

Do protocols & guidelines improve care?

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Content

- **Is there a problem?**
- **Definitions**
- **When do we need guidelines & protocols?**
- **Advantages & disadvantages**
- **Evaluation of Care?**
- **Examples to answer the question**
- **Conclusions**



Is there a problem?

- **Introduction EBM**
 - Knowledge – education – performance gap
 - EBM & EM?
- **“Translation” in guidelines & protocols**
 - Is EBM translated in guidelines?

EVIDENCE-BASED PREHOSPITAL MANAGEMENT OF SEVERE TRAUMATIC BRAIN INJURY: A COMPARATIVE ANALYSIS OF CURRENT CLINICAL PRACTICE GUIDELINES

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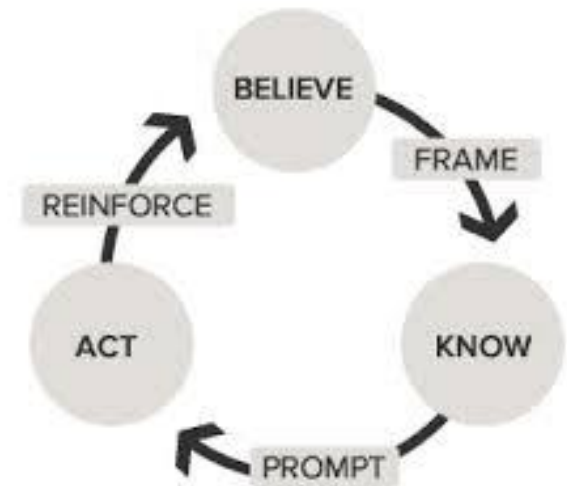
<u>Recommendation</u>	<u>Clinical Practice Guideline n°</u>												Presence in CPG's
	1	2	3	4	5	6	7	8	9	10	11	12	(.. / 12)
Prehospital Transport													12
Advanced Airway Management													12
Glasgow Coma Scale													11
Hypoxemia													9
Blood Pressure Management													8
Spinal Immobilisation													6
Fluids Management													5
Uncontrolled Bleeding													5
ETCo ² Monitoring / Capnography													5
Training & Staff Development													5
Pupilreflex													5
Steroids													5
Blood Glucose Control													5
Pain Management													5
Pulse Oximetry													4
Communication													4
ICP Therapy with Barbiturates													3
Hyperventilation													3
Temperature Management													3
Neuromuscular Blocking Agents													3
Anti-Epileptic Therapy													2
Total amount of recommendations (.../21)	9	8	9	6	11	14	9	8	15	6	14	11	

Is there a problem?

- Limited adherence to guidelines in EM

Ebben et al: Adherence to guidelines and protocols in the prehospital and emergency care setting: a systematic review.

Scand J Trauma Resusc Emerg Med 2013; 21: 9-25.



Definition:

Medical guideline

- Systematically developed statements with the aim of
- guiding decisions & criteria regarding diagnosis, management & treatment
- in specific areas of healthcare

– *Based on:*

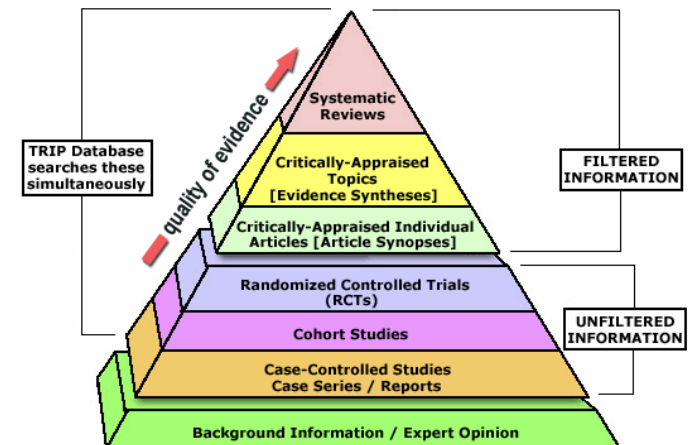
- Evidence based medicine - Consensus statements
- Risk/benefit, cost-effectiveness & outcomes

– *Identifying:*

- Decision points + Courses of actions

– *Goals:*

- Standardisation
- Improve quality & (cost) effectiveness



Definitions

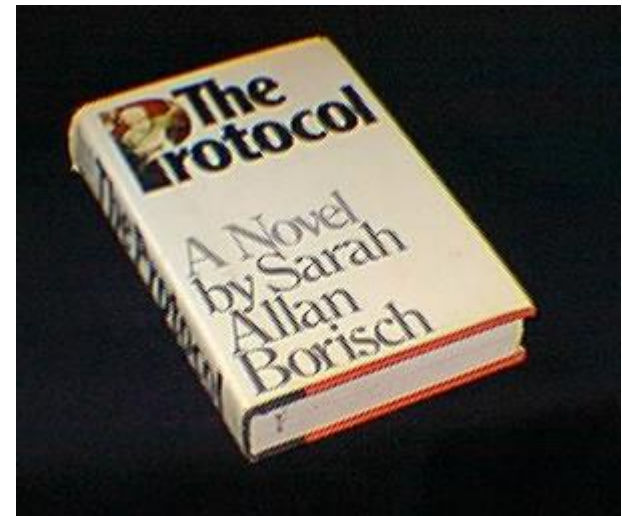
- Ideal **properties** of guidelines
 - *Validity* = reaching the goals
 - *Reproducibility*
 - *Clinically applicable & flexibility*
 - Expected exceptions
 - How to individualise them
 - *Clarity*
 - Uniform documentation for evaluation,...

Definitions

- **Clinical protocol**

= stricter than a guideline and a memorandum formulated and signed as a basis of agreement on a diagnostic and/or therapeutic approach

– *More weight with the law*



Definitions

Guideline

- 1 person
- imposed
- basic care
- education value
- potentially outdated



protocol

- team oriented
- agreed on
- basic + specialised care
- oriented on skills and tasks
- flexible: needs & new knowledge



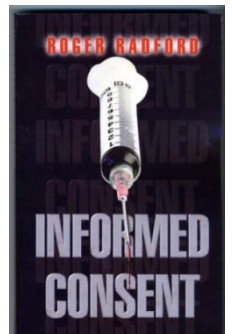
- **Area 's for guidelines & protocols**

- No time to think (*CPR*)
- Large variations in approach (*syncope, mild TBI,...*)
- Large variations in outcome (*trauma, sepsis,...*)
- Large variations in cost



- **Advantages of guidelines**

- **Assisting to practice EBM to individual patients**
- **Providing uniform standard of care**
- **Used as education or training tool**
- **Helping patients to make informed decisions by improving communications**



- **Disadvantages**

- **Cooking book Medicine <> individualised care**
 - McDonalds vs 3 star restaurant
- **Authonomy of the professional**
 - Imposed actions by *authorities - insurance companies*
 - Cost-cutting exercises
 - Interfere with clinical freedom
- **Used in court and induce defensive medicine**
- **Fast evolution of science & outdated guidelines**



Guideline opportunities in EM

“Early Goal-Directed therapy”

- Translation of guidelines vs **time & functionality**
 - “early” diagnosis = urgency or emergency
 - Time-sensitive therapies
 - Operational algorithms
- AMI, trauma, stroke, sepsis,...



Evaluation of Care?

- **Research or audit?**

*Research is concerned with discovering the right thing to do;
audit with ensuring that it is done right*

= mixture of both

- Research = medical aspects
- Audit = organisational aspects



Evaluation

research

- **Creating new knowledge**
- **Based on hypothesis**
- **Needs ethical approval**
- **Randomisation**
- **Large scale – long time**
- **Published**

Clinical audit

- **Tests care against knowledge**
- **Measures performance vs criteria**
- **Never randomisation**
- **Small number - short time span**
- **Less published (local)**

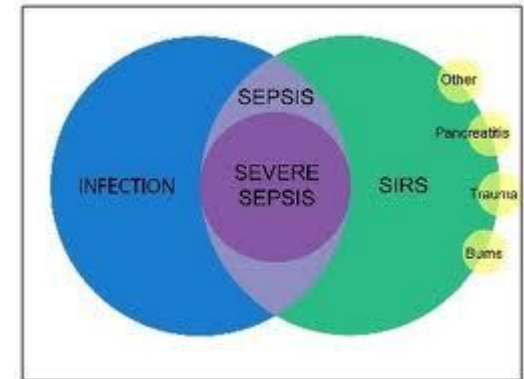
Evaluation process

- **Assessment of prevalence & mortality/morbidity**
- **Identification of high-risk patients**
- **Mobilisation of resources**
- **Performance of consensus-derived protocol**
- **Appraisal of quality indicators to assess compliance**
- **Quantification of health-care resource consumption**
- **Assessment of outcomes**

Evaluation process

- **Performance of protocol**
 - Defining procedural parameters
 - Time - Success rate
 - Procedural parameter “time” = outcome parameter?
- **Quality indicators = ??**
 - What is optimal care in a specific health care system?
- **Outcome**
 - ROSC vs 6 month survival/Cerebral performance
- **Biases**
 - Not randomised
 - Hawthorn effects

Evaluation: sepsis



- **Mortality reduction** (n = 1298)
 - Before implementation: 44.8 % (29.3 – 55 %)
 - After implementation: 24.5 % (18.2 – 33 %)
 - Average reduction of 20.3 %
- **Cost-Effectiveness**
 - Cost of training & implementation
 - Extra resources,...
 - 23.4 % reduction in costs

Otero R et al. Early goal-directed therapy in severe sepsis & septic shock revisited. Chest 130:1579-1595, 2006.

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A Randomized Trial of Protocol-Based Care for Early Septic Shock

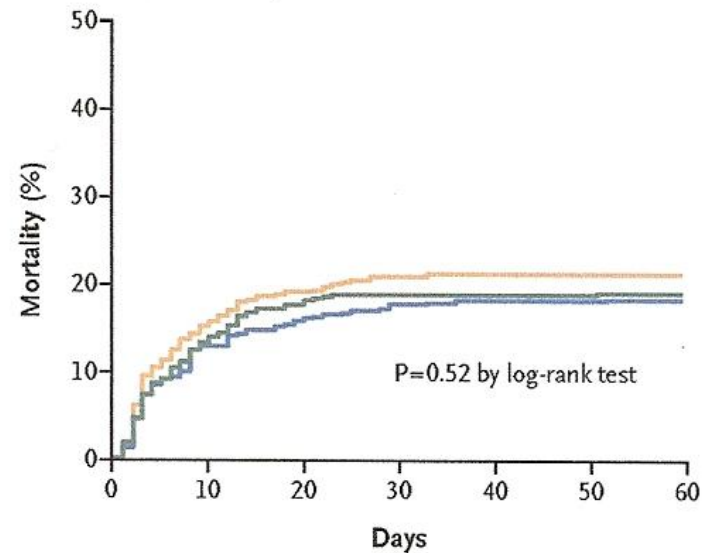
The ProCESS Investigators*

- **31 ED in US**
- **3 groups**
 - 439 EGDT
 - 446 protocol-based standard-therapy
 - 456 usual-care therapy
- **Difference between EGDT – protocol-based?**
- **Differences in acute renal failure**
 - Protocol > usual care > EGDT

A Randomized Trial of Protocol-Based Care for Early Septic Shock

The ProCESS Investigators*

A Cumulative In-Hospital Mortality to 60 Days



No. at Risk

Protocol-based EGDT	439	373	356	348	347	347	347
Protocol-based standard therapy	446	389	376	368	366	366	365
Usual care	456	396	376	371	371	371	370

Evaluation: CPR

- **Observational cohort study**
- **Utstein style recording**
- **Before & after implementation new guidelines**
- **End points:** *ROSC, ICU admission rate, discharge from hospital*
- **No improvement**



Hung S et al. Are new CPR guidelines better? Experience of an Asian metropolitan hospital. Ann Acad Med 39:569-575, 2010

Conclusions

- **Good Guidelines = summary of EBM**
 - *Explicitation of implicit knowledge*
- **Guidelines = basis for good protocols**
- **Teaching tools**
- **Basis for bench marking**
- **Do we always need a prove of better care?**
 - Existing quality of care, limited improvement in outcome, complexity of cofounders,...

Conclusions

Plan for what is likely

**Develop guidelines – protocols
for**

Planned improvisation

Each patient remains unique



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