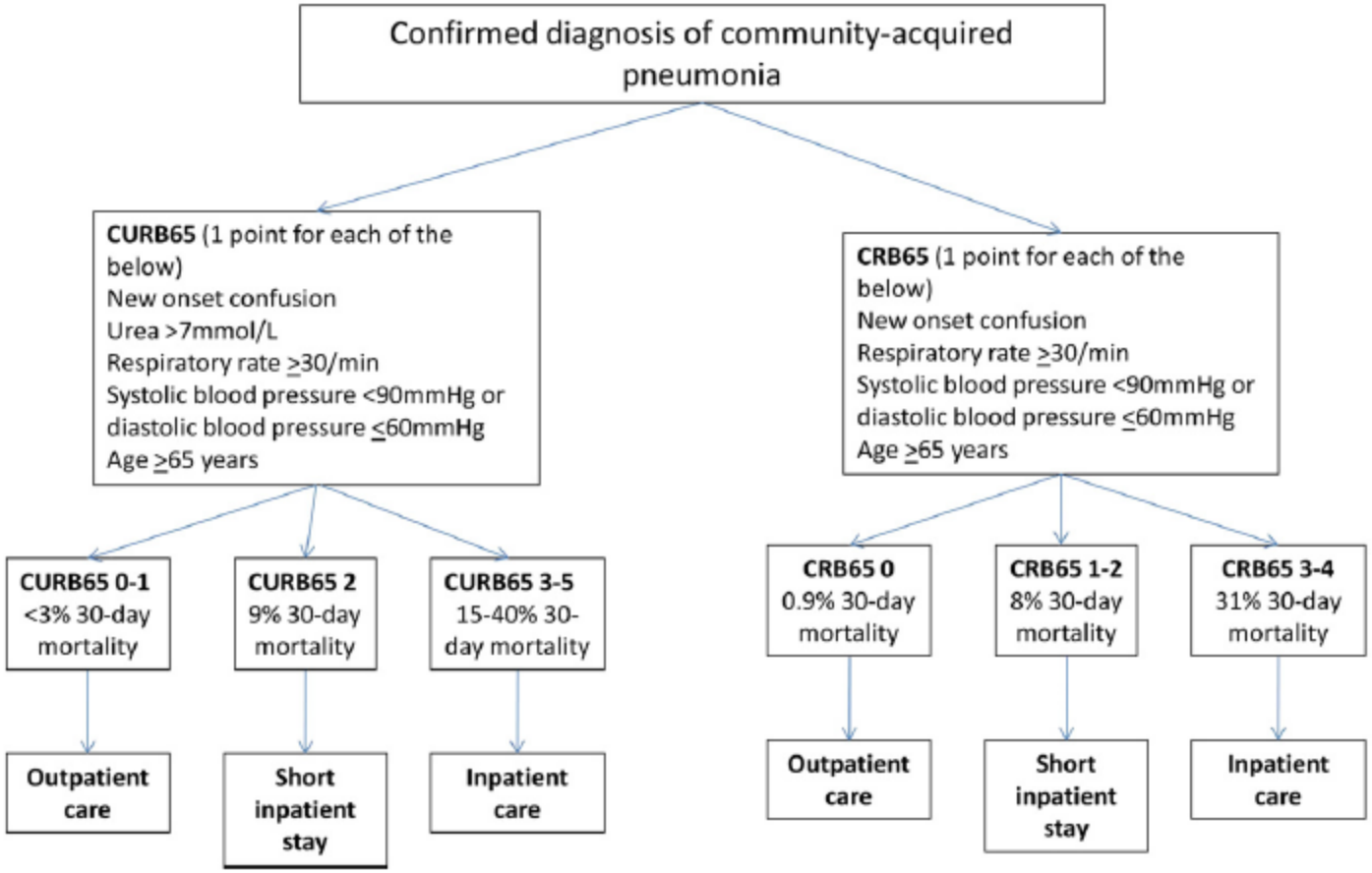


**Fig. 2.** A typical protocol for use of CURB65 or CRB65 to guide site of care decisions in community-acquired pneumonia.

# CURB-65: luci ed ombre

- Molto semplice – raccomandato dalle LG BTS e ATS
- Non ha studi di validazione prospettica
- Non tiene conto di parametri importanti quali comorbidità e ossigenazione
- Eccessivo peso a parametri come l'età che da sola può condizionare l'ospedalizzazione (necessità di cut-off differenti per il paziente molto anziano)

# Reasons Why Emergency Department Providers Do Not Rely on the Pneumonia Severity Index to Determine the Initial Site of Treatment for Patients with Pneumonia

**Drahomir Aujesky,[1] Julie B. McCausland,[2] Jeff Whittle,[3] D. Scott Obrosky,[2,4] Donald M. Yealy,[2] and Michael J. Fine[2,4]**

[1]Division of General Internal Medicine, Department of Medicine, University of Lausanne, Lausanne, Switzerland; [2]Department of Emergency Medicine, [3]Division of General Internal Medicine, Department of Medicine, University of Pittsburgh, and [4]Veterans Affairs Center for Health Equity Research and Promotion, Veterans Affairs Pittsburgh Healthcare System, Pittsburgh, Pennsylvania; [5]Primary Care Division, Clement J. Zablocki Veterans Affairs Medical Center and Division of General Internal Medicine, Department of Medicine, Medical College of Wisconsin, Milwaukee, Wisconsin.

***Background.*** Many emergency department (ED) providers do not follow guideline recommendations for the use of the pneumonia severity index (PSI) to determine the initial site of treatment for patients with community-acquired pneumonia (CAP). We identified the reasons why ED providers hospitalize low-risk patients or manage higher-risk patients as outpatients.

***Methods.*** As a part of a trial to implement a PSI-based guideline for the initial site of treatment of patients with CAP, we analyzed data for patients managed at 12 EDs allocated to a high-intensity guideline implementation strategy study arm. The guideline recommended outpatient care for low-risk patients (nonhypoxemic patients with a PSI risk classification of I, II, or III) and hospitalization for higher-risk patients (hypoxemic patients or patients with a PSI risk classification of IV or V). We asked providers who made guideline-discordant decisions on site of treatment to detail the reasons for nonadherence to guideline recommendations.

***Results.*** There were 1,306 patients with CAP (689 low-risk patients and 617 higher-risk patients). Among these patients, physicians admitted 258 (37.4%) of 689 low-risk patients and treated 20 (3.2%) of 617 higher-risk patients as outpatients. The most commonly reported reasons for admitting low-risk patients were the presence of a comorbid illness (178 [71.5%] of 249 patients); a laboratory value, vital sign, or symptom that precluded ED discharge (73 patients [29.3%]); or a recommendation from a primary care or a consulting physician (48 patients

Clinical Infectious Diseases 2009; 49:e100–8

# Gli scores sono utili nella pratica clinica?

- Barlow et al. 2008: solo il 4% dei medici intervistati nominava il CURB 65 tra i criteri per classificare la gravità di una CAP e solo il 7% conosceva lo score a memoria

- Lee et al. 2003: in una Unità Operativa di Emergenza in Australia il PSI veniva utilizzato solo in 1/3 delle CAP e calcolato incorrettamente nel 42% dei casi