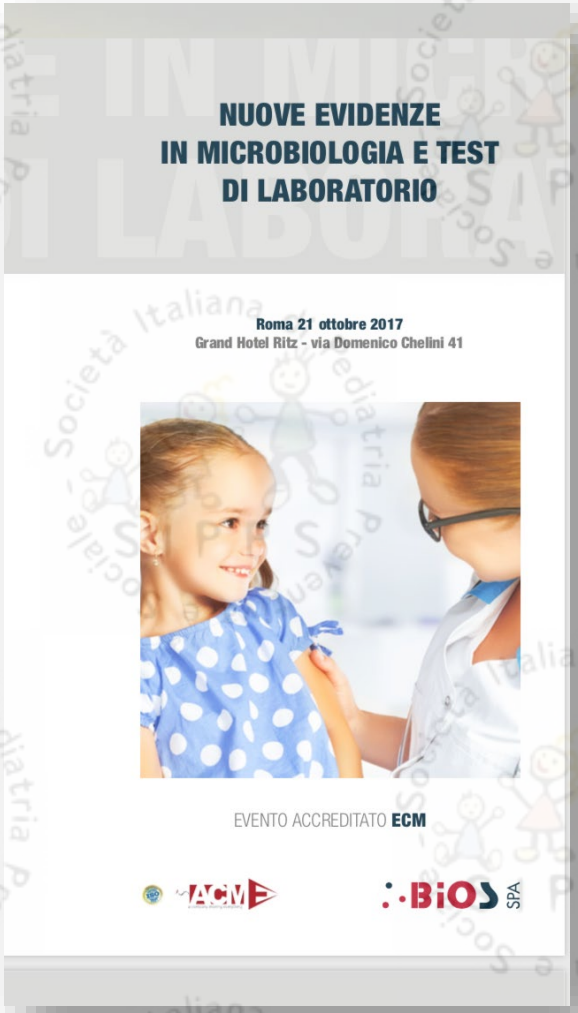

USO RAZIONALE DEGLI ANTIBIOTICI

FARINGOTONSILLITE IN ETÀ PEDIATRICA

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MEYER UNIVERSITY HOSPITAL

DEPARTMENT OF HEALTH SCIENCES,

UNIVERSITY OF FLORENCE

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Società Italiana di Malattie Infettive Pediatriche,
Società Italiana di Farmacologia,
Società Italiana di Medicina Generale
Società Italiana Infermieristica Pediatrica
Movimento Italiano Genitori

Nota per gli utilizzatori
Il presente documento costituisce una versione integrale della Consensus che può essere scaricato nella [illegible] dal sito web della Società Italiana di Pediatria Preventiva e Sociale www.sipps.it sezione [illegible]

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Teresita Mazzei, Firenze
Andrea Novelli, Firenze
Alberto Vierucci, Firenze

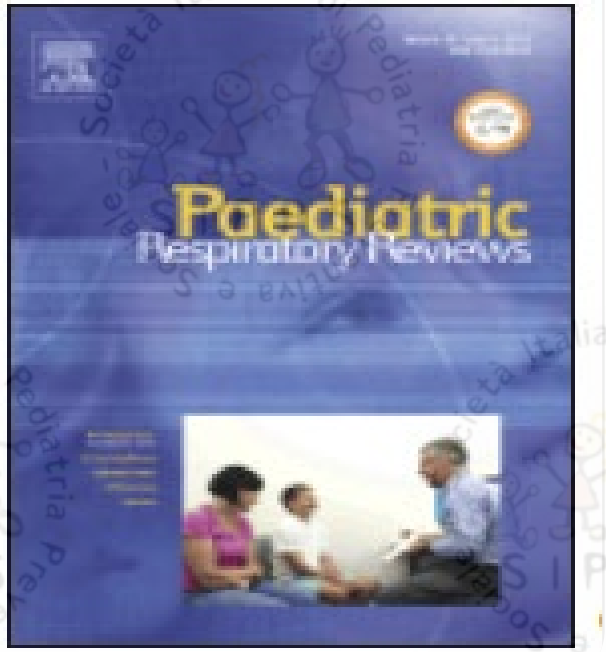
Le spese della riunione [illegible] state sostenute grazie a [illegible] incondizionato di GUN[illegible]

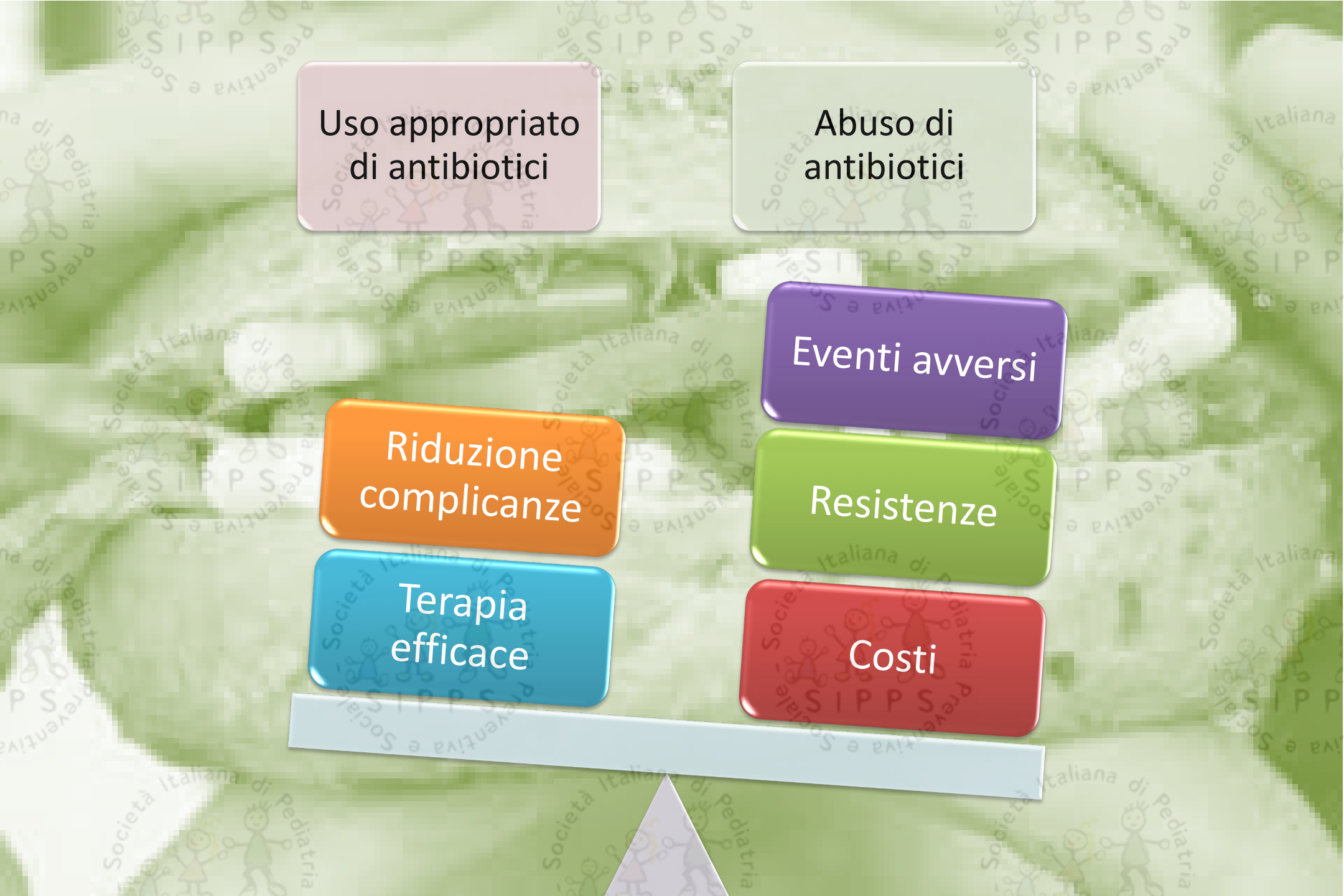
Nessun componente d[illegible] dichiarato alcun conflitt[illegible] relativamente all'argom[illegible]

Atti XXV Congresso Nazionale SIPPS

CONSENSUS 2013

Impiego giudizioso della terapia antibiotica nelle infezioni delle vie aeree in età pediatrica

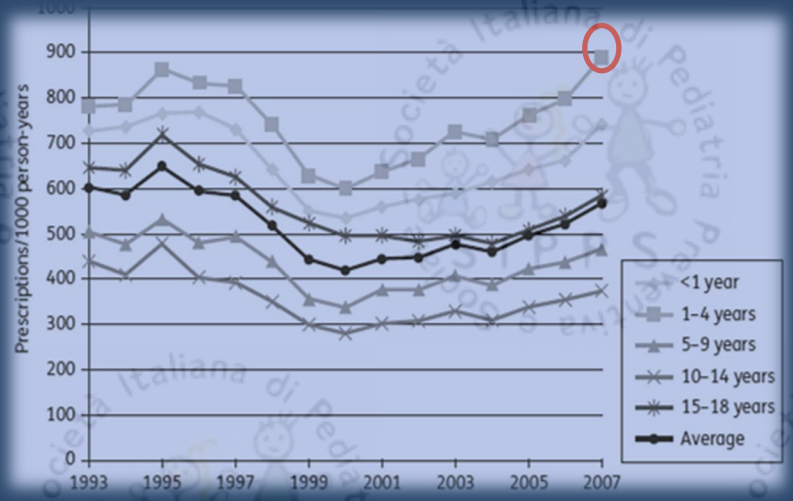



Uso appropriato di antibiotici
Abuso di antibiotici
Eventi avversi
Riduzione complicanze
Resistenze
Terapia efficace
Costi

JAC The Journal of Antimicrobial Chemotherapy

Scheneidei-Lidner V.
J Antimicrob Chemother 2011;66:424-33

Nel Regno unito la prescrizione di antibiotici è stata costantemente in aumento dal 2000 in ogni fascia di età.



E' stato stimato che circa la metà delle prescrizioni antibiotiche in età pediatrica non sono necessarie

Fattori alla base dell'eccessiva uso di antibiotici in pediatria

- Difficile diagnosi micro biologica
- Pressione da parte dei genitori
- Scarsa aderenza dei medici alle linee guida
- Medicina difensiva

Vodicka TA.
Br J Gen Pract 2013;63:e445-54

Il circolo VIRTUOSO

Andrews T. PLoS ONE 2012;7: e30334.

Interventi sui genitori per migliorare le conoscenze ed i comportamenti su quando richiedere una visita medica

Ridurre il numero di richieste di visita inutili

Interventi sui medici per ridurre le prescrizioni mediche

Ridurre la prescrizione di antibiotici

(meta-analisi di 23 studi)

Attesa vigile, quando indicato, per ridurre l'abuso di antibiotici

Ridurre l'uso di antibiotici per le infezioni respiratorie

Interventi sui genitori per migliorare le conoscenze ed i comportamenti sull'uso appropriato di antibiotici

Cochrane Library

Delayed antibiotic prescriptions for respiratory infections

Review | Intervention

Geoffrey KP Spurling, Chris B Del Mar, Liz Dooley, Ruth Foxlee, Rebecca Farley

First published: 7 September 2017

Editorial Group: Cochrane Acute Respiratory Infections Group

DOI: 10.1002/14651858.CD004417.pub5 View/save citation

11 studies with a total of 3555 participants. They involved acute respiratory infections including acute otitis media (three studies), streptococcal pharyngitis (three studies), cough (two studies), sore throat (one study), common cold (one study), and a variety of RTIs (one study). Five studies involved only children, two only adults, and four included both adults and children. Six studies were conducted in a primary care setting, three in paediatric clinics, and two in emergency departments.

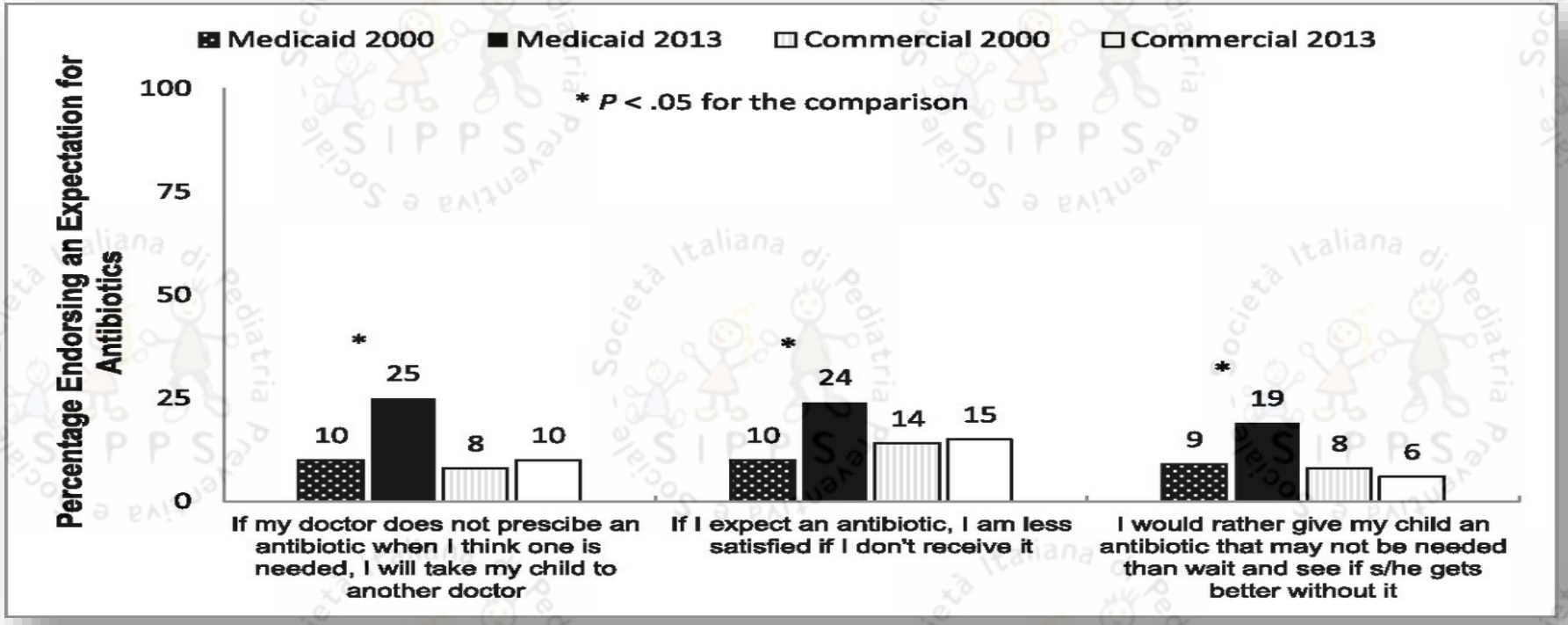
Where clinicians are not confident in using a no antibiotic strategy, **a delayed antibiotics strategy may be an acceptable compromise in place of immediate prescribing to significantly reduce unnecessary antibiotic use for RTIs**, and thereby reduce antibiotic resistance, while maintaining patient safety and satisfaction levels.

Quando non usare l'antibiotico ?

- Rinite acuta
- Influenza
- Sindromi simil-influenzali
- Laringo-tracheite acuta
- Laringite ipoglottica
- Bronchiolite
- Asma bronchiale

PEDIATRICS®

Prevalence of Parental Misconceptions About Antibiotic Use. Vaz LE. Pediatrics; 2015; 36:221-231



"...each time the antibiotics have worked like magic." (Participant 4)

"I kind of thought it was quite simple really, just had an ear infection and that I needed antibiotics" (Participant 15)

JAMA. 2013 Jun 12;309(22):2345-52. doi: 10.1001/jama.2013.6287.

Effect of an outpatient antimicrobial stewardship intervention on broad-spectrum antibiotic prescribing by primary care pediatricians: a randomized trial.

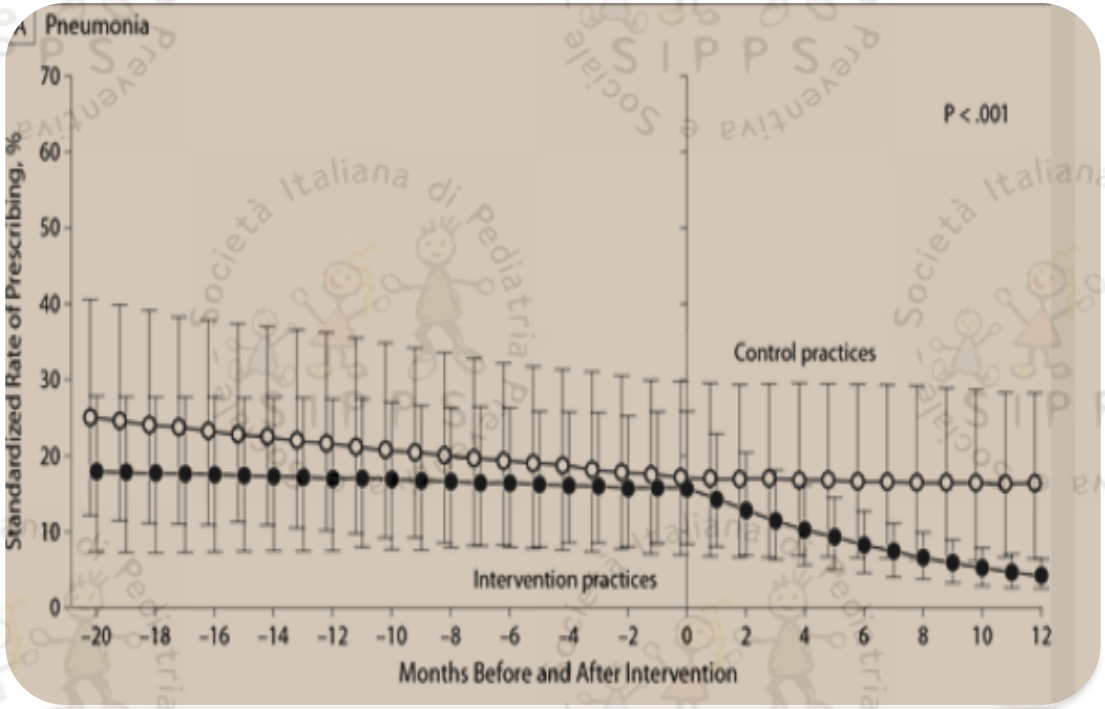
Gerber JS[1], Prasad PA, Fiks AG, Localio AR, Grundmeier RW, Bell LM, Wasserman RC, Keren R, Zaoutis TE.

162 clinicians participated.

Interventions **O ne 1-hour on-site clinician education session followed by 1 year of personalized, quarterly audit and feedback of prescribing** for bacterial and viral ARTIs or usual practice.

Main Outcomes and Measures Rates of broad-spectrum (off-guideline) antibiotic prescribing for bacterial ARTIs and antibiotics for viral ARTIs for 1 year after the intervention.

Results **Broad-spectrum antibiotic prescribing decreased from 26.8% to 14.3% (absolute difference, 12.5%)**

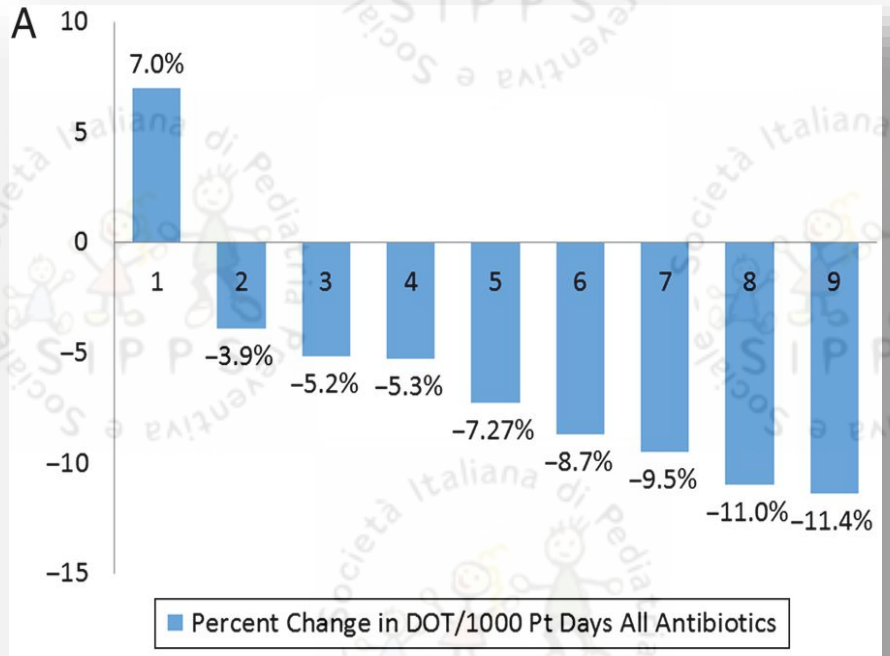


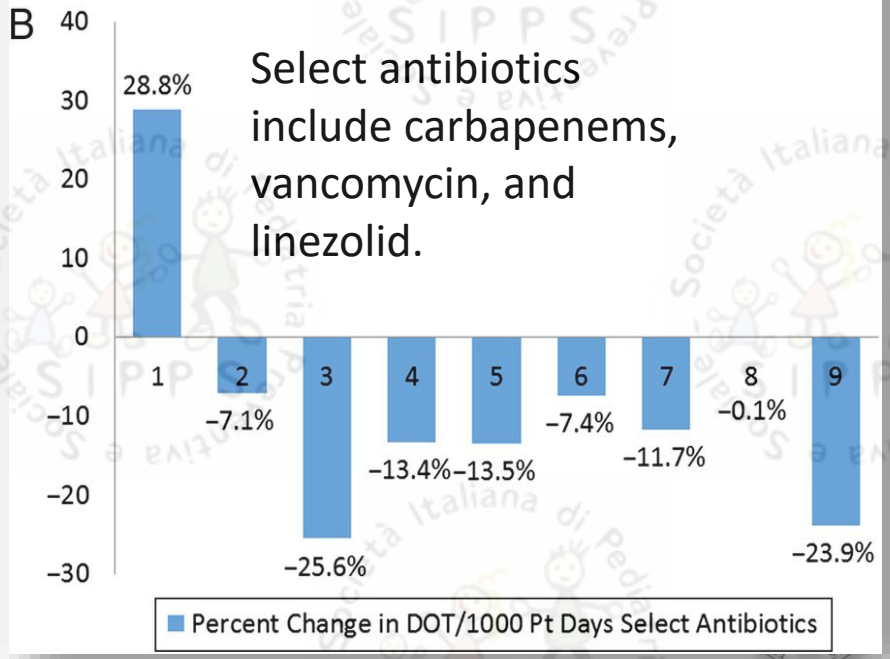
Antimicrobial stewardship programs in freestanding children's hospitals

Hersh M Pediatrics 2015;135:33-9

31 hospitals with no antimicrobial stewardship programs and 9 with them

Average percent change in DOT/1000 pt-days for 9 ASP+ hospitals for (A) all antibiotics and (B) select antibiotics after stewardship program introduction.





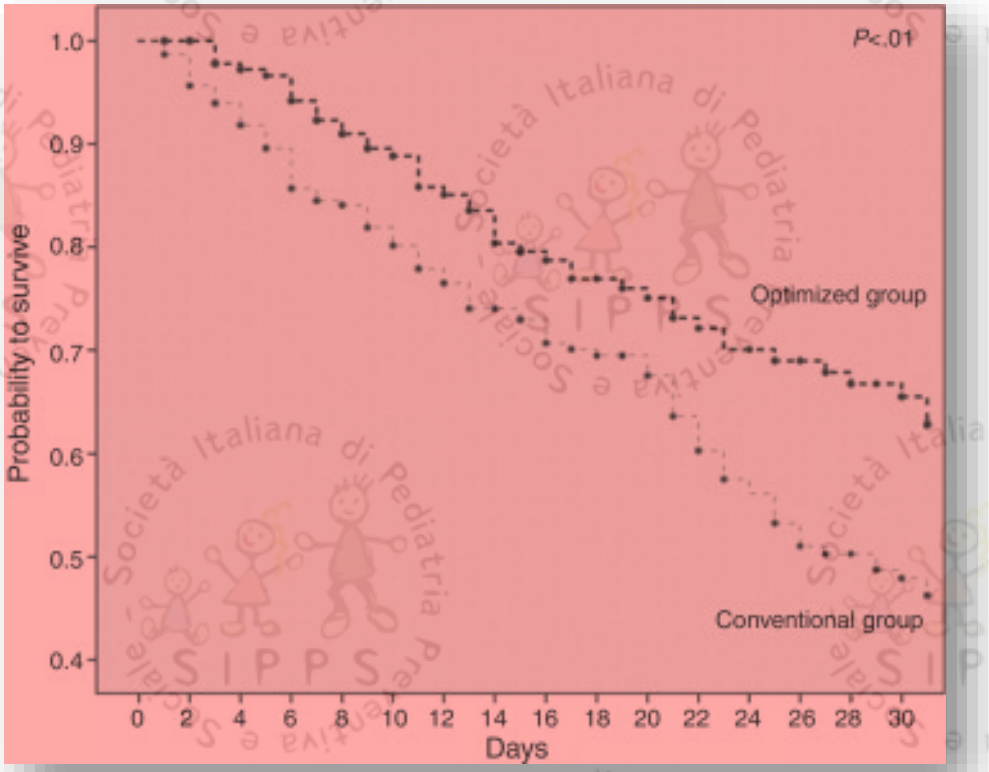
Select antibiotics include carbapenems, vancomycin, and linezolid.

Effects of a bundled Antimicrobial Stewardship Program on mortality: a cohort study.

Okomura LM Braz J Infect Dis 2015; April 17.

Bundled Antimicrobial Stewardship Program

- clinical pharmacist chart review,
- discussion with microbiologist and infectious disease physicians
- local education and continuous follow-up



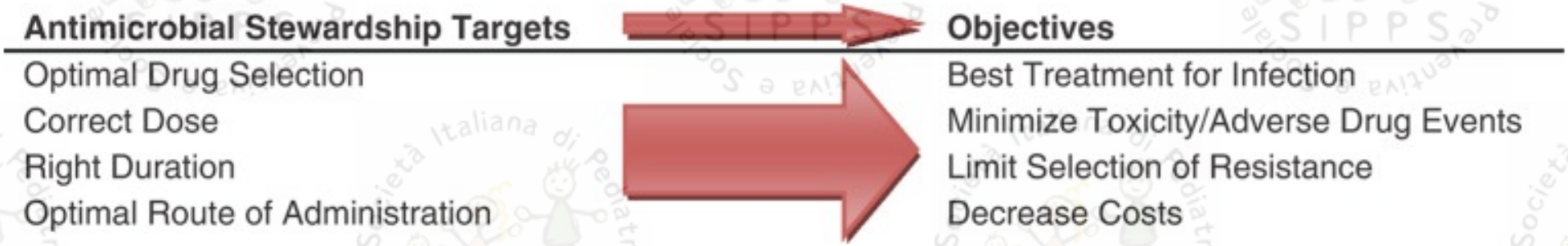
Journal of Community Hospital Internal Medicine Perspectives

Taylor & Francis
Taylor & Francis Group

PMC full text: J Community Hosp Intern Med Perspect. 2011; 1(2): 10.3402/jchimp.v1i2.7209.
Published online 2011 Jul 18. doi: 10.3402/jchimp.v1i2.7209

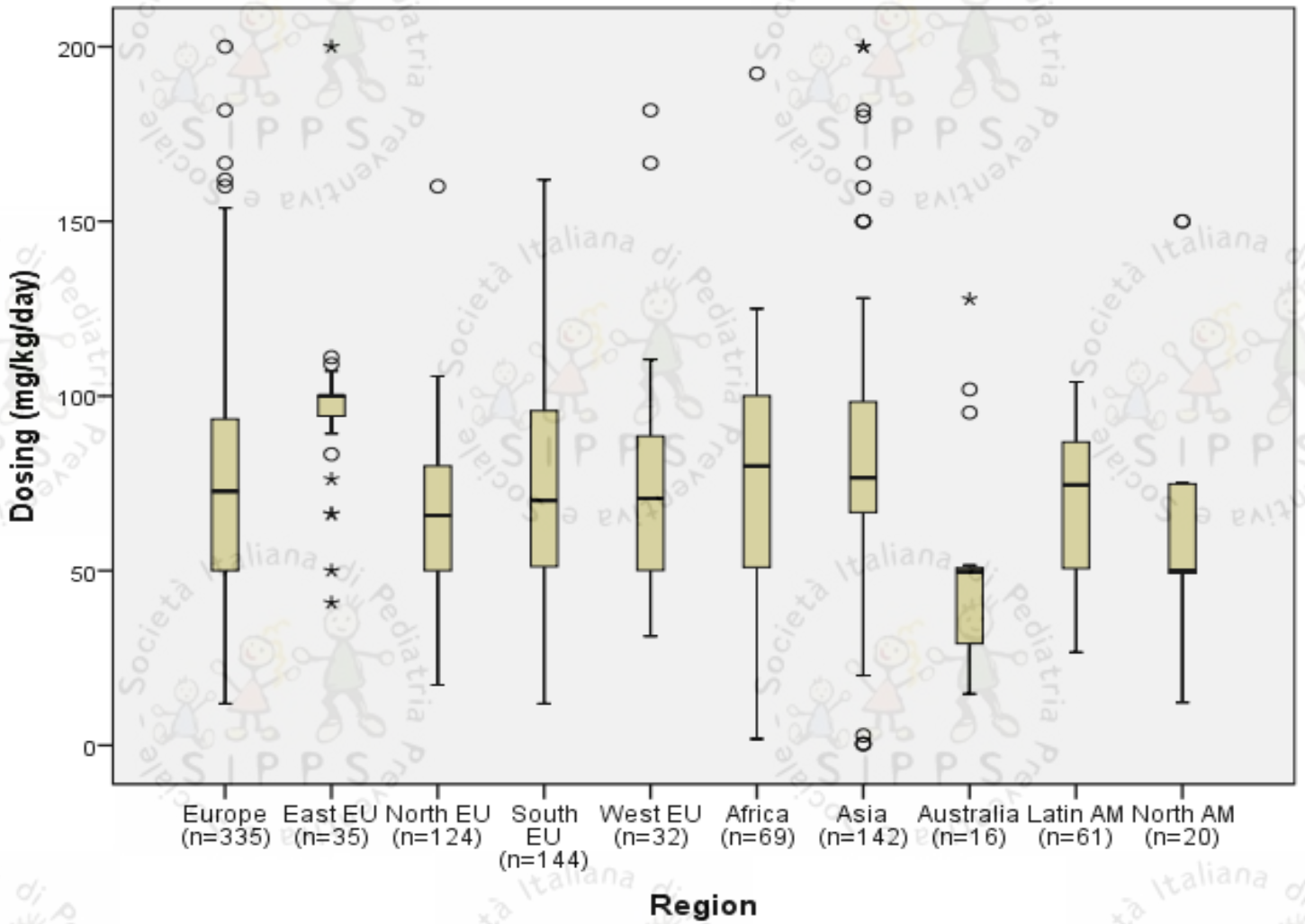
<< Prev

Fig. 1



Antimicrobial stewardship targets and objectives.

Variation in Dosing of Ceftriaxone in mg/kg/day for Children (≥30 days old) by UN Region



Fluoroquinolones in pediatrics: review of hospital prescription use over 2 years.

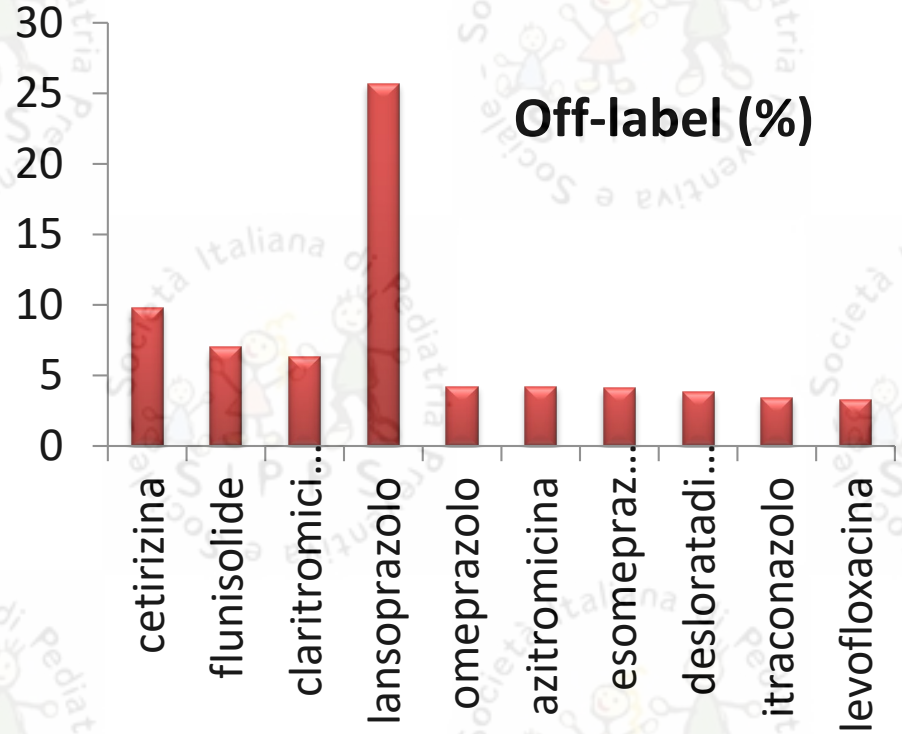
Genuini M. Int J Clin Pharmacol Ther 2014 Aug 27. [Epub ahead of print]

Singolo centro ospedaliero francese-
Gennaio 2009- Dicembre 2010. 397 bambini (3 giorni – 18 anni). Ciprofloxacin (96%)

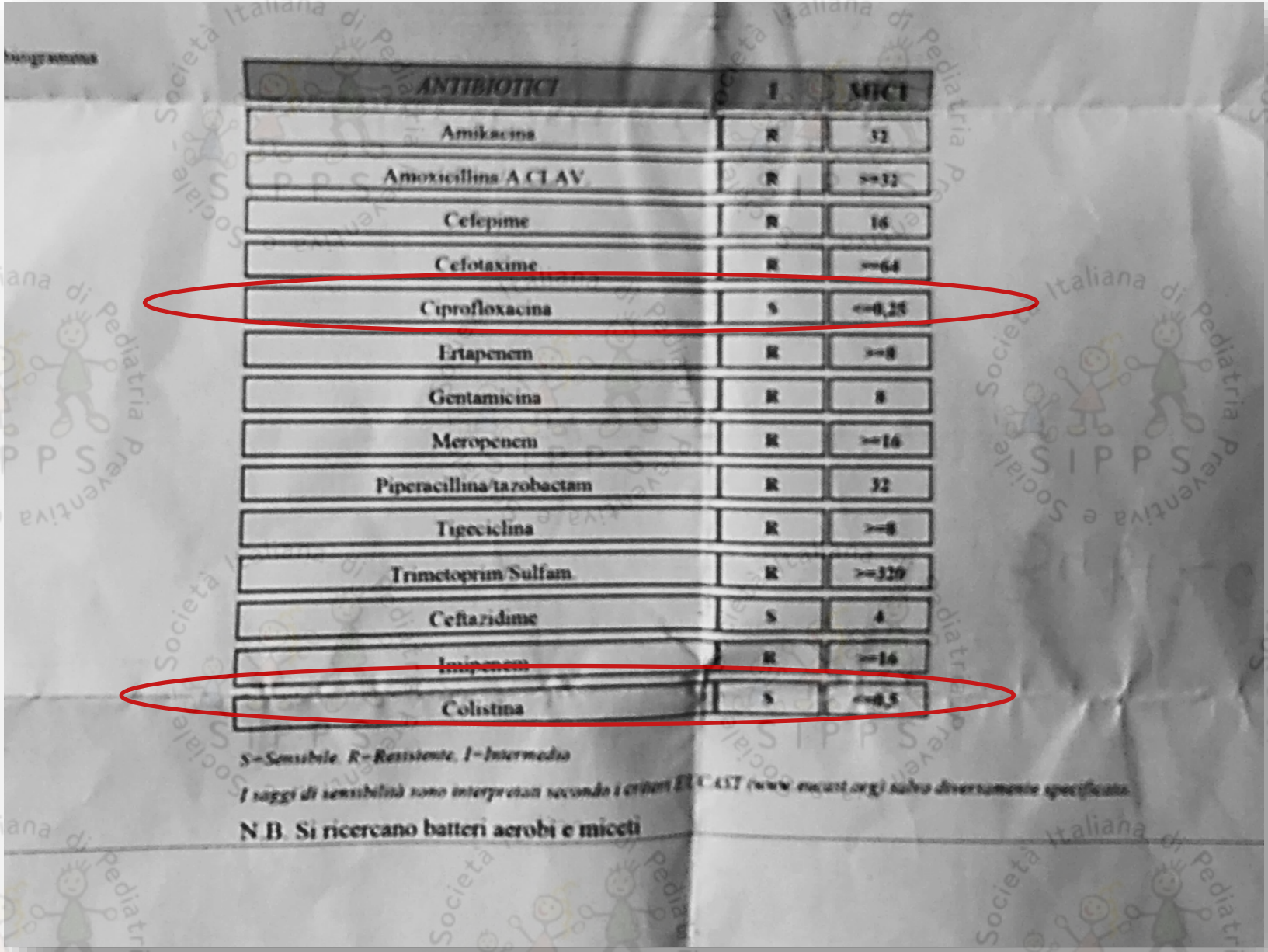
Paediatric drug use with focus on off-label prescriptions in Lombardy and implications for therapeutic approaches. *Carnovale C. Eur J Pediatr 2013;172:1679-85*

We analysed all dispensed outpatient prescriptions to children aged 0–18 years and the proportion of off-label drug use in 2011, using data from the regional administrative prescriptions database.

A total of 4,027,119 prescriptions were dispensed, of which 133,619 (3.3 %) were off-label



Fluoroquinolones in children: update of the literature.
Bacci C, Galli L, de Martino M, Chiappini E. J Chemother. 2015;27:257-65.



ANTIBIOTICI	I	MICI
Amikacina	R	32
Amoxicillina/ACLAV	R	>=32
Cefepime	R	16
Cefotaxime	R	>=64
Ciprofloxacina	S	<=0,25
Ertapenem	R	>=8
Gentamicina	R	8
Meropenem	R	>=16
Piperacillina/tazobactam	R	32
Tigeciclina	R	>=8
Trimetoprim/Sulfam	R	>=320
Ceftazidime	S	4
Imipenem	R	>=16
Colistina	S	<=0,5

S=Sensibile, R=Resistente, I=Intermedio

I saggi di sensibilità sono interpretati secondo i criteri EUCAST (www.eucast.org) salvo diversamente specificato.

N.B. Si ricercano batteri aerobi e miceti

Epidemiology and clinical outcomes of multidrug-resistant, gram-negative bloodstream infections in a European tertiary pediatric hospital during a 12-month period.

MDR organisms among isolated species was 39%.

119 children (median age 1.1 years)

Folgori M . Pediatr Infect Dis J 2014;33:929-32.

Pathogen	Total Number (%)	MDR	ESBL+*	Carbapenem Resistant	Carbapenemase Genes
Total positive blood cultures	136	53	39	22	—
K. pneumoniae	3				2 *KPC*; 4 *OXA-48*
E. coli	2				ND
P. aeruginosa	2				6 *VIM*
Serratia marcescens	1				ND
Stenotrophomonas maltophilia					ND
Enterobacter spp					ND
Pseudomonas spp					ND
Acinetobacter spp					ND
Klebsiella oxytoca					ND
Citrobacter spp					ND
Other species	7 (5.1)	2	—	1	ND

*ESBL, extended spectrum β-lactamases.
NA, not applicable; ND, not done.

The crude rate of mortality was 16% . The mortality rate **among patients with an antibiotic-resistant isolate was 22.6%.**

Factors significantly associated with sepsis-related mortality **were antibiotic resistance (odds ratio: 4.26, 95% confidence interval: 1.07-16.9)** and hospital acquisition of infection (odds ratio: 1.13, 95% confidence interval: 1.05-1.22).

L'utilizzo giudizioso della terapia antibiotica nel trattamento delle patologie infettive in età evolutiva

Choosing Wisely: The Top-5 Recommendations from the Italian Panel of the National Guidelines for the Management of Acute Pharyngitis in Children.

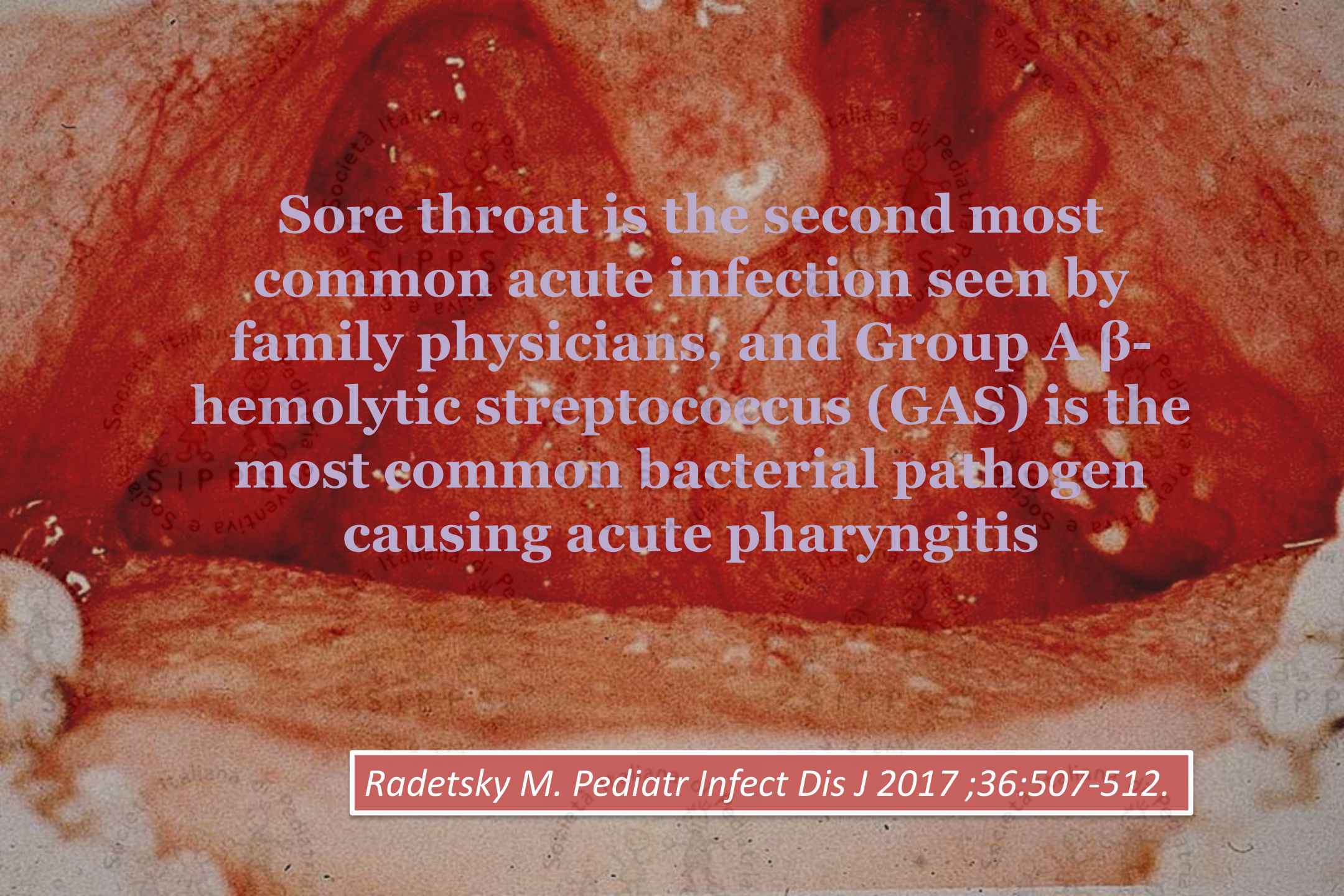
Chiappini E, Bortone B, Di Mauro G, Esposito S, Galli L, Landi M, Novelli A, Marchisio P, Marseglia GL, Principi N, de Martino M; Italian Panel on the Management of Pharyngitis in Children.

Clin Ther 2017;39:646-649

Management of acute pharyngitis in children: summary of the Italian National Institute of Health guidelines.

Chiappini E, Principi N, Mansi N, Serra A, De Masi S, Camaioni A, Esposito S, Felisati G, Galli L, Landi M, Speciale AM, Bonsignori F, Marchisio P, de Martino M; Italian Panel on the Management of Pharyngitis in Children.

Clin Ther 2012;34:1442-1458.

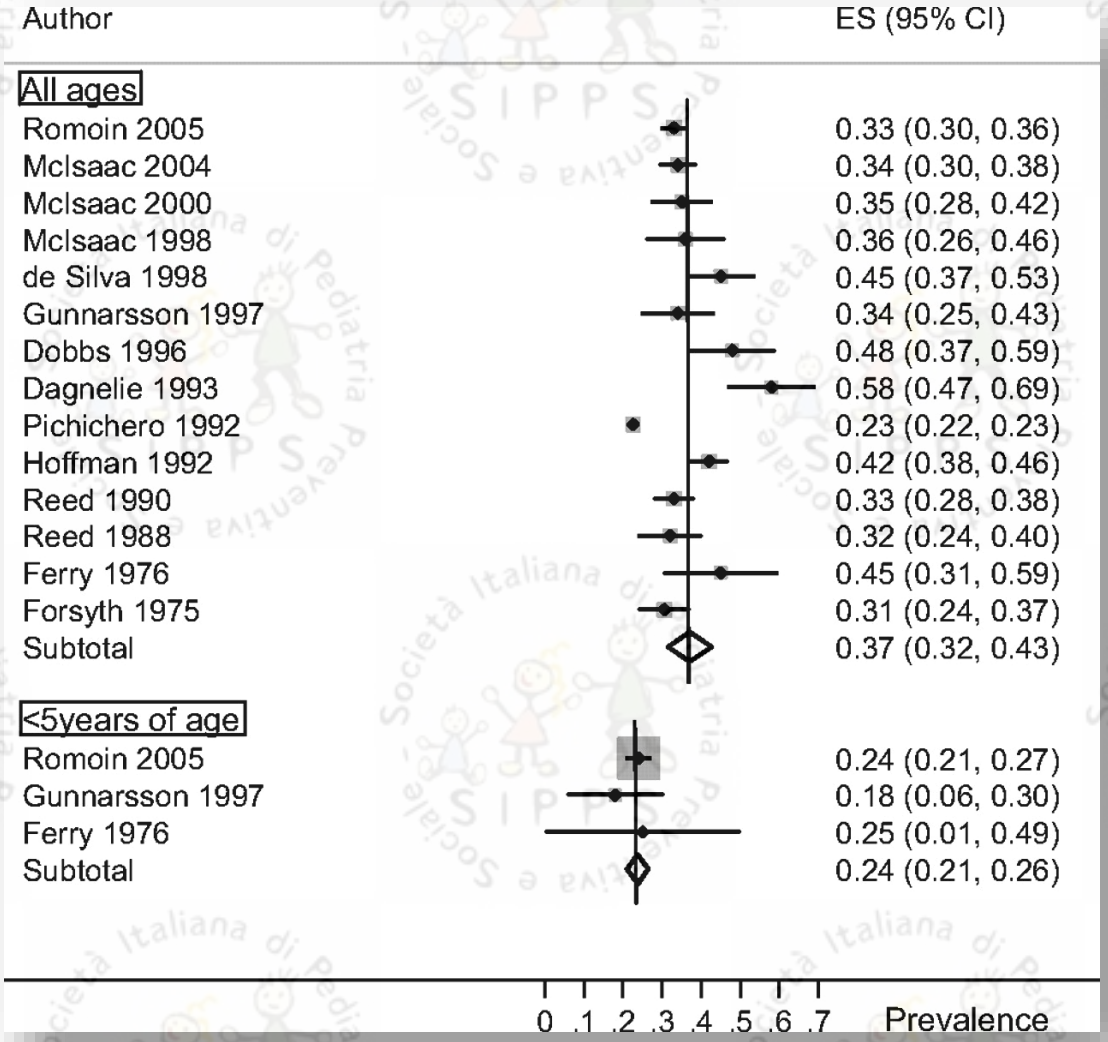


Sore throat is the second most common acute infection seen by family physicians, and Group A β-hemolytic streptococcus (GAS) is the most common bacterial pathogen causing acute pharyngitis

Radetsky M. Pediatr Infect Dis J 2017 ;36:507-512.

Prevalence of Streptococcal Pharyngitis and Streptococcal Carriage in Children: A Meta-analysis.

Shaikh N. Pediatrics 2010;3e557-e564



29 articoli

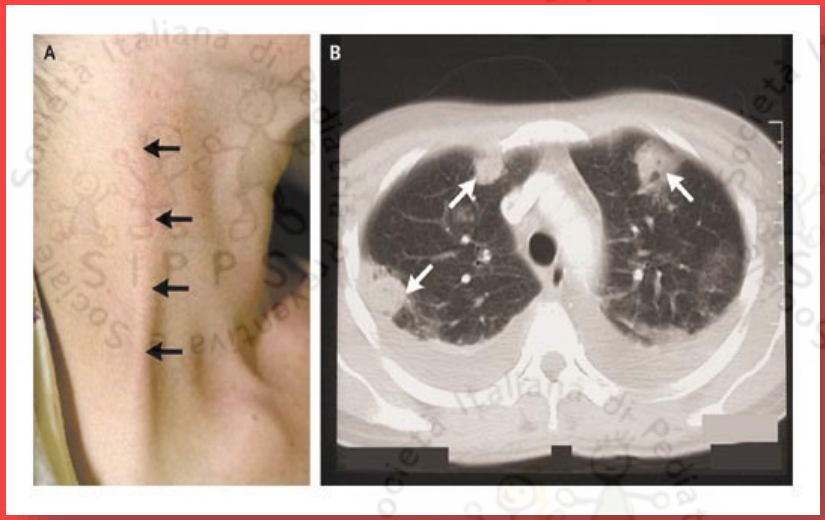
Fra i bambini di tutte le età con faringite quelle da SBEGA sono il 37% (95% CI: 32%–43%).

Fra i bambini sotto i 5 anni il 24% (95% CI: 21%–26%)

La prevalenza di portatori è 12% (95% CI: 9%–14%).

Avoiding sore throat morbidity and mortality: when is it not "just a sore throat?".

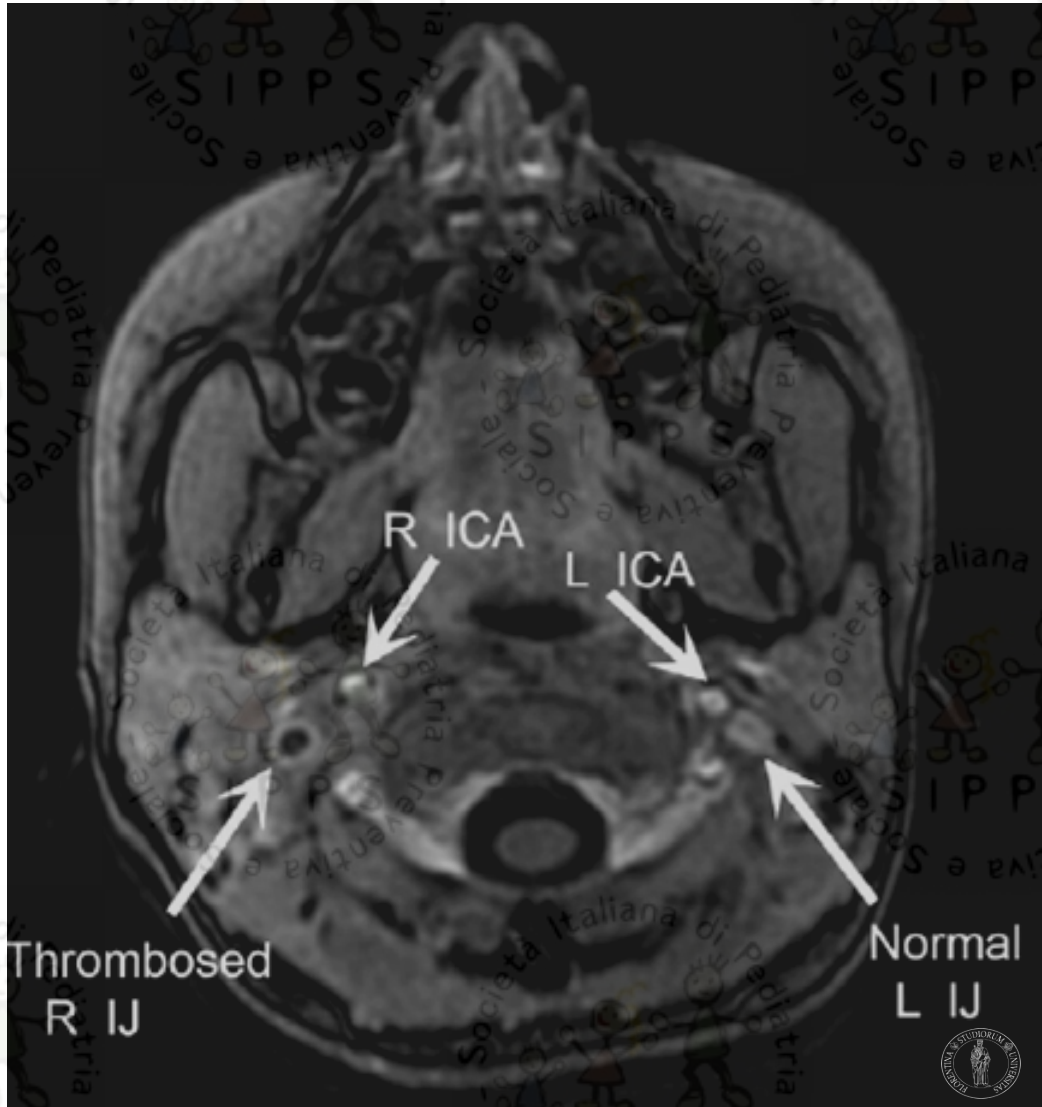
Centor RM, Samlowski R.
Am Fam Physician 2011;83:26-8



red flags: rigors, shaking chills,high fever (> 39°C), night sweats, and unilateral neck swelling.

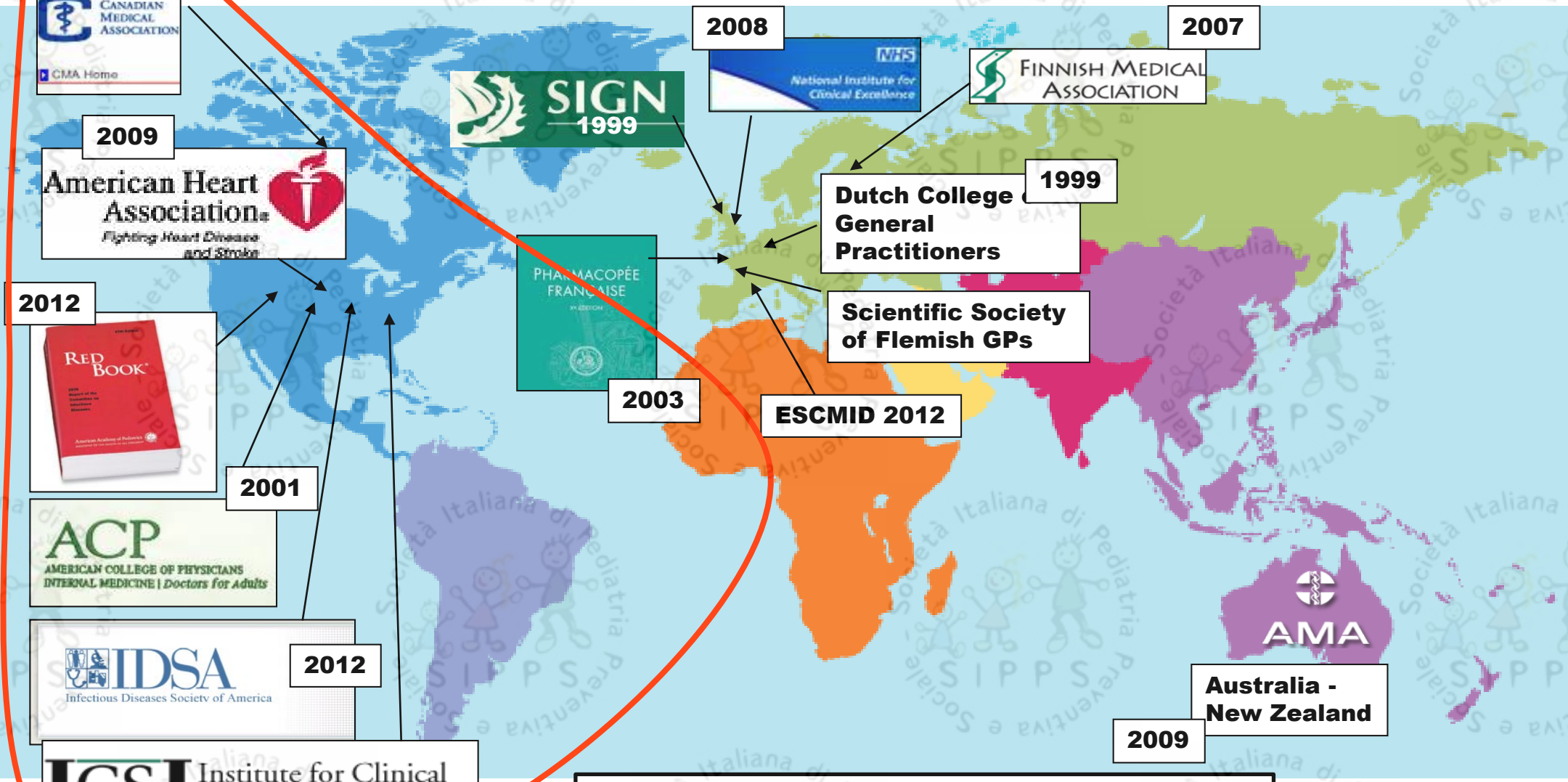
Lamierre's Syndrome: How a Sore Throat Can End in Disaster

Karkos PD *et al*. Eur J Emerg Med 2004; 11: 228-230



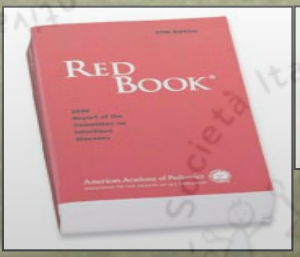
Analysis of Different Recommendations from International Guidelines for the Management of Acute Pharyngitis in Children

Chiappini E, Regoli M, Bonsignori F, Sollai S, Parretti A, Galli L, de Martino M. Clin Ther 2011; 33: 48-58



Herath VCH. J Infect 2015; 71:S101-5

se la bambina fosse Americana ?

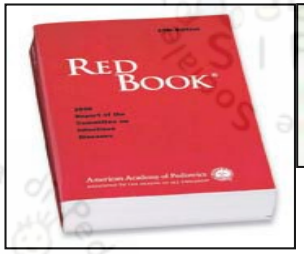


ACP
AMERICAN COLLEGE OF PHYSICIANS
INTERNAL MEDICINE | Doctors for Adults

American Heart Association.
Fighting Heart Disease and Stroke

ICSI Institute for Clinical Systems Improvement

IDSA
Infectious Diseases Society of America



ACP
AMERICAN COLLEGE OF PHYSICIANS
INTERNAL MEDICINE | Doctors for Adults

American Heart Association
Fighting Heart Disease and Stroke

ICSI Institute for Clinical Systems Improvement

IDSA
Infectious Diseases Society of America

Perché è importante diagnosticare e trattare la faringotonsillite da SBEGA?

- Prevenire la malattia reumatica

- Prevenire complicanze suppurative (es. ascesso peritonsillare)

- Ridurre la durata della malattia (16 ore?)

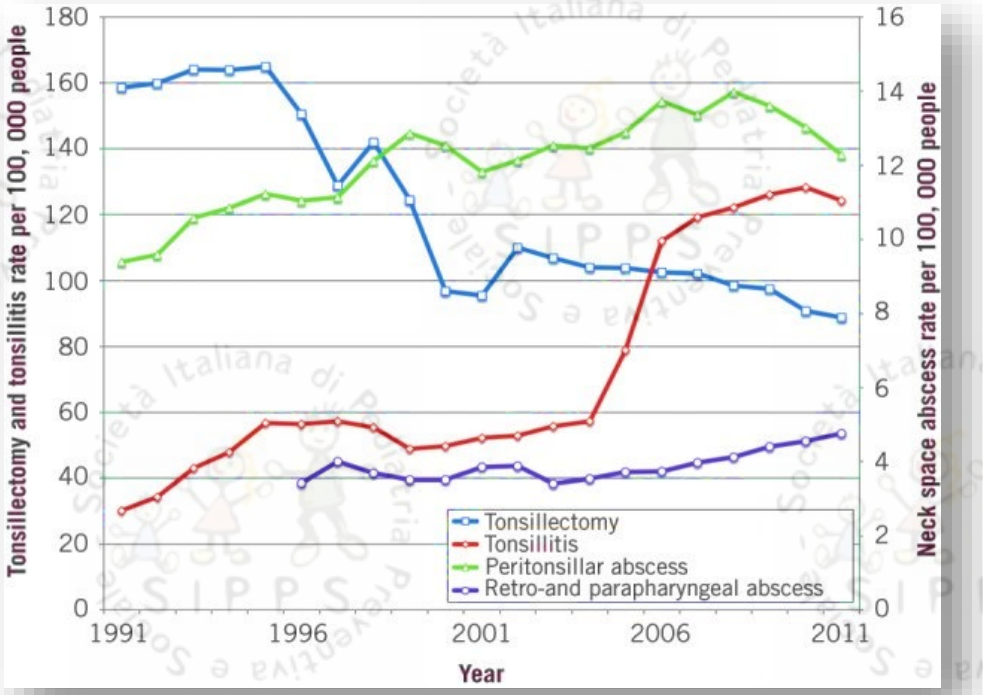
- Ridurre la diffusione di SBEGA

The rising rate of admissions for tonsillitis and neck space abscesses in England, 1991–2011.

Lau AS. Ann R Coll Surg Engl 2014;96:307–10

Between 1991 and 2011, the peritonsillar abscess admission rate rose by 31% (r=–0.79, $p<0.01$).

In the United Kingdom, **a reduction in prescribing antibiotics may have been a contributing factor for increased admissions for peritonsillar and retropharyngeal abscesses**

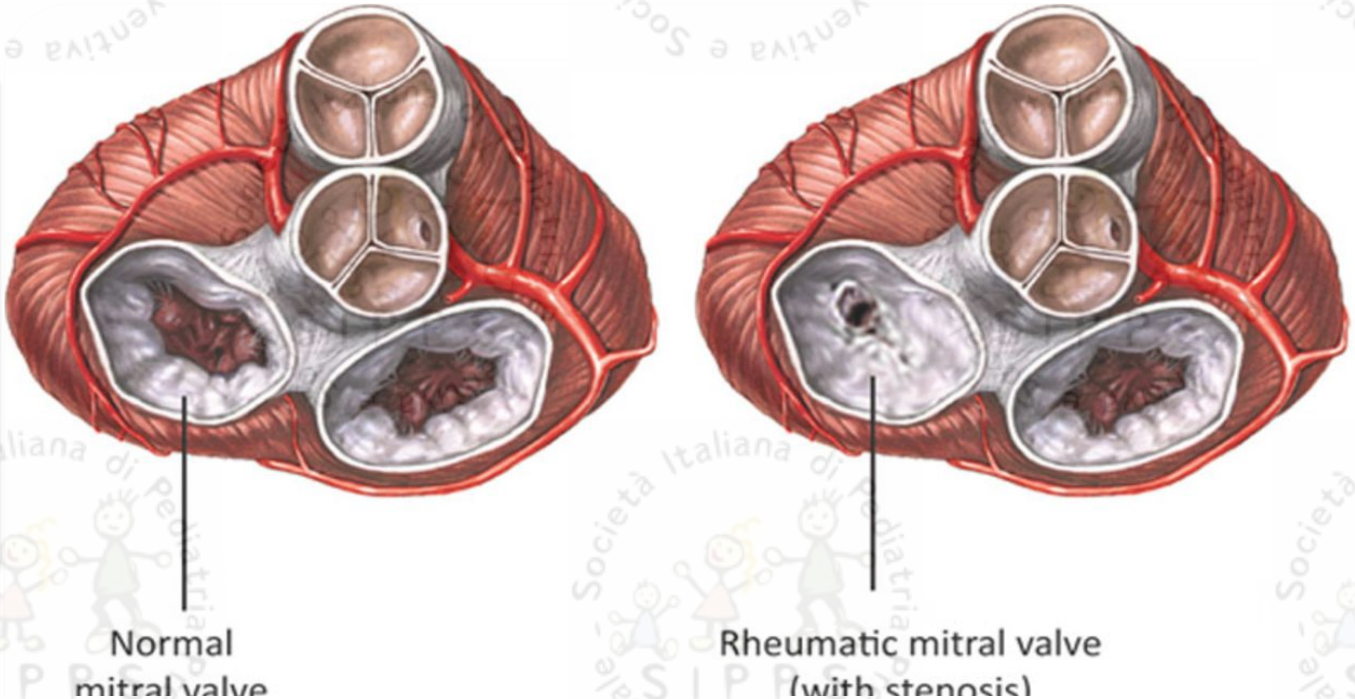


American Heart Association

Recent estimates suggest that disability related to RHD alone equals more than a quarter of all cancers put together

Mariana Mirabel et al. Circulation. 2014;130:e35-e37

Globally, RHD remains the leading cause of heart failure in children and young adults, accounting for at least 250 000 deaths annually



THE COCHRANE COLLABORATION

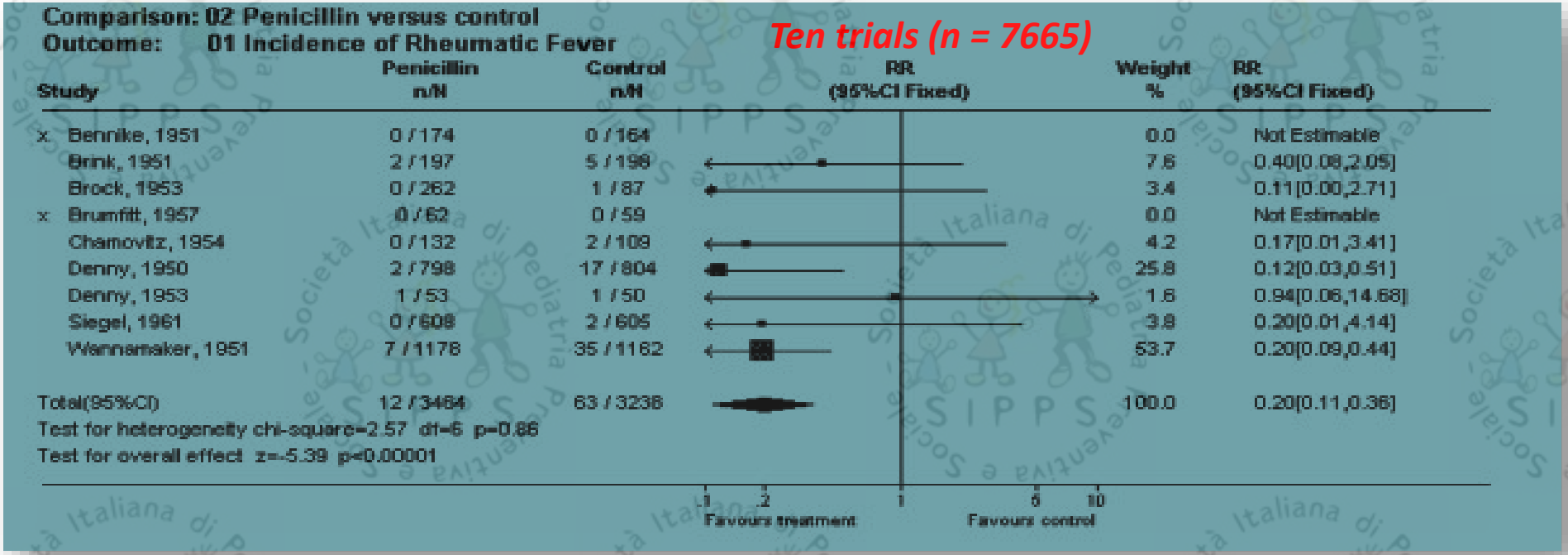
Il trattamento antibiotico riduce circa del 70% il rischio di malattia reumatica

Del Mar CB et al. Cochrane Database Syst Rev 2005: CD000023
Spinks A. Cochrane Database Syst Rev 2013; Nov 5;(11):CD000023.

Antibiotics for the primary prevention of acute rheumatic fever: a meta-analysis.

Robertson KA. BMC Cardiovasc Disord. 2005; 5: 11.

Effetto protettivo di penicillina per malattia reumatica è del 80% con NNT =53. **Il costo per prevenire una malattia reumatica in Sud Africa è US$46.**



Evaluation of the cost of antibiotic treatment of streptococcal tonsillitis to prevent a putative case of acute rheumatic fever in France.

Edouard S. Clin Microbiol Infect 2014;20:O981–O982

Actual average cost of streptococcal tonsillitis treatment =
Cost of amoxicillin × Maximum daily dose recommended [3]
€0.61/g × 2 g

Number of streptococcal tonsillitis cases detected in France by year =
Number of tonsillitis cases in France × % of streptococcal tonsillitis cases
9 millions/year × 20% = 1 800 000

Treatment duration recommended
for Streptococcal tonsillitis [3]
= 10 days

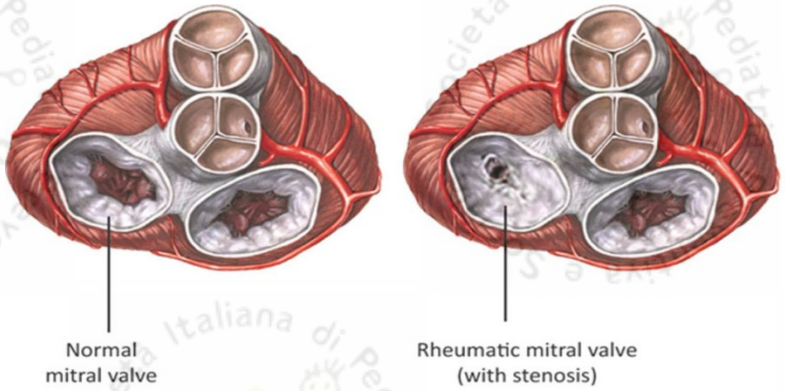
$$\frac{\textit{Treatment cost} \times \textit{Treatment duration} \times \textit{Number of streptococcal tonsillitis cases}}{\textit{Number of acute rheumatic fever cases}} = \frac{€\ 21\ 960\ 000}{10} = €\ 2\ 196\ 000/\text{prevented cases}$$

Number of acute rheumatic fever cases in
france per year [9] = **10**

The JOURNAL of PEDIATRICS

Population-based study of incidence and clinical characteristics of rheumatic fever in Abruzzo, central Italy, 2000-2009

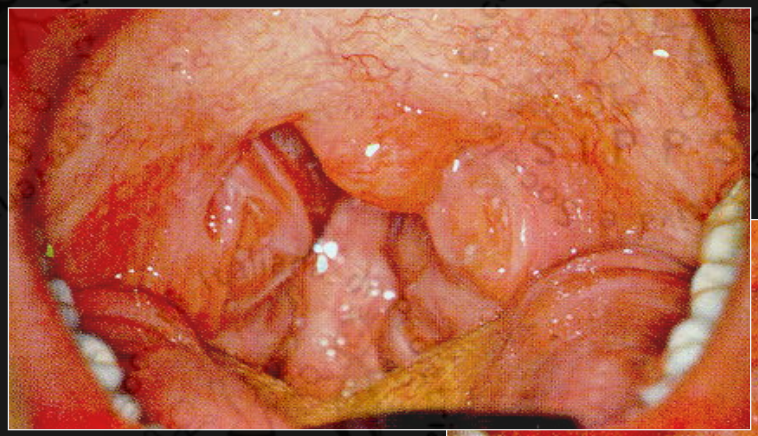
Breda L. J Pediatr 2012;160:832-6.

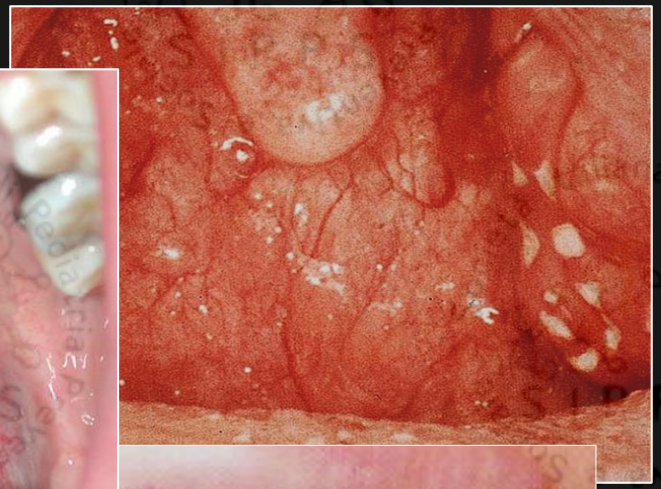


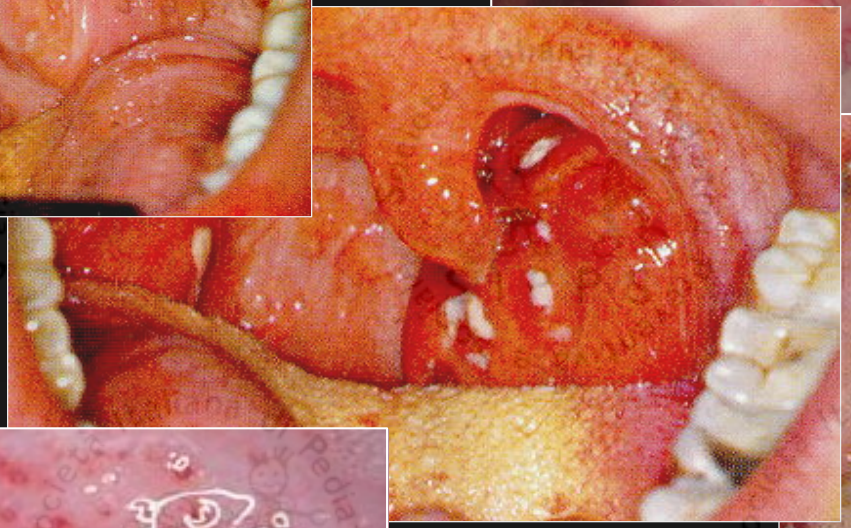
retrospective study was conducted in Abruzzo to identify patients aged <18 years with a diagnosis of ARF in 2000 - 2009

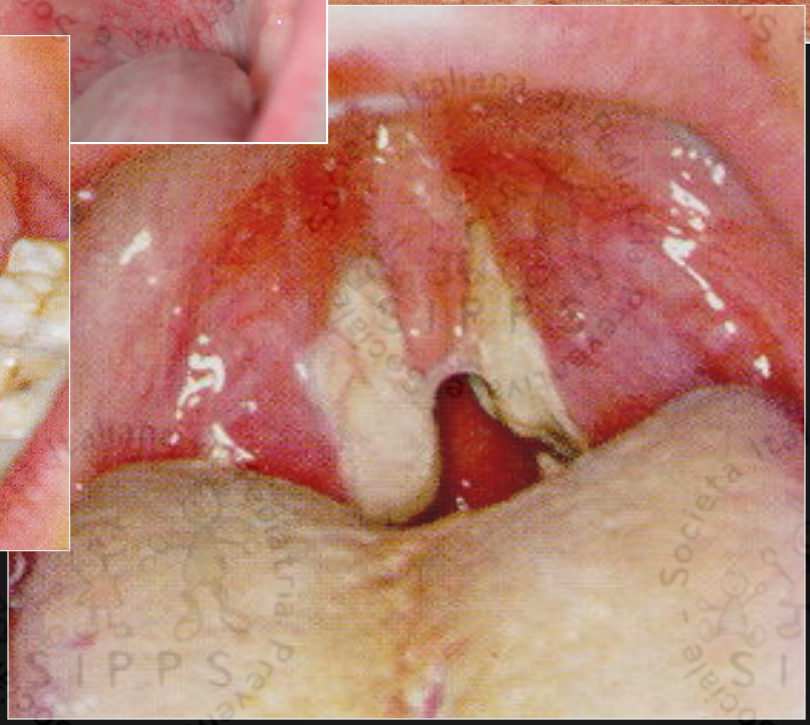
- ✓ total of **88 patients** meeting the Jones criteria for the diagnosis of ARF were identified.
- ✓ Age at diagnosis ranged from 2.5 to 17 years (average, 8.7 ± 4.0 years).
- ✓ Twelve children (**13.6%) were under age 5 years**.
- ✓ The overall incidence rate of ARF was 4.1/100 000.

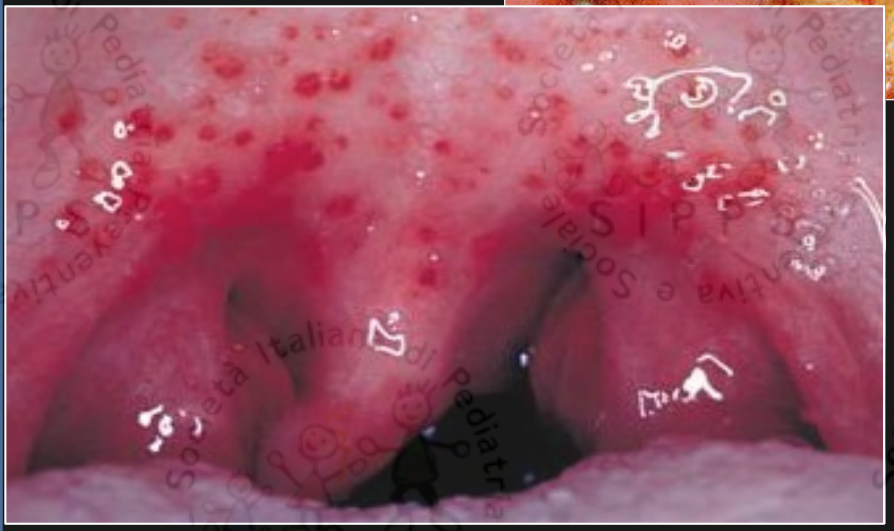
qual'è da streptococco β-emolitico di gruppo A?











Department of Health Sciences
University of Florence

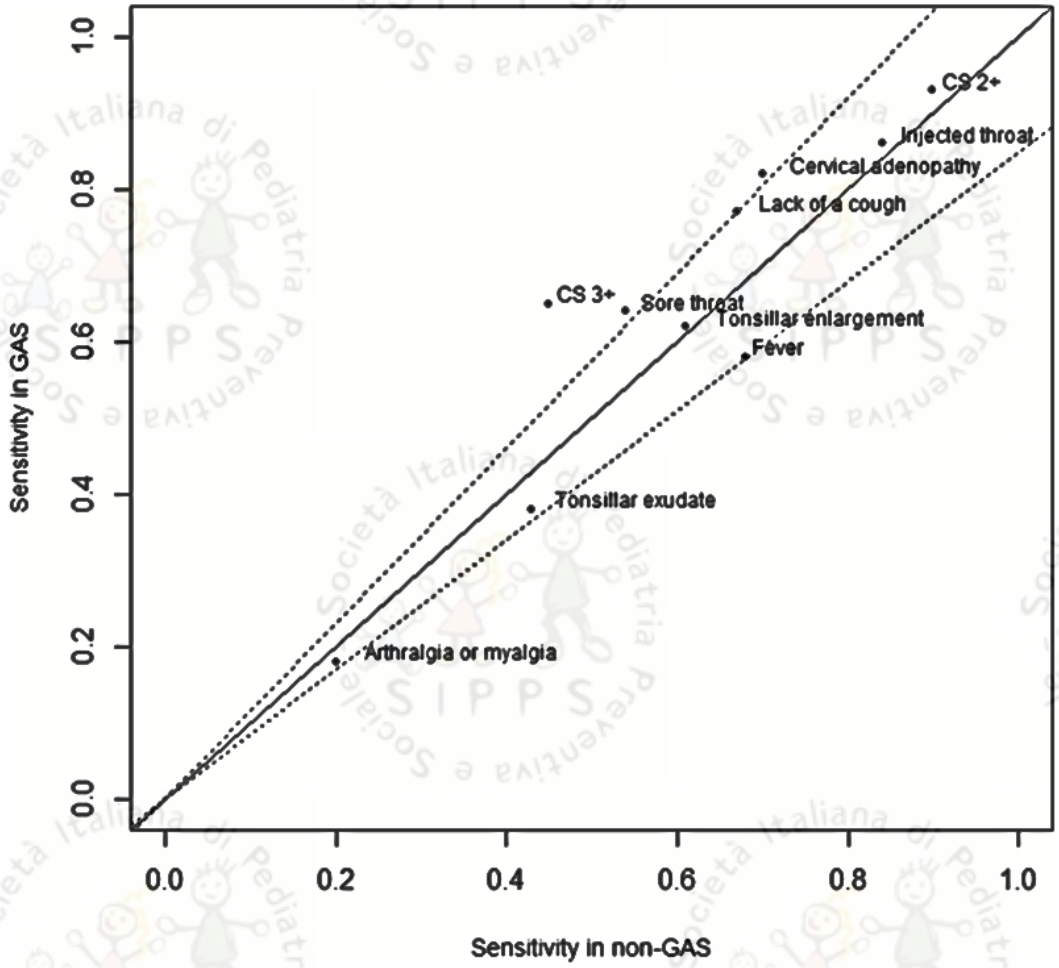
OXFORD ACADEMIC

Family Practice

Signs and symptoms of Group A versus Non-Group A strep throat: A meta-analysis.

Thai TN1. Fam Pract 2017 Oct 13. [Epub ahead of print]

Eight studies. T
tonsillar exudate had the highest LR+ for both GAS and non-GAS pharyngitis (1.53 versus 1.71). The confidence intervals of sensitivity, LR+, LR-, and DOR for all signs, symptoms, and the Centor score between two groups overlapped, **with the relative difference between sensitivities within 15%** for arthralgia or myalgia, fever, injected throat, tonsillar enlargement, and tonsillar exudate



“Centor” Score Modificato

(McIsaac - JAMA 2004)

Criterio		Punteggio
• Temperatura >38 C		1
• Assenza di tosse		1
• Linfoadenite cervicale		1
• Essudato/ipetrofia tonsillare		1
• Età:	3 - 14 anni	1
	15 – 44 anni	0
	45 anni o oltre	-1
	Totale	( )

Probabillità di Infezione streptotoccica	
<1	1-2,5
1	5-10%
2	11-17%
3	28-35%
≥4	51-53%

Management:

SCORE: 0 – 2 No fare test- Non trattare immediatamente

3 o oltre Trattamento empirico (Non fare test)

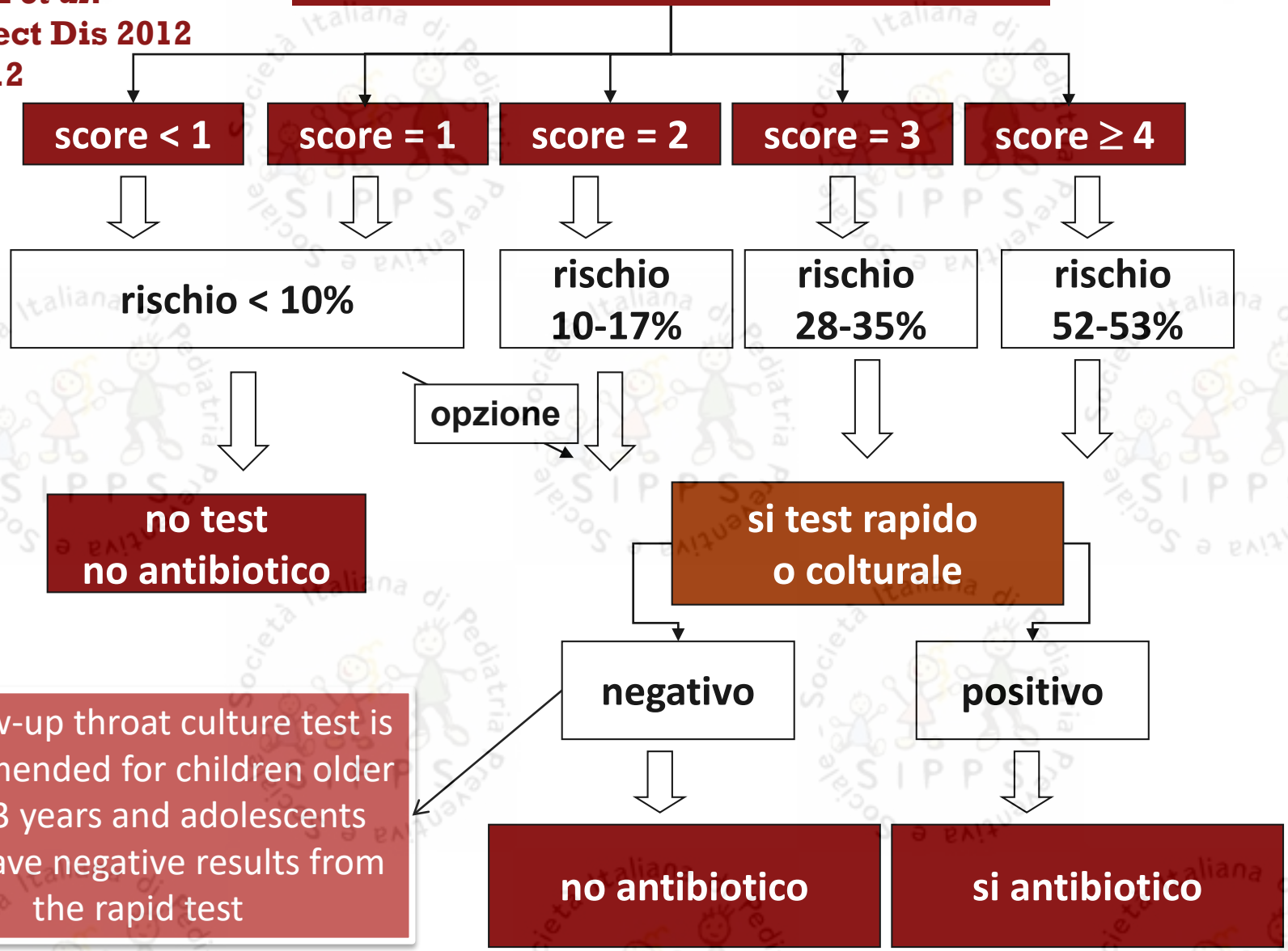
NICE clinical guideline 69; 2008

AMERICAN ASSOCIATION FOR INFECTIOUS DISEASES

Bisno AL *et al.*
Clin Infect Dis 2012
55: 86-112

Centor SCORE modificato

Centor RR. J Gen Intern Med 2007; 22: 127–130

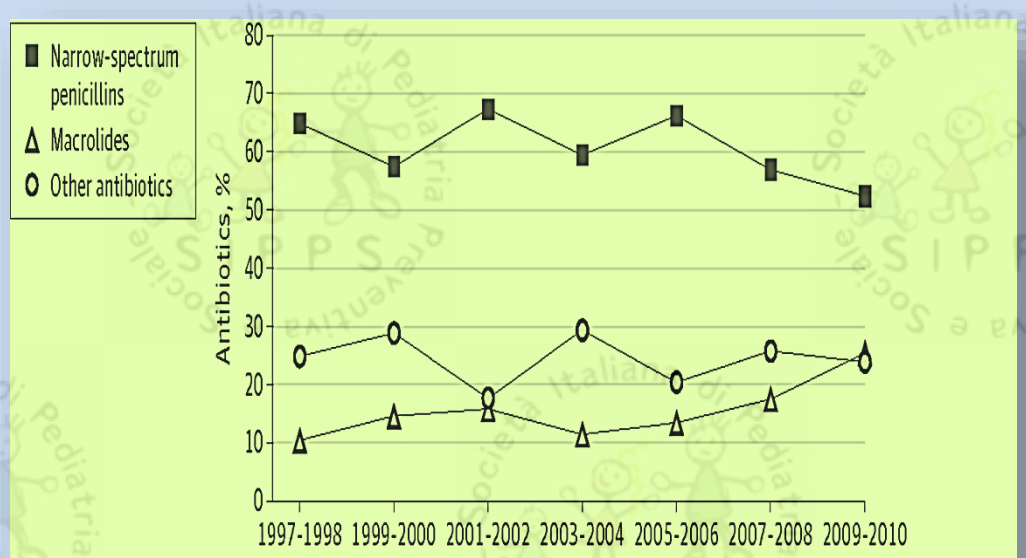


A follow-up throat culture test is recommended for children older than 3 years and adolescents who have negative results from the rapid test

The JAMA Network

Overprescribing and Inappropriate Antibiotic Selection for Children With Pharyngitis in the United States, 1997-2010

Dooling KL. JAMA Pediatr 2014;168:1073.



								All	P value
Antibiotics, % of visits	65%	63%	61%	59%	55%	62%	56%	60%	.06
Narrow-spectrum penicillins	65%	57%	67%	59%	66%	57%	52%	61%	.08
Macrolides	10%	15%	16%	11%	13%	18%	26%	16%	.001
Other antibiotics	25%	29%	18%	29%	20%	26%	24%	24%	.85

JAMA The Journal of the American Medical Association

IDSA: Avoid Antibiotics for Most Throat Infections

Bridget M. Kuehn

JAMA. 2012;308(13):1307. doi:10.1001/jama.2012.13019.

Text Size: A A

Guideline adherence rates

Guideline		2008–2012 (12)	2013	p
Sinusitis	No	130	14	0.086
	Yes	93	19	
	Total	223	33	
	Compliance %	41.70	57.58	
Pharyngitis	No	104	21	0.918
	Yes	33	7	
	Total	147	28	
	Compliance %	24.09	25.00	
URI	No	75	25	0.004
	Yes	287	194	
	Total	362	219	
	Compliance %	79.28	88.58	

Linee Guida della Società Italiana di Pediatria

Gestione della Faringotonsillite in Età Pediatrica

coordinatori:

Prof. Maurizio de Martino, Firenze

Prof. Nicola Mansi, Napoli

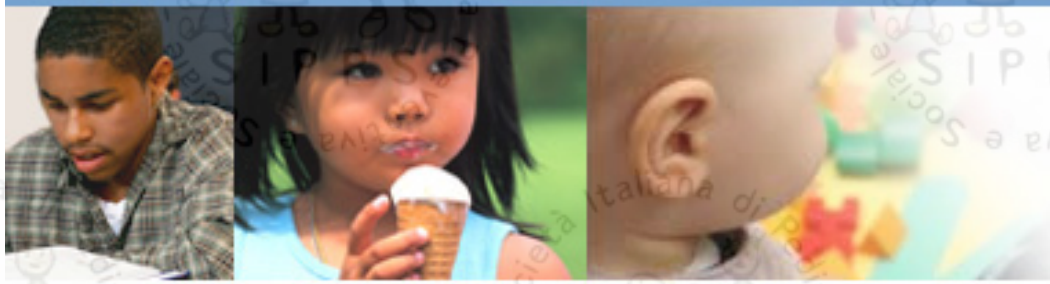
Prof. Nicola Principi, Milano

Prof Agostino Serra, Catania

RACCOMANDAZIONE

Nessuno dei sistemi a punteggio è sufficiente a identificare con ragionevole sicurezza le infezioni da Streptococco β-emolitico di gruppo A. Un punteggio basso (zero o 1) del sistema a punteggio di McIsaac può essere considerato valido, in situazioni di bassa prevalenza di malattia reumatica, per escludere un'infezione streptococcica e quindi non procedere ad ulteriori indagini o terapie. (III -A)

Quesito n°4. Quando effettuare il test rapido?



American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

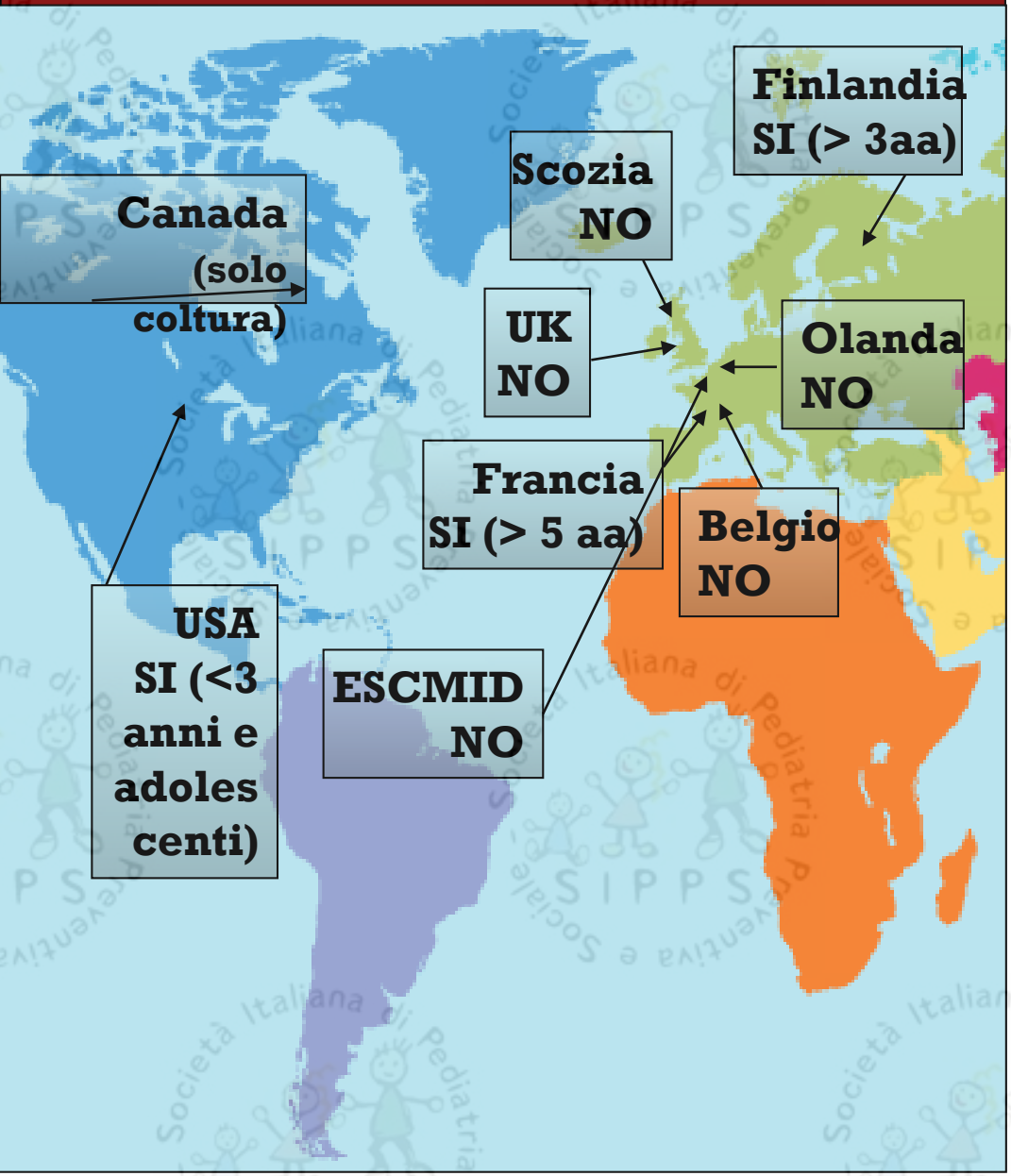
Committed to the attainment of optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults.

La decisione se effettuare il test rapido o esame colturale dovrebbe basarsi su:

- **Età (> 3 anni)**
- **Segni e sintomi suggestivi di infezione da SBEGA: esordio improvviso, essudato faringeo, dolore alla deglutizione, tumefazione linfonodi cervicali**
- **Se segni suggestivi di infezione virale come corizza, congiuntivite, rinite, stomatite anteriore lesioni ulcerative discrete, diarrea non effettuare il test/esame colturale**
- **Stagionalità, Epidemiologia**

Quesito n°7: E' indicato richiede l'esame colturale in caso di test rapido negativo?

linee guida: effettuare coltura se test rapido è negativo?



Medicines and Healthcare Products Regulatory Agency

		SPECIFICITA (%)	SENSIBILITA (%)
Respirastick	Orion	96	55
Card OS	Pacific Biot	99	75
Tandem	Hybritech	98	78
Directigen 1,2,3	Becton	100	78
Test Pack Strep	Abbott	100	79
Direct Str EIA	Roche	63	79
Reveal	Wellcome	83	82
Quickvue inline	Quidel	100	87
Visuwell	Dynatech l	93	88
Signify StrepA	Abbott	97	88
Strep A OIA Max	Biostar	93	89
Culturette B.	Marion ScC	99	91
Osom U.Str.A	Genzyme	98	93
Osom StrA test	Wyntek D	98	95
Test Pack Plus	Abbott	99	96
Strep A OIA	Biostar	99	99

Acellular vaccines for preventing whooping cough in children.

Choen JF. Cochrane Database Syst Rev. 2016 Jul 4;7:CD010502.
Ganti L.. Ann Emerg Med. 2017 Aug 31 [Epub ahead of print]

Summary of rapid antigen detection test performance.

Test	No. of Studies	No. of Participants	Sensitivity (95% CI), %	Specificity (95%CI), %
EIA	86	48,808	85 4 (82 7–87 8)	95 8 (94 8–96 6)
OIA	19	9,436	86 2 (82 7–89 2)	93 7 (91 5–95 4)

CI, Confidence interval, *EIA*, enzyme immunoassay, *OIA*, optical immunoassay.

A total of 58,244 patients from 105 studies were included, with sensitivities ranging from 82.7% to 89.2% and specificity ranging from 91.5% to 96.6% (Table).

We can use a prevalence of 25% to obtain a negative likelihood ratio of 0.15 (posttest probability 4.7%) and a positive likelihood ratio of 16.5 (posttest probability 84.6%).

Therefore, if a rapid antigen detection test result for streptococcus is negative, the chance that a streptococcal infection will be missed is less than 5%, or 1 in 20.

PEDIATRICS
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Diagnosis and Management of Pharyngitis in a Pediatric Population Based on Cost-Effectiveness and Projected Health Outcomes

Robert S. Van Howe and Louis P. Kusnier, II

Pediatrics 2006;117;609-619

Estimates and 95% CIs for the Cost per Patient and the Health Lost per Patient for the Approaches to Diagnosing and Treating Pharyngitis Among Children

Approach	Cost, 2003 US Dollars (95% CI)	Health Lost, QALDs (95% CI)
Treat all	68.76 (44.20–93.33)	0.2943 (0.1886–0.4001)
Treat none	101.15 (57.33–144.97)	0.0793 (0.0436–0.1150)
Rapid testing	52.74 (34.72–70.76)	0.0981 (0.0664–0.1298)
Culture all	60.60 (35.38–85.81)	0.1002 (0.0710–0.1294)
Rapid testing then culture	58.98 (37.27–80.69)	0.0994 (0.0659–0.1329)
Clinical scoring	52.59 (33.95–71.23)	0.1310 (0.0896–0.1725)

linee guida dell'Istituto Superiore di Sanità per la gestione del bambino con faringotonsillite

coordinatori: M de Martino, N Mansi, N Principi, A Serra

Chiappini E et al. Clin Ther 2012;34:1442-1458

RACCOMANDAZIONE N° 24

la terapia di scelta per la faringotonsillite streptococcica è rappresentata dalla penicillina V o, in mancanza di questa, dall'amoxicillina somministrata a 50 mg/kg/die in 2 o 3 dosi giornaliere per via orale per 10 giorni (I-A)

RACCOMANDAZIONE N° 27

in considerazione dell'elevata prevalenza di resistenza di *Streptococcus pyogenes* ai macrolidi, l'utilizzo di questa classe di farmaci va limitato ai soggetti con dimostrata allergia IgE-mediata ai betalattamici, se possibile dopo aver dimostrato la sensibilità dello streptococco a questa classe di antibiotici (II-C)

Clinical Practice Guideline for the Diagnosis and Management of Group A Streptococcal Pharyngitis: 2012 Update by the Infectious Diseases Society of America[a]

IDSA GUIDELINES

Stanford T. Shulman,[1] Alan L. Bisno,[2] Herbert W. Clegg,[3] Michael A. Gerber,[4] Edward L. Kaplan,[5] Grace Lee,[6] Judith M. Martin,[7] and Chris Van Beneden[8]

Drug, Route	Dose or Dosage	Duration of Therapy, Quantity	Recommendation, Strength, Quality[a]	Reference(s)
For individuals without penicillin allergy				
Penicillin V, oral	Children: 250 mg twice daily or 3 times daily; adolescents and adults: 250 mg 4 times daily or 500 mg twice daily	10 d	Strong, high	[125, 126]
Amoxicillin, oral	50 mg/kg once daily (max = 1000 mg); alternate: 25 mg/kg (max = 500 mg) twice daily	10 d	Strong, high	[88–92]
Benzathine penicillin G, intramuscular	<27 kg: 600 000 U; ≥27 kg: 1 200 000 U	1 dose	Strong, high	[53, 125, 127]
For individuals with penicillin allergy				
Cephalexin,[b] oral	20 mg/kg/dose twice daily (max = 500 mg/dose)	10 d	Strong, high	[128–131]
Cefadroxil,[b] oral	30 mg/kg once daily (max = 1 g)	10 d	Strong, high	[132]
Clindamycin, oral	7 mg/kg/dose 3 times daily (max = 300 mg/dose)	10 d	Strong, moderate	[133]
Azithromycin,[c] oral	12 mg/kg once daily (max = 500 mg)	5 d	Strong, moderate	[97]
Clarithromycin,[c] oral	7.5 mg/kg/dose twice daily (max = 250 mg/dose)	10 d	Strong, moderate	[134]

Different antibiotics treatments for group A streptococcal pharyngitis

Cochrane Database Syst Rev 2013;4:CD004406

THE COCHRANE COLLABORATION

van Driel ML. Cochrane Database Syst Rev. 2016;9:CD004406

Authors' conclusions

Evidence is insufficient to show clinically meaningful differences between antibiotics for GABHS tonsillopharyngitis. Limited evidence in adults suggests cephalosporins are more effective than penicillin for relapse, but the NNTB is high. Limited evidence in children suggests carbacephem is more effective for symptom resolution. Data on complications are too scarce to draw conclusions. Based on these results and considering the low cost and absence of resistance, penicillin can still be recommended as first choice.

Dipartimento di Scienze della Salute
Università di Firenze

E’ possibile accorciare la durata della terapia antibiotica?

Short versus standard duration antibiotic treatment for acute streptococcal pharyngitis in children

Cochrane Database Syst Rev 2009;21:CD004872
Cochrabe Database Syst Rev 2012;8:CD004872

20 studi inclusi
13102 pazienti con FA da SBEGA

Trattamento breve (3-6 giorni) con qualsiasi antibiotico vs. penicillina V orale per 10 giorni

- **Ridotta durata della febbre** — **-0.30 giorni (IC95%: -0.45 to -0.14)**
- **Ridotta durata faringodinia** — **-0.50 giorni (IC95%: -0.78 to -0.22)**
- **Ridotto rischio di fallimento a breve termine** — **OR: 0.80 (IC95%:0.67-0.94)**
- **Rischio di ricorrenza a lungo termine** — **OR : 1.06 (IC95%:0.92-1.22)**

che non persiste eliminando gli studi con azitromicina a basso dosaggio (10 mg/kg)

Critiche metodologiche:

1) Almeno **un grande trial clinico ed una meta-analisi recenti non sono stati inclusi** (Pichichero ME, 2008; Falagas ME, 2008)

2) La **maggioranza dei trial inclusi sono di scarsa qualità**. Nella maggioranza non è descritto il metodo di randomizzazione

3) Per il quesito di maggiore interesse, **l'efficacia nella prevenzione della malattia reumatica**, solo 3 studi dei 20 inclusi hanno investigato questo evento -con un totale di 14 eventi→ **potenza insufficiente a trarre conclusioni**

4) Tutti i casi di MR che si sono verificati riguardavano bambini randomizzati a ricevere antibiotici per periodo breve

Shah D. Indian Pediatr 2009;46:235

Annals of Emergency Medicine
Volume 63, Issue 6, June 2014, Pages 690–691

Pediatrics

Are Short-Term Late-Generation Antibiotics Equivalent to Standard Penicillin Therapy in the Resolution of Symptoms in Acute Strep Throat in Children?

Anand Swaminathan, MD, MPH (EBEM Commentator)
Jeffrey Hom, MD, MPH (EBEM Commentator)

Altamimi S.Coch rane Database Syst Rev. 2012:CD004872.
Short-term late-generation antibiotics versus longer term penicillin for acute streptococcal pharyngitis in children.

The authors identified 20 original studies meeting inclusion criteria, though substantial heterogeneity was apparent across studies.
Despite 20 included studies of 13,102 cases of group A β-hemolytic streptococcus throat infections, **fever resolution was recorded in only 2 studies (n=487) and sore throat resolution in just 1 (n=308).**
Both outcomes were reduced in the short treatment group

Table 1.
Short (3 days) versus standard (7 days) antibiotic course.

Symptom	Number of Subjects	Difference in Days (95% CI)
Fever	487	−0.30 (−0.5 to −0.1)
Sore throat	308	−0.50 (−0.8 to −0.2)

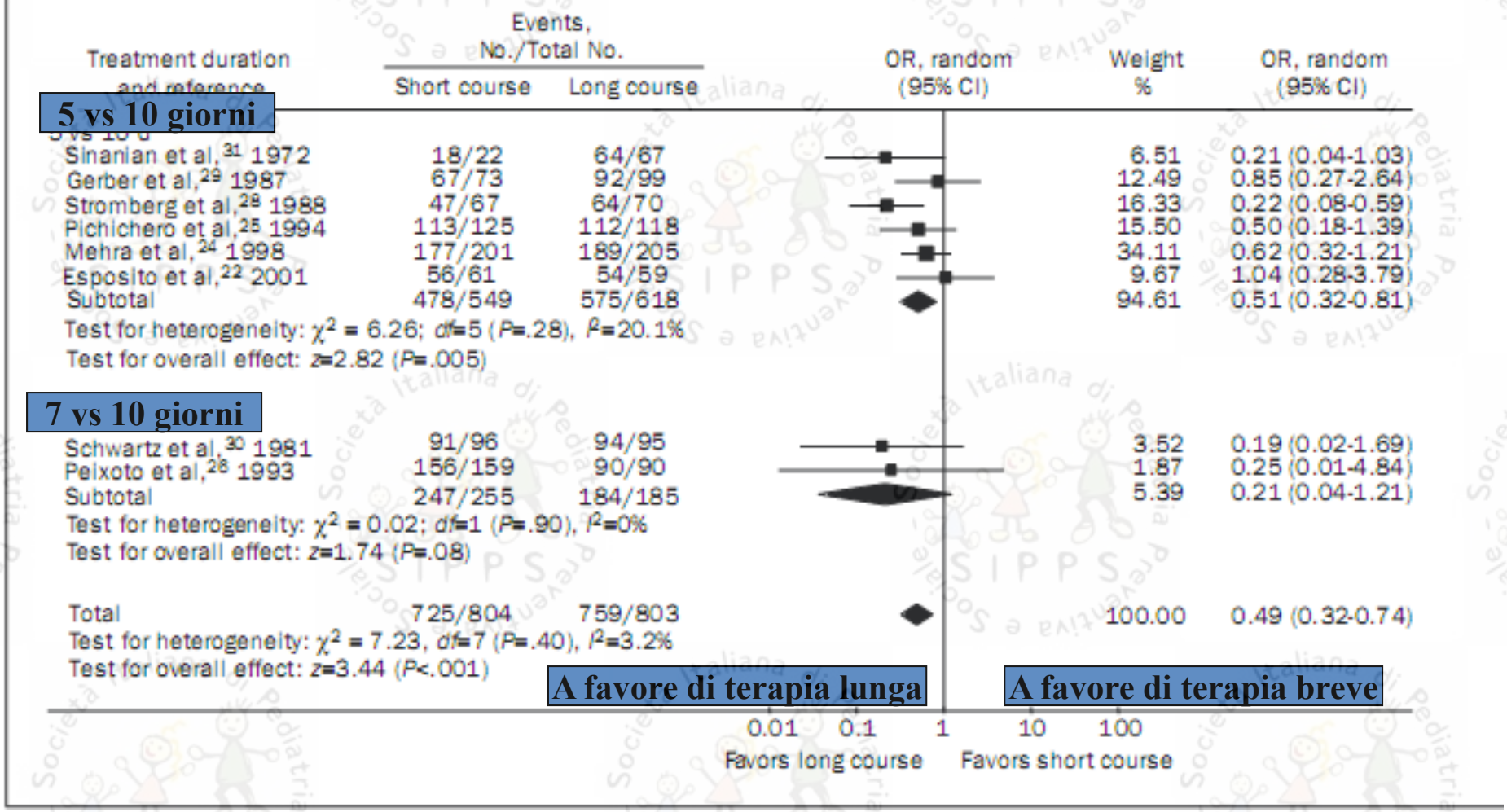
CI, Confidence interval.

Mayo Clinic Proceedings

Effectiveness and safety of short-course vs long-course antibiotic therapy for group a beta hemolytic streptococcal tonsillopharyngitis: a meta-analysis of randomized trials

Falagas ME. Mayo Clin Proc 2008;82:880-89

Ogni antibiotico comparato verso se stesso, con diversa durata del trattamento



Hostage to History: The Duration of Antimicrobial Treatment for Acute Streptococcal Pharyngitis.

Radetsky M. Pediatr Infect Dis J 2017 ;36:507-512.

As most of the research on primary prevention of acute rheumatic fever occurred in the 1950s and no subsequent countervailing studies have been conducted, efforts to overcome physician resistance would require **new, definitive, randomized, noninferiority therapeutic trials**, in which short-course oral therapy for streptococcal pharyngitis with nonpenicillin antimicrobials would be compared with "standard" 10-day therapy with oral penicillin.

Such trials would be impractical in areas of rare acute rheumatic fever because the numbers of subjects required to establish noninferiority would be prohibitive.

Even in areas with a higher risk of acute rheumatic fever, the numbers of subjects that would be needed in each treatment group would be daunting. **There appears to be little enthusiasm for the considerable organizational effort required to perform such trials**.

Different antibiotic treatments for group A streptococcal pharyngitis.

van Driel ML. Cochrane Database Syst Rev. 2016;9:CD004406.

19 trials (5839 randomised participants);
6compared penicillin with macrolides, 3 compared penicillin with carbacephem, 1 trial compared penicillin with sulphonamides, 1 trial compared clindamycin with ampicillin, 1 trial compared azithromycin with amoxicillin in children

Clinical relapse was lower for cephalosporins compared with penicillin (OR 0.55, 95% CI 0.30 to 0.99; NNTB 50, N = 4, n = 1386; low quality evidence), but this was found only in adults (OR 0.42, 95% CI 0.20 to 0.88; NNTB 33, N = 2, n = 770).

Children experienced more adverse events with azithromycin compared to amoxicillin (OR 2.67, 95% CI 1.78 to 3.99; N = 1, n = 673).

Penicillin can still be regarded as a first choice treatment for both adults and children.

Pediatr Emerg Care. 2012 Aug;28(8):807-9. doi: 10.1097/PEC.0b013e31826288e5.

Adverse effects of steroid therapy in children with pharyngitis with unsuspected malignancy.

Sadowitz PD[1], Page NE, Crowley K.

Author information

Abstract

Pharyngitis is a common clinical complaint for children and accounts for 3.1% of all visits to selected ambulatory care settings. Most children with pharyngitis have benign, self-limited disease with infrequent complications such as peritonsillar abscess, mastoiditis, or lymphadenitis. Recent studies have touted the benefits of steroids in the treatment of children with pharyngitis for pain control. These studies do not address the potential life-threatening complication of steroids in patients with pharyngitis or lymphadenopathy in the setting of undiagnosed acute lymphocytic leukemia (ALL) or lymphoma. We report 4 cases of children treated with steroids for pharyngitis or adenitis that subsequently were diagnosed with ALL or lymphoma. If steroids are to be used in children with pharyngitis or adenitis, the following recommendations should be strongly considered: Careful history and physical examination should be obtained. Presence of hepatosplenomegaly or lymphadenopathy outside the cervical region should raise suspicions regarding an underlying malignancy. Normal results of complete blood cell count in the setting of clear cut pharyngitis with exudates and a lack of significant adenopathy essentially rules out the diagnosis of ALL. Because traditional analgesics are available, which do not affect the curability of ALL or lymphoma, the routine use of steroids in pharyngitis in children should be considered only in rare circumstances.

PMID: 22863823 [PubMed - indexed for MEDLINE]

- ✓ E’ improbabile che la ricerca scientifica sia in grado nei prossimi anni di produrre RCT in grado di comparare l’efficacia di diversi regimi antibiotici rispetto all’*outcome* « prevenzione della malattia reumatica» nei paesi occidentali

- ✓ Dobbiamo necessariamente affidarci ai dati raccolti in anni passati tramite studi di qualità metodologica non ottimale ma i cui risultati chiaramente dimostravano come il trattamento antibiotico della faringite streptococcica si associasse ad una riduzione del rischio del 70% oltre che delle complicanze suppurative

- ✓ I diversi approcci utilizzati dalle varie linee guida in US così come in UK sono risultati fallimentari sul campo→ scarsa *compliance* dei medici alle linee guida

- ✓ L’impiego del test rapido ed il trattamento selezionato dei casi confermati di faringite streptococcica permette di selezionare i casi da trattare e, quindi, un uso razionale della terapia antibiotica