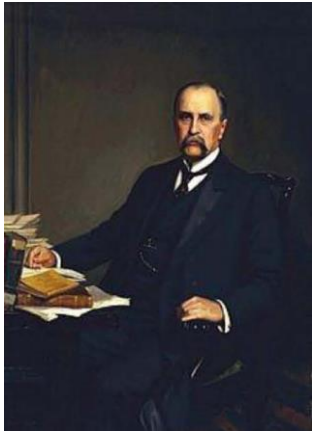


Prise en charge bucco-dentaire des patients à haut risque d'endocardite infectieuse : Recommandations actualisées

Philippe Lesclous – Chirurgie Orale – CHU Nantes

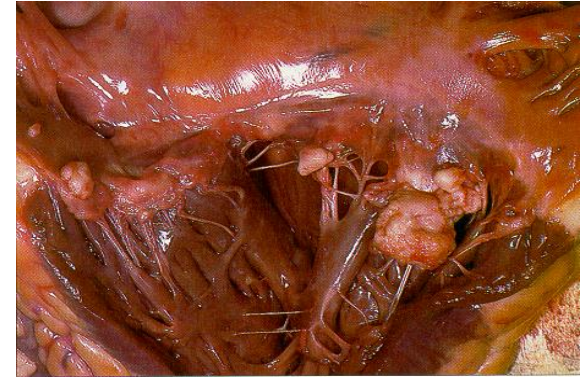
Aucun lien d'intérêt à déclarer

L'endocardite infectieuse en France: Quelques chiffres



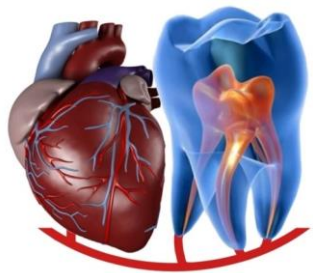
Sir William Osler
(1849-1919)

The Gulstonian lectures on malignant endocarditis.
Br Med J 1885; 1 (1262, 1263, 1264): 467-70;
522-6; 577-9.



- 3/100.000/an (environ 2000 cas/an) ; 20% de mortalité intra-hospitalière
- 3/1000/an chez les patients porteurs de valve prothétique (350.000 à 400.000); 40% de mortalité intrahospitalière
- 7/1000/an chez les patients avec un antécédent d'endocardite infectieuse (20.000)
- 30% des endocardites infectieuses sont d'origine orale (2^{ème} cause la plus fréquente)

L'endocardite infectieuse Bactériémies provoquées



Barnfield WF: Subacute bacterial endocarditis and dental procedures. *American Journal of Orthodontics and Oral Surgery*. Volume 31, Issue 2, February 1945, pages:A55-A88.

TABLE II
REPORTED CASES OF SUBACUTE BACTERIAL ENDOCARDITIS RESULTING FROM EXTRACTION OF TEETH

NO.	YEAR	AUTHOR	AGE	SEX	STATUS OF ENDOCARDITIS BEFORE EXTRACTION	INTERVAL	FIRST SYMPTOM OF SUBACUTE BACTERIAL ENDOCARDITIS	EVIDENCE OF SUBACUTE BACTERIAL ENDOCARDITIS	COMMENTS AND CONCLUSION
1	1926	Thayer ² Case 33M45941	28	M	Apparently had recovered from recent attack of rheumatic fever. Had gained 6 pounds	Not stated	Fever, sweating, fatigue, "symptoms of bacterial endocarditis"	Positive culture of blood. Subacute bacterial endocarditis of mitral valve	Probably subacute bacterial endocarditis resulting from postextraction bacteremia. Thayer believed the endocarditis resulted from extraction
2	1930	Rushton ⁴⁷ Case 1	26	F	No evidence of previous valvular damage	Indefinite. Excessive bleeding followed extraction	Record indefinite. Weakness, depressed, malaise, followed by pleurisy, and night sweats	"Confirmed at autopsy"	Unable to determine interim between extraction and onset of symptoms. Probably extraction caused the subacute bacterial endocarditis
3		Case 2	6	M	History of rheumatic fever at 4 years of age. Apparently inactive at time of extraction	Three days	Fever of 102.6° F. Blood positive for <i>Str. viridans</i> 9 days after extraction	Osler's nodes. Hemiplegia	Subacute bacterial endocarditis following postextraction bacteremia and on previously damaged valve
4	1931	Abrahamson ⁴⁸ Case 1	39	M	"Well compensated mitral regurgitation." No symptoms	"Shortly"	"Small red spots on his fingers"	Petechiae, blood positive for <i>Str. viridans</i> . "Tender nodules" at various sites on body	Good evidence that subacute bacterial endocarditis resulted from extraction. Some evidence that active rheumatic fever followed extraction

Thayer WS: studies on bacterial (infective) endocarditis. *John Hopkins Hosp Rep* 22:173, 1926.

Rushton MA: Subacute bacterial endocarditis following the extraction of teeth. *Guy's Hosp Rep* 80:39, 1930.

L'endocardite infectieuse Bactériologie

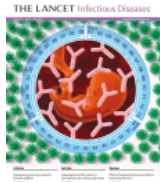


Infective endocarditis

Thomas J Cahill, Bernard D Prendergast

Lancet 2016; 387: 882-93

Published Online
September 2, 2015
[http://dx.doi.org/10.1016/
S0140-6736\(15\)00067-7](http://dx.doi.org/10.1016/S0140-6736(15)00067-7)



Panel 1: Proportion of cases of infective endocarditis caused by different microorganisms from a French population-based cohort of 497 patients²

Staphylococci

Staphylococcus aureus: 26.6%

Coagulase-negative staphylococci: 9.7%

Streptococci and enterococci

Oral streptococci: 18.7%

Non-oral streptococci: 17.5%

Enterococci: 10.5%

Other: 1.6%

HACEK (haemophilus, aggregatibacter, cardiobacterium, Eikenella corrodens, kingella) microorganisms

1.2%

Candida species

1.2%

Other*

6.0%

Polymicrobial (≥2 microorganisms)

1.8%

No microorganism identified

5.2%

*Includes small numbers of Enterobacteriaceae, *Propionibacterium acnes*, *Pseudomonas aeruginosa*, *Lactobacillus* spp, *Corynebacterium* spp, *Coxiella burnetii*, *Bartonella quintana*, *Tropheryma whippelli*, *Gordonia bronchialis*, *Bacillus* spp, *Erysipelothrix rhusiopathiae*, *Neisseria elongata*, *Moraxella catarrhalis*, *Veillonella* spp, *Listeria monocytogenes*, *Acinetobacter ursingii*, *Campylobacter fetus*, *Francisella tularensis*, and *Catabacter hongkongensis*.



Preeminence of *Staphylococcus aureus* in Infective Endocarditis: A 1-Year Population-Based Survey

Christine Selton-Suty,¹ Marie Célard,² Vincent Le Moing,^{3,4} Thanh Doco-Lecompte,⁵ Catherine Chirouze,⁶ Bernard Jung,^{7,8} Christophe Strady,⁹ Matthieu Revest,¹⁰ François Vandenesch,² Anne Bouvet,¹¹ François Delahaye,^{12,13} François Alla,¹⁴ Xavier Duval,^{8,15,16} Bruno Hoen,^{5,17} and on behalf of the AEPPI Study Group^a

Clinical Infectious Diseases 2012;54(9):1230-9



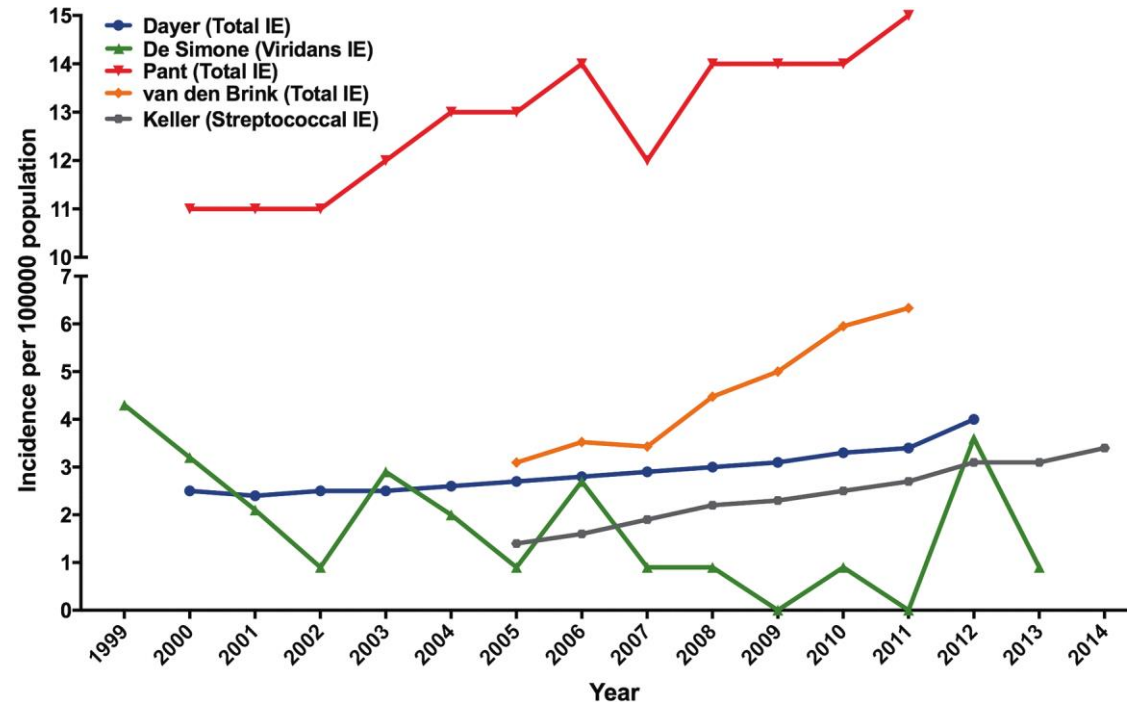


Figure 2 Annual incidence of infective endocarditis (IE) reported in time-trend analyses. The data for annual incidence or prevalence were reported in three studies^{17 18 30} and obtained from the authors for two studies.^{19 20} The incidence of viridans streptococcal IE in DeSimone *et al* was 0 in 2009 and 2011. The incidence values for Pant *et al*¹⁷ were higher than other studies due to the inclusion of IE as both a primary and secondary diagnosis (included solely as a primary diagnosis in the other studies).

Antibiotic prophylaxis for infective endocarditis: a systematic review and meta-analysis

Thomas J Cahill,¹ James L Harrison,² Paul Jewell,¹ Igbo Onakpoya,³ John B Chambers,² Mark Dayer,⁴ Peter Lockhart,⁵ Nia Roberts,⁶ David Shanson,⁷ Martin Thornhill,⁸ Carl J Heneghan,⁹ Bernard D Prendergast²

Cahill TJ, *et al.* *Heart* 2017;**103**:937–944. doi:10.1136/heartjnl-2015-309102



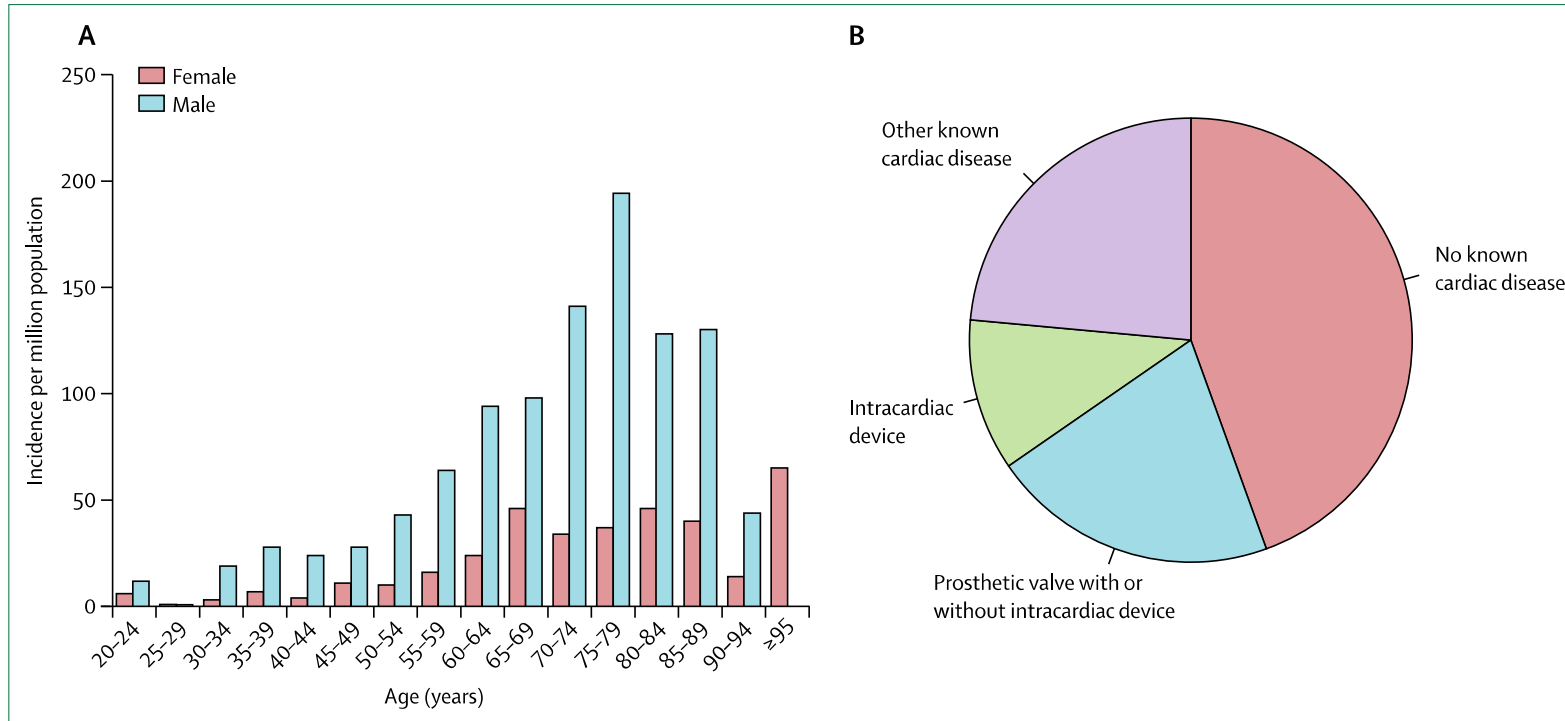
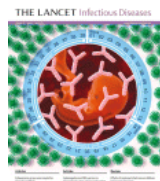


Figure 1: Epidemiology

Incidence of infective endocarditis according to (A) age and sex, and (B) previous cardiac history, in a French population study of 497 adults. The incidence peaks at 194 cases per million in men aged 75–79 years. Adapted from Selton-Suty and colleagues.²



Infective endocarditis

Thomas J Cahill, Bernard D Prendergast

Lancet 2016; 387: 882–93

Published Online

September 2, 2015

[http://dx.doi.org/10.1016/S0140-6736\(15\)00067-7](http://dx.doi.org/10.1016/S0140-6736(15)00067-7)

S0140-6736(15)00067-7

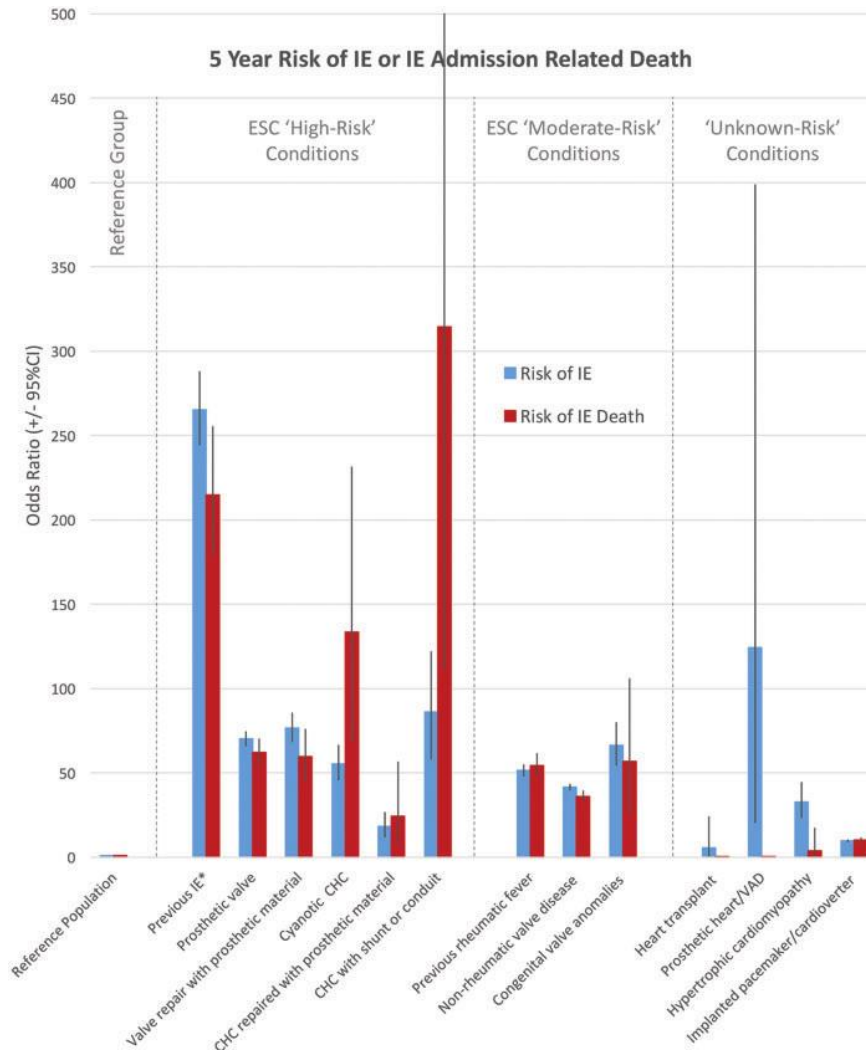


Figure 2 Five-year risk (odds) of developing infective endocarditis or dying during an infective endocarditis admission in different cardiac conditions. *Excluding recurrent infective endocarditis within 180 days of the original episode.



Quantifying infective endocarditis risk in patients with predisposing cardiac conditions

Martin H. Thornhill^{1,2*}, Simon Jones^{3,4}, Bernard Prendergast⁵, Larry M. Baddour⁶, John B. Chambers⁵, Peter B. Lockhart², and Mark J. Dayer⁷



ESC

European Society
of Cardiology

European Heart Journal (2018) **39**, 586–595
doi:10.1093/eurheartj/ehx655

L'endocardite infectieuse Bactériémies

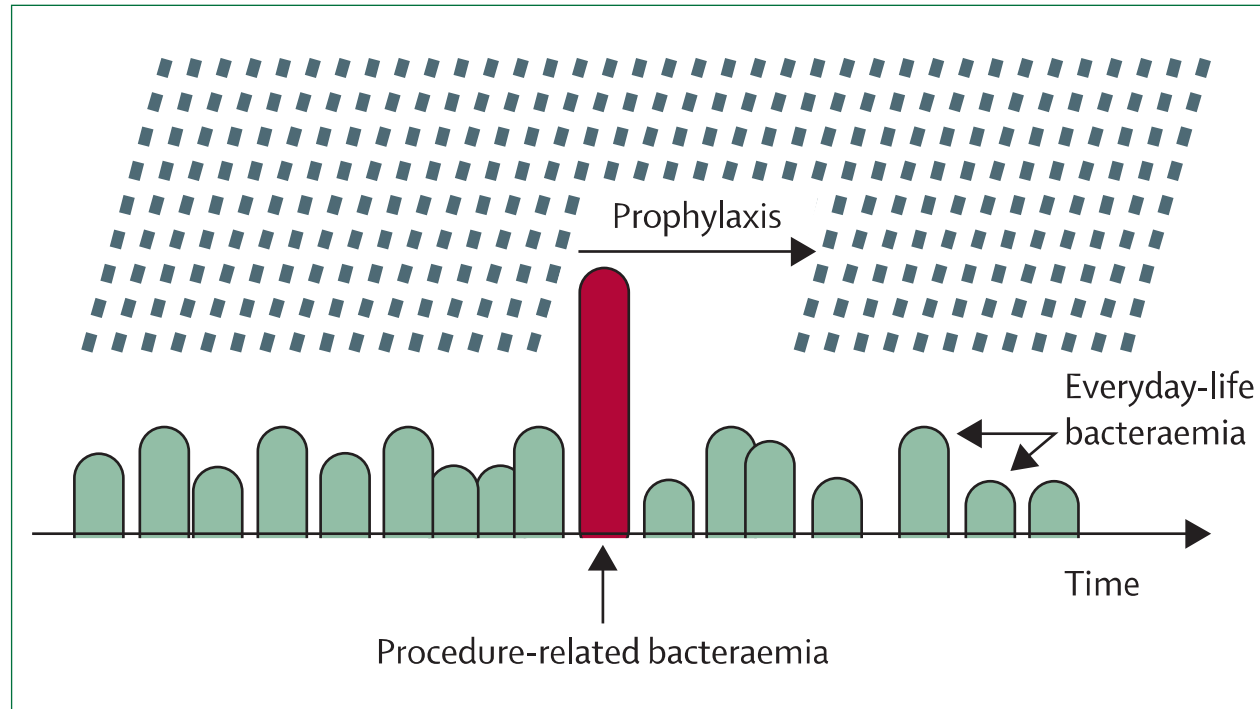


Figure 1: Current concept of the limited role of antibiotic prophylaxis against everyday versus procedures related bacteraemia

Adapted from P. Moreillon et al. Prophylaxie de l'endocardite infectieuse: Apport du modèle expérimental. *Med Mal Infect* 2002; (32): 605-612.

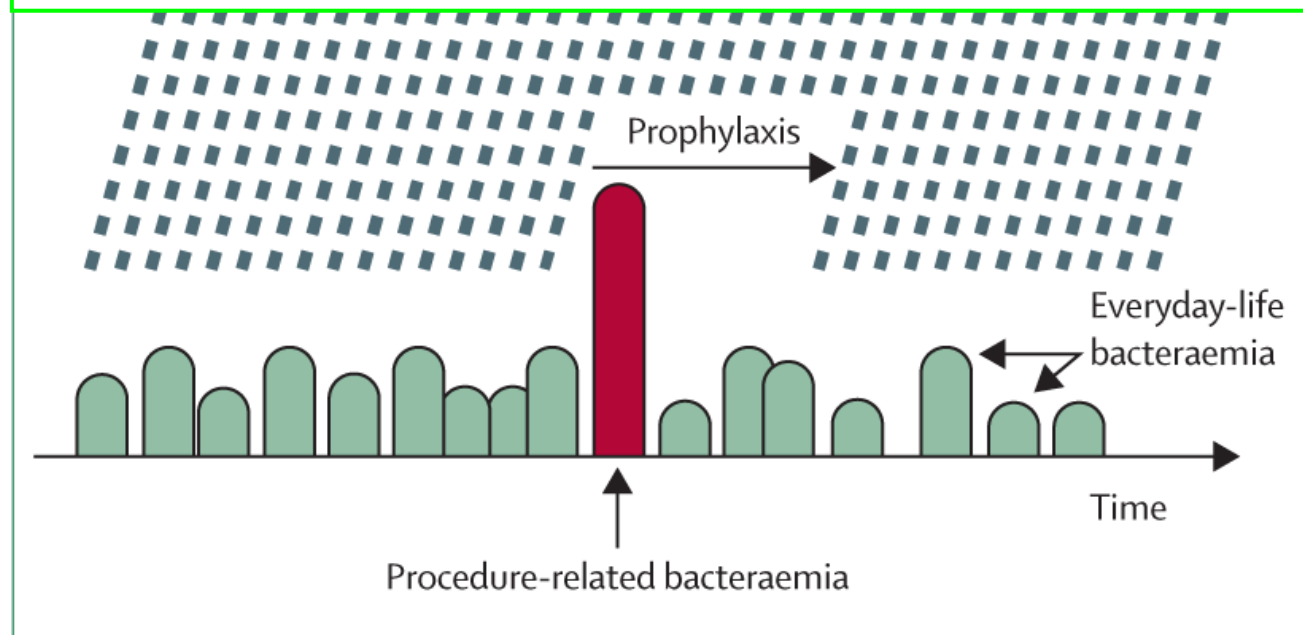
Prophylaxis of infective endocarditis: current tendencies,
continuing controversies



L'endocardite infectieuse Bactériémies

x 2190

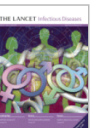
Bactériémies spontanées/6 mois = 262800 min



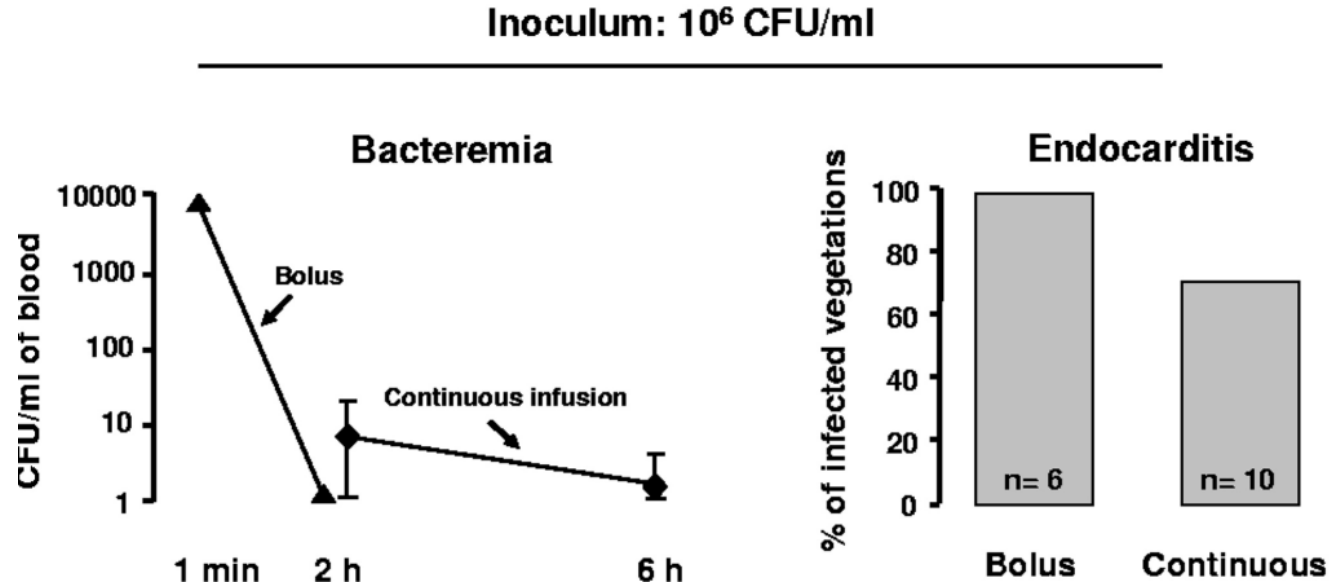
Bactériémie provoquée = 120 min

Adapted from P. Moreillon et al. Prophylaxie de l'endocardite infectieuse: Apport du modèle expérimental. *Med Mal Infect* 2002; (32): 605-612.

Prophylaxis of infective endocarditis: current tendencies,
continuing controversies



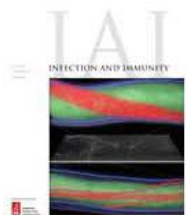
Rats inoculated with the same *Strep intermedius* inoculum: either by **bolus** 1ml in 1 min or by **continuous infusion** over 10 h



- Continuous low-grade bacteremia induces experimental IE
- **Bacteremia levels** required to infect vegetation after bolus are much higher than those required after continuous infusion

Induction of Experimental Endocarditis by Continuous Low-Grade Bacteremia Mimicking Spontaneous Bacteremia in Humans[▽]

T. R. Veloso,¹ M. Amiguet,² V. Rousson,² M. Giddey,¹ J. Vouillamoz,¹
P. Moreillon,¹ and J. M. Entenza^{1*}



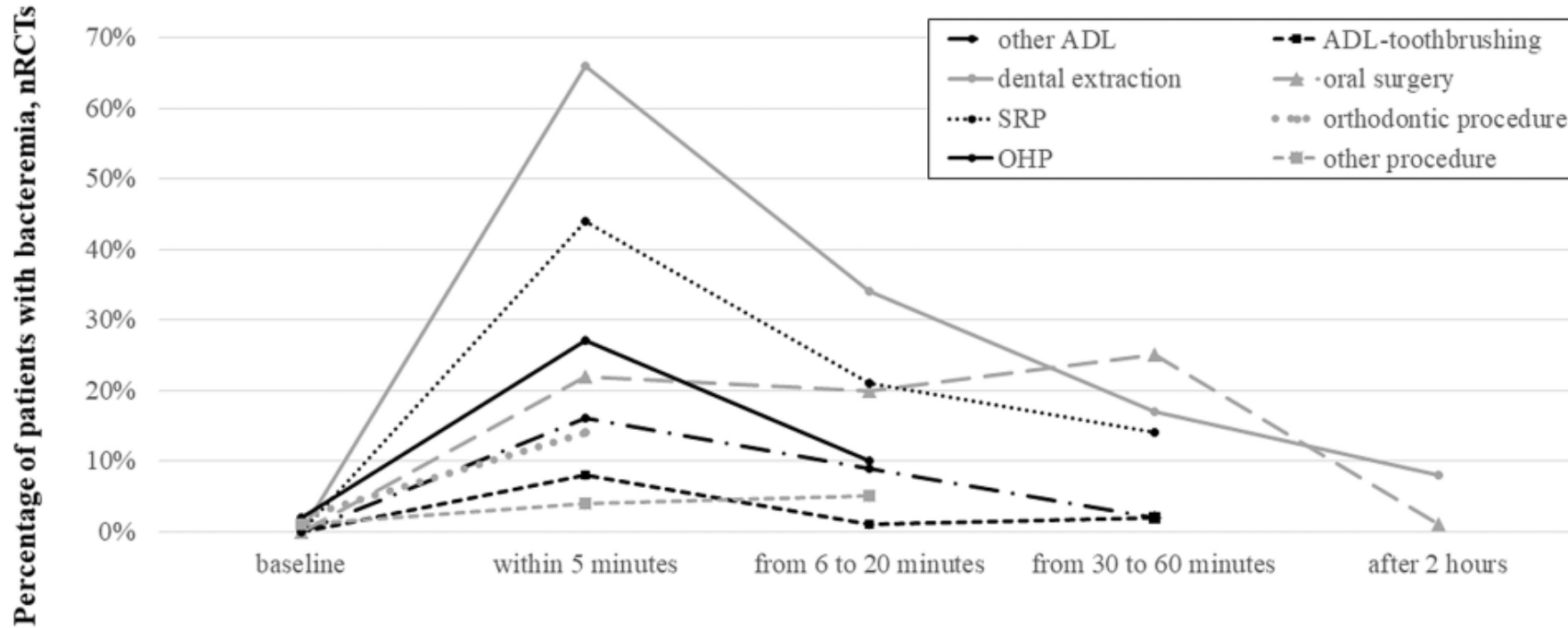


FIGURE 1 Timing and duration of bacteremia among (a) nonrandomized controlled trials (nRCTs)

Bacteremia following different oral procedures: Systematic review and meta-analysis

Carolina C. Martins¹ | Peter B. Lockhart² | Ramon T. Firmino^{1,3} |
Catherine Kilmartin⁴ | Thomas J. Cahill⁵ | Mark Dayer⁶ |
Ingrid G. P. Occhi-Alexandre^{1,7} | Honghao Lai⁸ | Long Ge⁸ | Martin H. Thornhill^{2,9}

ADL: Activities of daily living
OHP: Oral hygiene procedures
SRP: Scaling and root planing

Table 4. Factors Associated With Definite Oral Streptococcal Infective Endocarditis in 265 Patients

Factor	Bivariate Analysis				Multivariate Analysis			
	Odds Ratio	95% CI		PValue	Odds Ratio	95% CI		PValue
		Inf	Sup			Inf	Sup	
Age				<.001				.004
<65 y	2.81	1.57	5.02		2.85	1.41	5.76	
≥65 y	1				1			
Sex				.069				.016
Male	1				1			
Female	1.82	.96	3.44		2.62	1.20	5.74	
Preexisting cardiac condition				.009				.043
Valvular prosthesis	1.43	.71	2.86		2.13	.91	4.96	
Native valve disease	2.53	1.34	4.78		2.44	1.16	5.13	
None	1				1			
Pacemaker and/or implantable cardioverter defibrillator				.004				
No	1							
Yes	0.17	.04	.74					
Patient oral hygiene habits				<.001				<.001
No interdental manipulation								
With toothbrushing after meal	1				1			
Without toothbrushing after meal	3.56	1.45	8.72		5.51	2.05	14.82	
Interdental manipulation								
With toothbrushing after meal	4.05	1.67	9.84		3.48	1.30	9.32	
Without toothbrushing after meal	5.83	2.20	15.41		8.32	2.70	25.58	
Unknown	1.16	.38	3.53		0.63	.16	2.49	
Edentulous	1.09	.21	5.71		2.00	.35	11.57	
Pulpal necrosis				.001				.017
No	1				1			
Yes	4.84	1.17	19.96		2.80	.49	15.99	
Unknown	0.31	.12	.82		0.27	.09	.76	
Dental procedures within the 3 preceding mo ^a				.005				.023
No	1				1			
Yes	3.33	1.40	7.94		3.31	1.18	9.29	

Interdental habits include toothpick use, dental water jet use, interdental brush use, and/or flossing.

Abbreviations: CI, confidence interval; Inf, lower limit; Sup, upper limit.

^aDental procedures within the 2 preceding months (odds ratio, 4.86 [95% CI, 1.58–14.9], *P* = .006).

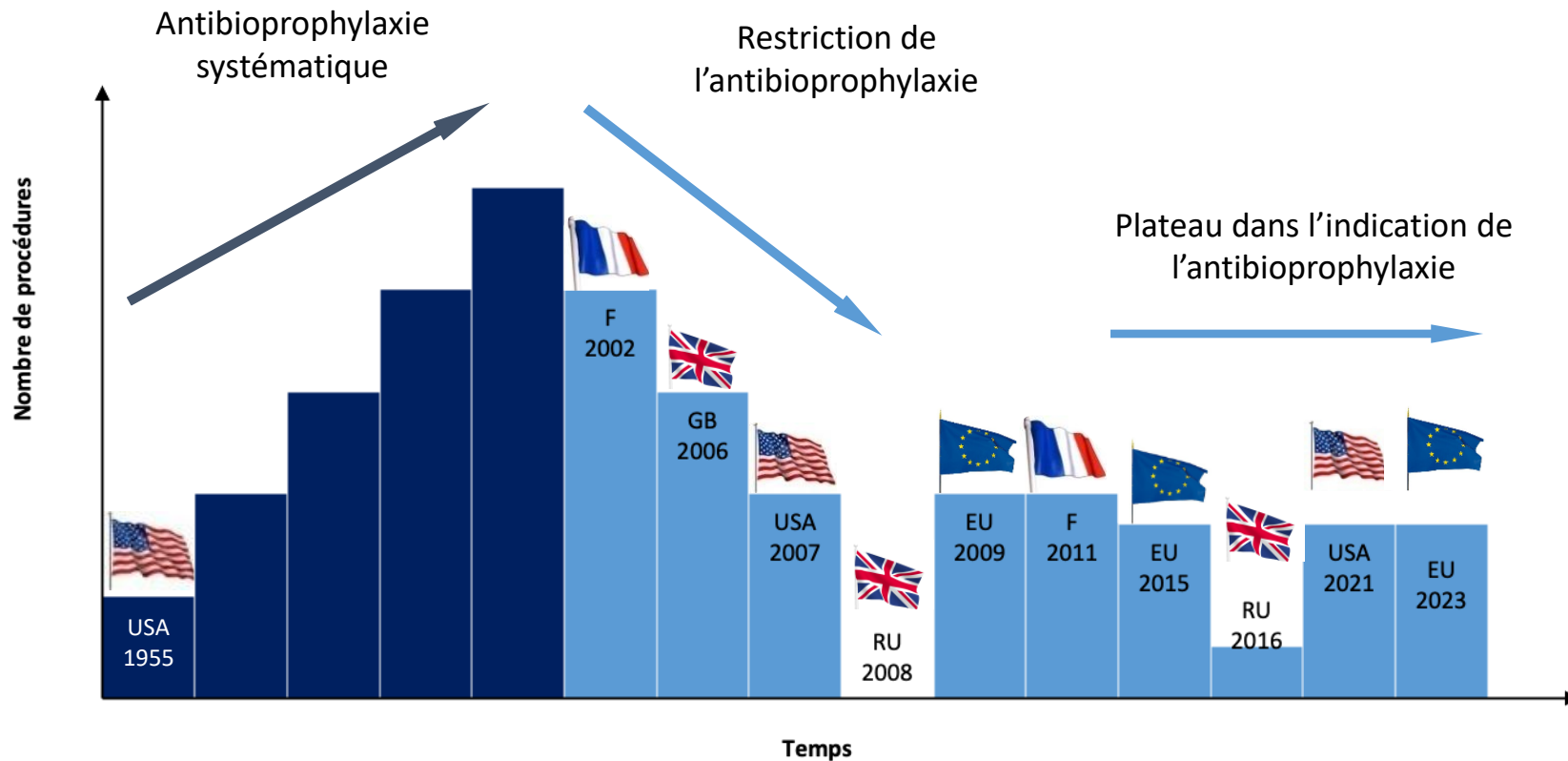
Oral Streptococcal Endocarditis, Oral Hygiene Habits, and Recent Dental Procedures: A Case-Control Study

Xavier Duval,¹ Sarah Millot,² Catherine Chirouze,^{3a} Christine Selton-Suty,^{4a} Vanessa Moby,^{5a} Pierre Tattevin,⁶ Christophe Strady,⁷ Edouard Euvrard,⁸ Nelly Agrinier,⁹ Daniel Thomas,¹⁰ Bruno Hoen,^{11a} and François Alla,^{12b}; for the EI-dents Association pour l'Etude et la Prévention de l'Endocardite Infectieuse (AEPEI) Study Group

Clinical Infectious Diseases® 2017;64(12):1678–85



L'endocardite infectieuse L'antibioprophylaxie: une longue histoire

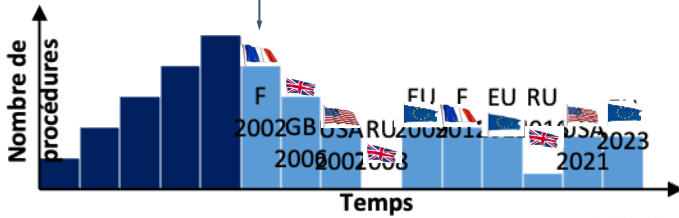


2002 Pour tous types de gestes dentaires invasifs
Chez les sujets à haut-risque d'EI +/- chez les patients à risque modéré d'EI

2007 Pour tous types de gestes dentaires invasifs
Chez les sujets à haut-risque d'EI

2015 Implantologie dentaire possible
Chez les sujets à haut-risque d'EI

L'endocardite infectieuse L'antibioprophylaxie: une longue histoire



Prophylaxie de l'endocardite infectieuse

Révision de la conférence de consensus de mars 1992

Recommandations 2002

sous l'égide de la Société de pathologie infectieuse de langue française (Spilf) avec la collaboration de la Société française de cardiologie (SFC)



Cardiopathies à risque d'endocardite infectieuse

Groupe A : Cardiopathies à haut risque

- Prothèses valvulaires (mécaniques, homogreffes ou bioprothèses)
- Cardiopathies congénitales cyanogènes non opérées et dérivations chirurgicales (pulmonaire-systémique)
- Antécédents d'endocardite infectieuse

Groupe B : Cardiopathies à risque moins élevé

- Valvulopathies : IA, IM, RA*,
- PVM* avec IM et/ou épaissement valvulaire
- Bicuspidie aortique
- Cardiopathies congénitales non cyanogènes sauf CIA*
- Cardiomyopathie hypertrophique obstructive (avec souffle à l'auscultation)

* IA : insuffisance aortique ; IM : insuffisance mitrale ; RA : rétrécissement aortique ; PVM : prolapsus de la valve mitrale ; CIA : communication interauriculaire (cardiopathie non à risque).

L'endocardite infectieuse L'antibioprophylaxie: une longue histoire

Prophylaxie de l'endocardite infectieuse Révision de la conférence de consensus de mars 1992 Recommandations 2002

sous l'égide de la Société de pathologie infectieuse de langue française (Spilf) avec la collaboration de la Société française de cardiologie (SFC)



Tableau 5

Antibioprophylaxie de l'endocardite infectieuse lors de soins dentaires et d'actes portant sur les voies aériennes supérieures – soins ambulatoires

	Produit	Posologie et voie d'administration Prise unique dans l'heure précédant le geste
Pas d'allergie aux β -lactamines	Amoxicilline	3 g per os *
Allergie aux β -lactamines	Pristinamycine ou** clindamycine	1 g per os 600 mg per os

* 2 g per os si poids du sujet < 60 kg ou intolérance préalable.

Posologies pédiatriques per os : amoxicilline 75 mg kg⁻¹ ; clindamycine 15 mg kg⁻¹ ; pristinamycine : 25 mg kg⁻¹.

** Le pourcentage respectif de souches de streptocoques de sensibilité diminuée à ces deux antibiotiques doit être pris en considération dans le choix.

Administration des antibiotiques dans le respect des contre-indications et des conditions habituelles d'utilisation et de surveillance.

L'endocardite infectieuse L'antibioprophylaxie: une longue histoire

Prophylaxie de l'endocardite infectieuse Révision de la conférence de consensus de mars 1992 Recommandations 2002

sous l'égide de la Société de pathologie infectieuse de langue française (Spilf) avec la collaboration de la Société française de cardiologie (SFC)



Anesthésie locale intraligamentaire

Soins endodontiques :

- Traitement des dents à pulpe non vivante, y compris la reprise de traitement canalaire

Actes chirurgicaux :

- Amputation radiculaire
- Transplantation/Réimplantation
- Chirurgie périapicale
- Chirurgie parodontale
- Chirurgie implantaire
- Mise en place de matériaux de comblement

Orthopédie dento-faciale :

- Chirurgie préorthodontique des dents incluses ou enclavées

2-2 Actes bucco-dentaires invasifs

Antibioprophylaxie

Mise en place d'une digue

Soins parodontaux non chirurgicaux :

- Détartrage avec et sans surfaçage
- Sondage

Soins endodontiques :

- Traitement des dents à pulpe vivante*

Soins prothétiques à risque de saignement

Actes chirurgicaux :

- Avulsions dentaires :
 - Dent saine
 - Alvéolectomie
 - Séparation des racines**
 - Dent incluse ou en désinclusion
 - Germectomie
- Freinectomie
- Biopsies des glandes salivaires accessoires
- Chirurgie osseuse

Orthopédie dento-faciale

Mise en place de bagues

Groupe A

Recommandée

Groupe B

Optionnelle

2-3 Actes bucco-dentaires non invasifs

(sans risque de saignement important)

Antibioprophylaxie

Actes de prévention :

- Application de fluor
- Scellement de sillons

Soins conservateurs (restauration coronaire)

Soins prothétiques non sanglants :

- Prise d'empreinte

Ablation post-opératoire de sutures

Pose de prothèses amovibles orthodontiques

Pose ou ajustement d'appareils orthodontiques

Prise de radiographie dentaire

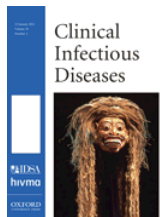
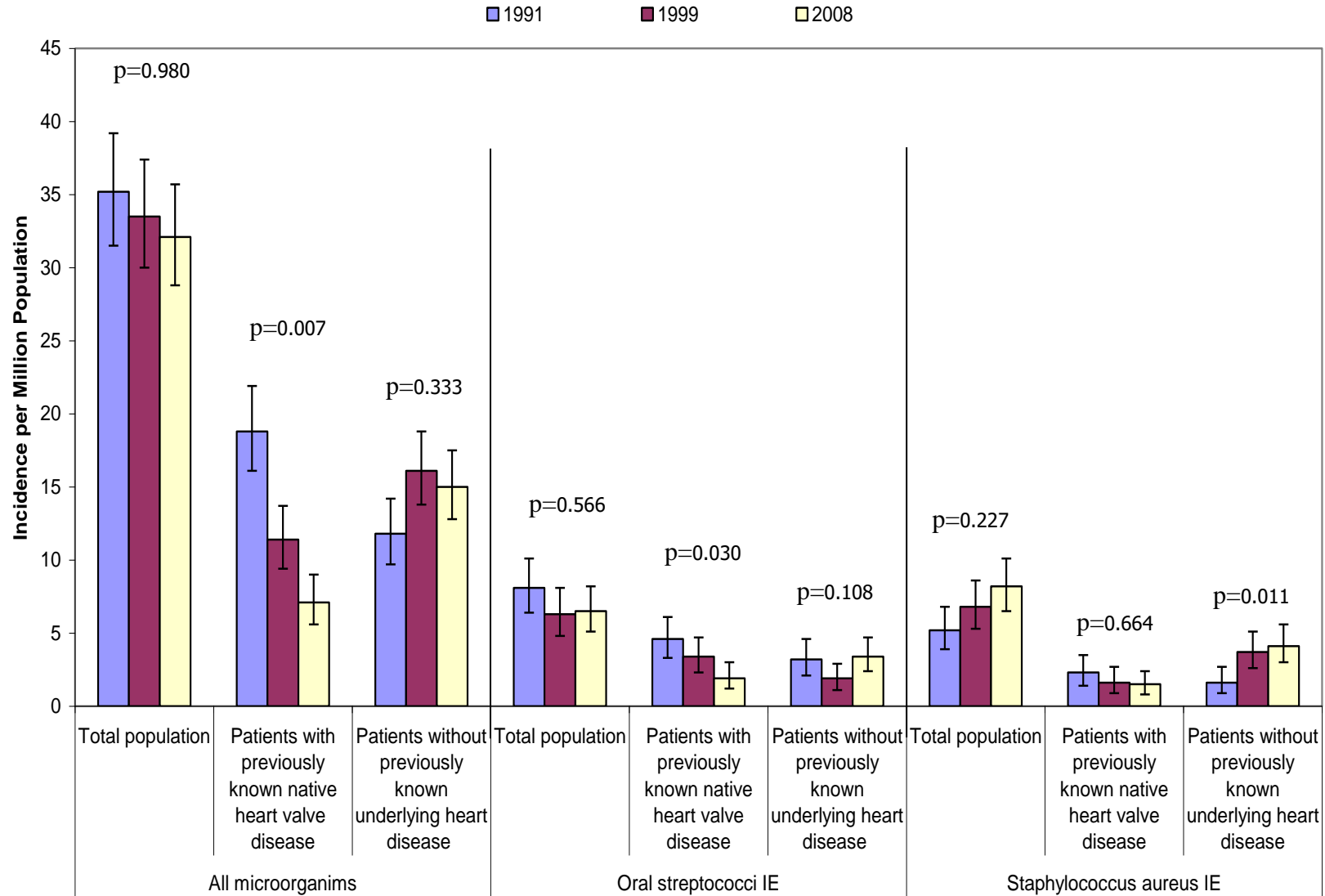
Anesthésie locale non intraligamentaire

Non recommandée

2-2 Actes bucco-dentaires invasifs

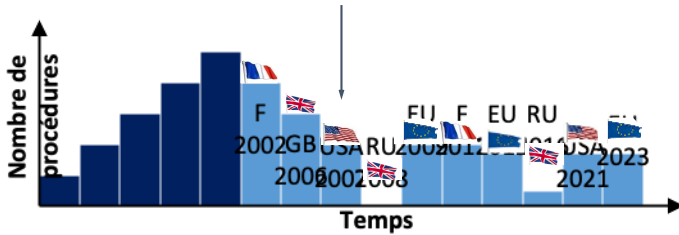
Antibioprophylaxie

L'endocardite infectieuse Évolution en France



L'endocardite infectieuse

L'antibioprophylaxie: l'Amérique du nord



Prevention of Infective Endocarditis

Guidelines From the American Heart Association: A Guideline From the American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee, Council on Cardiovascular Disease in the Young, and the Council on Clinical Cardiology, Council on Cardiovascular Surgery and Anesthesia, and the Quality of Care and Outcomes Research Interdisciplinary Working Group

Walter Wilson, Kathryn A. Taubert, Michael Gewitz, Peter B. Lockhart, Larry M. Baddour, Matthew Levison, Ann Bolger, Christopher H. Cabell, Masato Takahashi, Robert S. Baltimore, ... [See all authors](#)

Originally published 19 Apr 2007 | <https://doi.org/10.1161/CIRCULATIONAHA.106.183095> | Circulation. 2007;116:1736–1754

2007 Guidelines

Table 3. Cardiac Conditions Associated With the Highest Risk of Adverse Outcome From Endocarditis for Which Prophylaxis With Dental Procedures Is Reasonable ([Table view](#))

Prosthetic cardiac valve or prosthetic material used for cardiac valve repair
Previous IE
Congenital heart disease (CHD)*
Unrepaired cyanotic CHD, including palliative shunts and conduits
Completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or by catheter intervention, during the first 6 months after the procedure [†]
Repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device (which inhibit endothelialization)
Cardiac transplantation recipients who develop cardiac valvulopathy
*Except for the conditions listed above, antibiotic prophylaxis is no longer recommended for any other form of CHD.
[†] Prophylaxis is reasonable because endothelialization of prosthetic material occurs within 6 months after the procedure.



October 9, 2007
Vol 116, Issue 15



American
Heart
Association®

2007 Guidelines

Prevention of Infective Endocarditis

Guidelines From the American Heart Association: A Guideline From the American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee, Council on Cardiovascular Disease in the Young, and the Council on Clinical Cardiology, Council on Cardiovascular Surgery and Anesthesia, and the Quality of Care and Outcomes Research Interdisciplinary Working Group

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October 9, 2007
Vol 116, Issue 15



Table 4. Dental Procedures for Which Endocarditis Prophylaxis Is Reasonable for Patients in Table 3 (Table view)

<i>All dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa*</i>
*The following procedures and events do not need prophylaxis: routine anesthetic injections through noninfected tissue, taking dental radiographs, placement of removable prosthodontic or orthodontic appliances, adjustment of orthodontic appliances, placement of orthodontic brackets, shedding of deciduous teeth, and bleeding from trauma to the lips or oral mucosa.

Table 5. Regimens for a Dental Procedure (Table view)

Situation	Agent	Regimen: Single Dose 30 to 60 min Before Procedure	
		Adults	Children
Oral	Amoxicillin	2 g	50 mg/kg
Unable to take oral medication	Ampicillin OR Cefazolin or ceftriaxone	2 g IM or IV	50 mg/kg IM or IV
		1 g IM or IV	50 mg/kg IM or IV
Allergic to penicillins or ampicillin—oral	Cephalexin* [†] OR Clindamycin OR Azithromycin or clarithromycin	2 g	50 mg/kg
		600 mg	20 mg/kg
		500 mg	15 mg/kg
Allergic to penicillins or ampicillin and unable to take oral medication	Cefazolin or ceftriaxone [†] OR Clindamycin	1 g IM or IV	50 mg/kg IM or IV
		600 mg IM or IV	20 mg/kg IM or IV

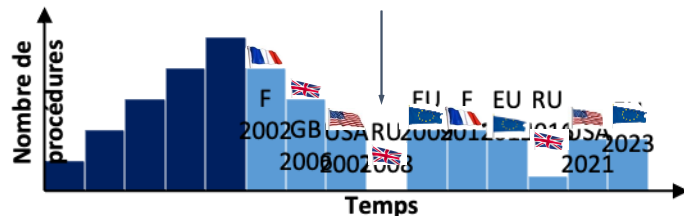
IM indicates intramuscular; IV, intravenous.

*Or other first- or second-generation oral cephalosporin in equivalent adult or pediatric dosage.

[†]Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticaria with penicillins or ampicillin.

L'endocardite infectieuse

Les britanniques et le reste du monde ... ou presque



Prophylaxis against infective endocarditis: summary of NICE guidance

T Stokes, R Richey, D Wrayon and on behalf of the Guideline Development Group

Heart 2008;94:930-931
doi:10.1136/hrt.2008.147090

2008 Guidelines

In summary, this guideline recommends that antibiotic prophylaxis to prevent infective endocarditis should not be given to adults and children with structural cardiac defects at risk of infective endocarditis undergoing dental and non-dental interventional procedures. The basis for this recommendation is:

- ▶ Antibiotic prophylaxis against infective endocarditis for dental procedures is not cost effective and may lead to a greater number of deaths through fatal anaphylaxis than a strategy of no antibiotic prophylaxis.



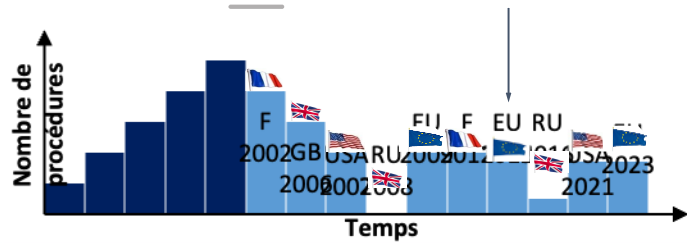


Table 3 Cardiac conditions at highest risk of infective endocarditis for which prophylaxis should be considered when a high-risk procedure is performed

Recommendations	Class ^a	Level ^b
Antibiotic prophylaxis should be considered for patients at highest risk for IE: (1) Patients with any prosthetic valve, including a transcatheter valve, or those in whom any prosthetic material was used for cardiac valve repair. (2) Patients with a previous episode of IE. (3) Patients with CHD: (a) Any type of cyanotic CHD. (b) Any type of CHD repaired with a prosthetic material, whether placed surgically or by percutaneous techniques, up to 6 months after the procedure or lifelong if residual shunt or valvular regurgitation remains.	IIa	C
Antibiotic prophylaxis is not recommended in other forms of valvular or CHD.	III	C

CHD = congenital heart disease; IE = infective endocarditis.

^aClass of recommendation.

^bLevel of evidence.

^cReference(s) supporting recommendations.

L'endocardite infectieuse L'antibioprophylaxie: l'Europe

Table 5 Recommendations for prophylaxis of infective endocarditis in the highest-risk patients according to the type of at-risk procedure

Recommendations	Class ^a	Level ^b
A. Dental procedures		
<ul style="list-style-type: none"> Antibiotic prophylaxis should only be considered for dental procedures requiring manipulation of the gingival or periapical region of the teeth or perforation of the oral mucosa 	IIa	C
<ul style="list-style-type: none"> Antibiotic prophylaxis is not recommended for local anaesthetic injections in non-infected tissues, treatment of superficial caries, removal of sutures, dental X-rays, placement or adjustment of removable prosthodontic or orthodontic appliances or braces or following the shedding of deciduous teeth or trauma to the lips and oral mucosa 	III	C

Table 6 Recommended prophylaxis for high-risk dental procedures in high-risk patients

Situation	Antibiotic	Single-dose 30–60 minutes before procedure	
		Adults	Children
No allergy to penicillin or ampicillin	Amoxicillin or ampicillin ^a	2 g orally or i.v.	50 mg/kg orally or i.v.
Allergy to penicillin or ampicillin	Clindamycin	600 mg orally or i.v.	20 mg/kg orally or i.v.

^aAlternatively, cephalexin 2 g i.v. for adults or 50 mg/kg i.v. for children, cefazolin or ceftriaxone 1 g i.v. for adults or 50 mg/kg i.v. for children.

Cephalosporins should not be used in patients with anaphylaxis, angio-oedema, or urticaria after intake of penicillin or ampicillin due to cross-sensitivity.



European Heart Journal (2015) 36, 3075–3123
doi:10.1093/eurheartj/ehv319

ESC GUIDELINES



2015 ESC Guidelines for the management of infective endocarditis

The Task Force for the Management of Infective Endocarditis of the European Society of Cardiology (ESC)





2015 ESC Guidelines for the management of infective endocarditis

The Task Force for the Management of Infective Endocarditis of the European Society of Cardiology (ESC)

Endorsed by: European Association for Cardio-Thoracic Surgery (EACTS), the European Association of Nuclear Medicine (EANM)

Authors/Task Force Members: Gilbert Habib* (Chairperson) (France), Patrizio Lancellotti* (co-Chairperson) (Belgium), Manuel J Antunes (Portugal), Maria Grazia Bongiorno (Italy), Jean-Paul Casalta (France), Francesco Del Zotti (Italy), Raluca Dulgheru (Belgium), Gebrine El Khoury (Belgium), Paola Anna Erba^a (Italy), Bernard Jung (France), Jose M. Miro^b (Spain), Barbara J Mulder (The Netherlands), Edyta Plonska-Gosciniak (Poland), Susanna Price (UK), Jolien Roos-Hesselink (The Netherlands), Ulrika Snygg-Martin (Sweden), Franck Thuny (France), Pilar Tornos Mas (Spain), Isidre Vilacosta (Spain), and Jose Luis Zamorano (Spain)

3.3 Situations and procedures at risk

3.3.1 Dental procedures

At-risk procedures involve manipulation of the gingival or periapical region of the teeth or perforation of the oral mucosa (including scaling and root canal procedures) (Table 5).^{15,20} The use of dental implants raises concerns with regard to potential risk due to foreign material at the interface between the buccal cavity and blood. Very few data are available.⁴² The opinion of the Task Force is that there is no evidence to contraindicate implants in all patients at risk. The indication should be discussed on a case-by-case basis. The patient should be informed of the uncertainties and the need for close follow-up.



European Heart Journal (2015) 36, 3075–3123
doi:10.1093/eurheartj/ehv319

ESC GUIDELINES



2015 ESC Guidelines for the management of infective endocarditis

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L'endocardite infectieuse L'antibioprophylaxie: l'Europe

Int. J. Oral Maxillofac. Surg. 2014; 43: 1282–1285
<http://dx.doi.org/10.1016/j.ijom.2014.04.015>, available online at <http://www.sciencedirect.com>



International Journal of
*Oral &
Maxillofacial
Surgery*

Clinical Paper
Medicine

Dental implants in patients at
high risk for infective
endocarditis: a preliminary
study

M. Findler¹, T. Chackartchi²,
E. Regev³

¹Department of Oral Medicine, The Hebrew University – Hadassah Faculty of Dental Medicine, Jerusalem, Israel; ²Department of Periodontology, The Hebrew University – Hadassah Faculty of Dental Medicine, Jerusalem, Israel; ³Department of Oral and Maxillofacial surgery, The Hebrew University – Hadassah Medical Center and Faculty of Dental Medicine, Jerusalem, Israel

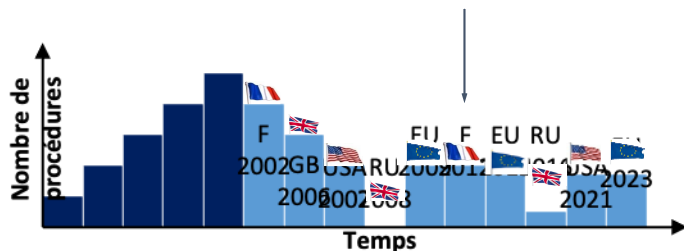
M. Findler, T. Chackartchi, E. Regev: Dental implants in patients at high risk for infective endocarditis: a preliminary study. *Int. J. Oral Maxillofac. Surg.* 2014; 43: 1282–1285. © 2014 International Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

Table 1. Patient characteristics, diagnosis, implants, anti-thrombotic treatment, thrombotic events, and implant failure.

Patient	Procedure	Diagnosis	Sex	Age, years	Follow-up, years	Number of implants	Number of implants, maxilla	Number of implants, mandible	Failure of implants	Discontinued anti-thrombotic treatment	Thrombotic events
1	1	AVR	F	75	8	7	7	0	0	Yes	Valve thrombosis
2	2	AVR		80	3	2	0	2	0	No	
	3	MVR	M	71	6	2	2	0	0	No	
	4	MVR		72	5	3	0	3	0	No	
3	5	MVR	F	59	3	4	0	4	0	No	
4	6	TOF	F	45	7	2	2	0	0	No	
5	7	MVR	M	70	13	4	0	4	0	No	
6	8	AVR + MVR + IE	M	65	18	1	0	1	0	No	Stroke
7	9	AVR	M	N/A	7	16	9	7	2	Yes	
8	10	MV plasty	M	N/A	5	1	0	1	0	No	
9	11	AVR	M	82	4	1	0	1	0	No	
10	12	AVR	M	N/A	4	1	1	0	0	No	
11	13	MV plasty	F	65	2	1	0	1	0	No	
12	14	MV plasty	F	64	2	1	1	0	0	No	
13	15	MVR	M	78	3	4	0	4	0	No	
	16	MVR		79	2	7	7	0	0	No	

F, female; M, male; AVR, aortic valve replacement; MVR, mitral valve replacement; MV plasty, mitral valvuloplasty; IE, infective endocarditis; TOF, tetralogy of Fallot; N/A, not available.

Conclusion: Within the follow-up period, no case of IE was reported... Despite the limitation of the small group of patients and the known low incidence of IE, dental implants may be regarded as a legitimate procedure for patients at high risk of IE.



Cardiopathies à haut risque d'endocardite infectieuse

- Prothèse valvulaire (mécanique ou bioprothèse) ou matériel étranger pour une chirurgie valvulaire conservatrice (anneau prothétique ...)
- Antécédent d'endocardite infectieuse
- Cardiopathie congénitale cyanogène :
 - non opérée ou dérivation chirurgicale pulmonaire-systémique
 - opérée, mais présentant un shunt résiduel,
 - opérée avec mise en place d'un matériel prothétique par voie chirurgicale ou transcutanée, sans fuite résiduelle, seulement dans les 6 mois suivant la mise en place,
 - opérée avec mise en place d'un matériel prothétique par voie chirurgicale ou transcutanée avec shunt résiduel.



ScienceDirect
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Médecine et maladies infectieuses 42 (2012) 193–212

Médecine et
maladies infectieuses



RECOMMENDATIONS FOR GOOD PRACTICE

Prescription of antibiotics for oral and dental care

Recommendations

Afssaps updated these recommendations based on the evaluations of a multidisciplinary group of experts headed by P Lesclous dentist (Nantes) including:

F Duffau dentist (Paris), JJ Bensahel dentist (Nice), P Blanchard stomatologist (Villeneuve-Saint-Georges), R Cohen infectious disease specialist (Creteil), V Descroix dentist (Paris), L Dubreuil microbiologist (Lille), X Duval infectious disease specialist (Paris), N Forest dentist (Neuvy-le-Roi), P Gangloff dentist (Nancy), M Garré infectious disease specialist (Brest), A Germa dentist (Paris), L Nawrocki dentist (Lille), W Pertot dentist (Paris), E Senneville infectious disease specialist (Tourcoing), M Sixou dentist (Toulouse), H Tenenbaum dentist (Strasbourg).

Technical coordination and Afssaps logistics: N Dumarcet, F Goebel, I Pellanne, A Pelibossian.

This updated document was validated by the April 7, 2011 Committee for the validation of Recommendations headed by P Ambrosi. The French version of this update may be consulted on the AFSSAPS Internet site (www.afssaps.fr)

L'endocardite infectieuse L'antibioprophylaxie: l'Évolution en France

Mesures préventives

La prophylaxie repose sur une hygiène bucco-dentaire rigoureuse.

Un contrôle bucco-dentaire régulier doit être instauré.

Actes non invasifs

Actes de prévention non
sanglants

Soins conservateurs

Soins prothétiques non
sanglants

Pose ou ajustement
d'appareils orthodontiques

Prise de radiographies
dentaires

Pose de prothèses
amovibles



L'endocardite infectieuse L'antibioprophylaxie: l'Évolution en France

Actes encadrés

Le traitement endodontique des dents à pulpe vivante est réalisable en une séance sous digue, avec la totalité de la lumière canalaire accessible (monoradiculées, certaines biradiculées)

Une séparation des racines n'est autorisée qu'en l'absence de toute atteinte parodontale

Les pulpopathies, les parodontopathies et les traumatismes nécessitent l'avulsion



L'endocardite infectieuse L'antibioprophylaxie: l'Évolution en France

Actes contre-indiqués

Anesthésie intraligamentaire
Traitement endodontique des
dents à pulpe non vivante, y
compris la reprise de traitement
canalaire

Traitement endodontique des
dents à pulpe vivante en plusieurs
séances ou sans champ opératoire
(digue)

Amputation radiculaire

Autotransplantation

Réimplantation

Chirurgie périapicale

Chirurgie parodontale

Chirurgie implantaire et des péri-
implantites

Mise en place de matériaux de
comblement

Chirurgie préorthodontique des
dents incluses ou enclavées



L'endocardite infectieuse

L'antibioprophylaxie: l'Évolution en France

		Prise unique dans l'heure qui précède l'intervention	
Situation	Antibiotique	Adulte Posologies quotidiennes établies pour un adulte à la fonction rénale normale	Enfant Posologies quotidiennes établies pour un enfant à la fonction rénale normale, sans dépasser la dose adulte
Sans allergie aux pénicillines	Amoxicilline	2 g – v.o. ou i.v.	50 mg/kg – v.o. ou i.v.
En cas d'allergie aux pénicillines	Clindamycine	600 mg - v.o. ou i.v.	20 mg/kg – v.o. [†] ou i.v.

•[†] : du fait de la présentation pharmaceutiques de la clindamycine disponible pour la voie orale, ces antibiotiques sont recommandés chez l'enfant à *partir de 6 ans* (prise de gélule ou comprimé contre-indiquée chez l'enfant de moins de 6 ans par risque de fausse route). La clindamycine peut être utilisée par voie intraveineuse chez l'enfant à partir de 3 ans.

L'endocardite infectieuse L'antibioprophylaxie: l'Évolution en France

Actes contre-indiqués

Anesthésie intraligamentaire
Traitement endodontique des
dents à pulpe non vivante, y
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Chirurgie implantaire et des péri-
implants

Mise en place de matériaux de
comblement

Chirurgie préorthodontique des
dents incluses ou enclavées



L'endocardite infectieuse L'antibioprophylaxie: l'Évolution en France

Proposition 2017

Proposals for the use of implants in patients at high risk of IE



REVIEW

Position paper for the evaluation and management of oral status in patients with valvular disease: Groupe de Travail Valvulopathies de la Société Française de Cardiologie, Société Française de Chirurgie Orale, Société Française de Parodontologie et d'Implantologie Orale, Société Française d'Endodontie et Société de Pathologie Infectieuse de Langue Française

Point de vue d'experts sur l'évaluation et la prise en charge buccodentaire des patients atteints de cardiopathies valvulaires

Sarah Millot^{a,b}, Philippe Lesclous^c,
Marie-Laure Colombier^d, Loredana Radoi^e,
Clément Messéca^f, Mathieu Ballanger^g,
Jean-Luc Charrier^h, Philippe Trambaⁱ,
Stéphane Simon^j, Alain Berrebi^k, Fabien Doguet^l,
Emmanuel Lansac^m, Christophe Tribouilloyⁿ,
Gilbert Habib^o, Xavier Duval^p, Bernard Jung^{q,*}

For patients with previous IE, the opinion of the study group is to maintain the contraindication of oral implantology (whatever the identified bacteria), given the particularly high risk of IE and the presence of probable host susceptibility factors involved in IE.

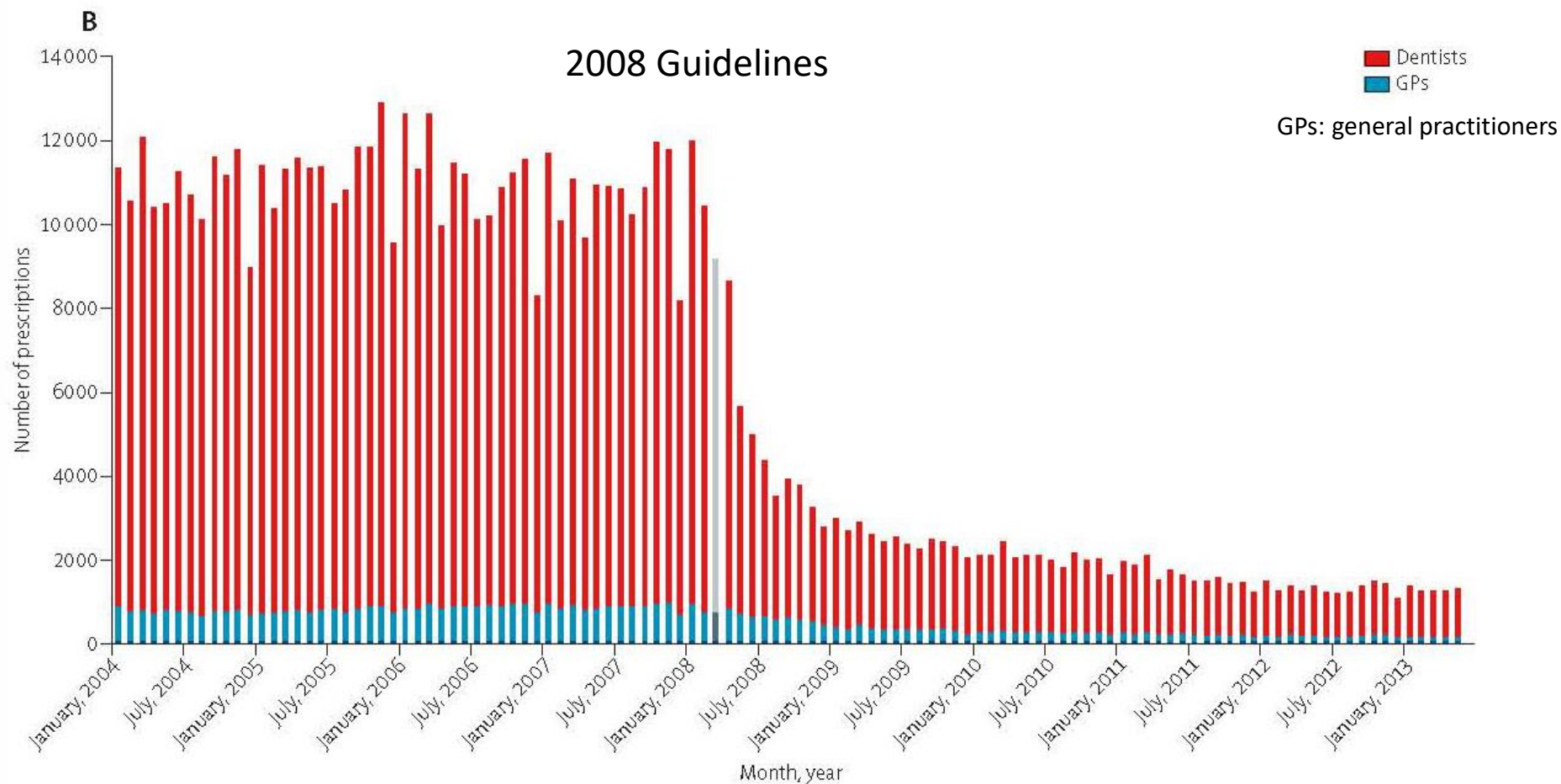
After valvular surgery, it is advised to wait at least 3 months before considering implant placement.

Dental implants can be used in other patients at high risk of IE, in accordance with the 2015 ESC guidelines [5]: patients with any prosthetic valve, including a transcatheter valve, or those in whom any prosthetic material was used for cardiac valve repair, at least 3 months after implantation; and patients with CHD and those with CHD who have post-operative palliative shunts, conduits or other prostheses.

Implant placement can be considered in these patients only under certain local and systemic strict conditions, after analysing numerous factors (general factors, local factors, technical environment and choice of implant).

L'endocardite infectieuse

Les britanniques et le reste du monde ... ou presque

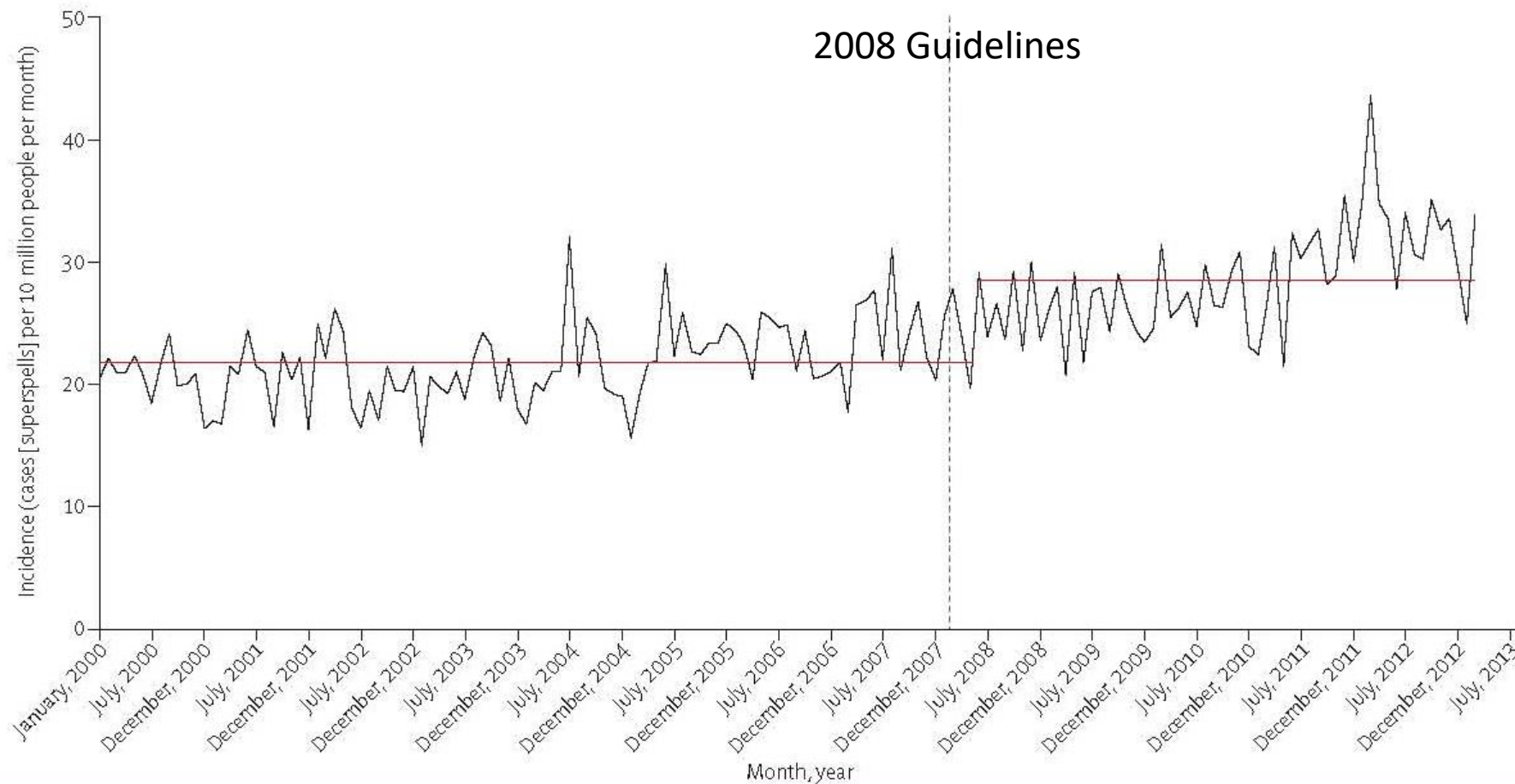


Prescription antibiotique en prophylaxie de l'EI lors des soins bucco-dentaires (UK)

Dayer M, Jones S, Prendergast B, Baddour LM, Lockhart PB, Thornhill MH: Incidence of infective endocarditis in England, 2000-13: a secular trend, interrupted time-series analysis. Lancet 385(9974):1219-28. 2015.

L'endocardite infectieuse

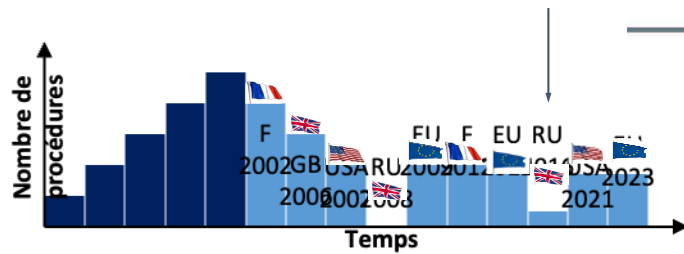
Les britanniques et le reste du monde ... ou presque



Incidence de l'EI (UK)

Dayer M, Jones S, Prendergast B, Baddour LM, Lockhart PB, Thornhill MH: Incidence of infective endocarditis in England, 2000-13: a secular trend, interrupted time-series analysis. Lancet 385(9974):1219-28. 2015.

L'endocardite infectieuse Les britanniques et le reste du monde ... ou presque



OPINION

A change in the NICE guidelines on antibiotic prophylaxis

M. H. Thornhill,^{*1} M. Dayer,² P. B. Lockhart,³ M. McGurk,⁴ D. Shanson,⁵ B. Prendergast⁶ and J. B. Chambers⁷

National Institute for Health and Care Excellence (NICE). Prophylaxis against infective endocarditis: antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures. NICE Clinical Guideline No 64. Updated 2016. Available online at <https://www.nice.org.uk/guidance/cg64/chapter/Recommendations> (accessed July 2016).



• «Antibiotic prophylaxis against infective endocarditis is not recommended routinely for people undergoing dental procedures »

• «In individual cases where the risk of infective endocarditis posed to the patient is perceived sufficiently high, or when the patients themselves express a preference for it, antibiotic prophylaxis may be appropriate »

• «Although subtle, this change makes NICE guidance less dogmatic and allows clinicians to use their clinical judgement and provide the care their patients want – is therefore very welcome »

2016 Guidelines



Thornhill MH, Dayer M, Lockhart PB, McGurk M, Shanson D, Prendergast B, Chambers JB: A change in the NICE guidelines on antibiotic prophylaxis. *Br Dent J* 221(3):112-4. 2016.

2021 Guidelines

Zahnmedizin und Endokarditis

Aktuelle Richtlinien zur Endokarditisprophylaxe
und zu klinischen Fragestellungen im Alltag

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³ Institut für Infektionskrankheiten, Universität Bern

⁴ Universitäres Herzzentrum, Abteilung für Kardiologie, Universitätsspital Zürich, Universität Zürich



Zahnmedizin und Endokarditis

Aktuelle Richtlinien zur Endokarditisprophylaxe
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2021 Guidelines



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⁴ Universitäres Herzzentrum, Abteilung für Kardiologie, Universitätsspital Zürich, Universität Zürich

Tab. II Es wird empfohlen, die Antibiotika- bzw. Endokarditisprophylaxe eine Stunde vor dem Eingriff p.o. oder i.v. zu verabreichen. Weitere Informationen unter www.endocarditis.ch.

Standard-Antibiotikatherapie

Erwachsene Amoxicillin 2 g p.o./i.v.

Kinder und Jugendliche Amoxicillin 50 mg/kg p.o./i.v. (max. 2 g)

Alternativ bei Penicillinallergie vom Spättyp (Exanthem)

Erwachsene Cefuroxim-Axetil 1 g p.o. oder Cefazolin 1 g i.v. oder Ceftriaxon 2 g i.v.

Kinder und Jugendliche Cefuroxim-Axetil 50 mg/kg p.o. (max. 1 g) oder Cefazolin 25 mg/kg i.v. (max. 1 g) oder Ceftriaxon 50 mg/kg i.v.

Alternativ bei Penicillinallergie vom Soforttyp (Urticaria, Angioödem, Bronchospasmus, Anaphylaxie)

Erwachsene Clindamycin 600 mg p.o./i.v. oder Vancomycin 1 g i.v.

Kinder und Jugendliche Clindamycin 20 mg/kg p.o./i.v. (max. 600 mg) oder Vancomycin 20 mg/kg i.v. (max. 1 g)

2021 Guidelines

Zahnmedizin und Endokarditis

Aktuelle Richtlinien zur Endokarditisprophylaxe
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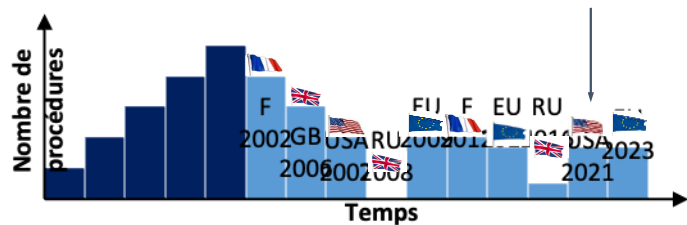


Tab. III Empfehlung zur Antibiotikaprophylaxe bei zahnärztlichen Eingriffen

- Sondierung im gingivalen Sulcus
- Lokalanästhesie im gesunden Gebiet: Intraligamentär
- Jegliche Lokalanästhesie im entzündeten Gebiet
- Plaque- und Zahnsteinentfernung (subgingival)
- Zahnreinigung (supragingival) bei generalisierter Gingivitis
- Parodontale Behandlungen
- Einfache und operative Zahnentfernungen
- Implantation mit/ohne Knochenaufbau
- Kieferhöhlenelevation
- Abszessinzision
- Biopsie
- Wurzelkanalbehandlung
- Konservierende Behandlung mit Matrizentechnik
- Fadenlegen im gingivalen Sulcus
- Arbeiten unter Kofferdam mit Kofferdamklammer
- Anpassung/Zementierung und Entfernung kieferorthopädischer Bänder
- Zementierung von epi- und subgingivalen Rekonstruktionen
- Jegliche Manipulation am gingivalen Sulcus
- Jegliche Behandlung im akut und chronisch entzündeten Gebiet

L'endocardite infectieuse

L'antibioprophylaxie: l'Évolution en Amérique du nord



2021 Guidelines

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AHA SCIENTIFIC STATEMENT

Prevention of Viridans Group Streptococcal Infective Endocarditis

A Scientific Statement From the American Heart Association



Circulation. 2021;143:e963–e978. DOI: 10.1161/QR0000000000000969



Table 3. AP for a Dental Procedure: Underlying Conditions for Which AP Is Suggested

Prosthetic cardiac valve or material
Presence of cardiac prosthetic valve
Transcatheter implantation of prosthetic valves
Cardiac valve repair with devices, including annuloplasty, rings, or clips
Left ventricular assist devices or implantable heart
Previous, relapse, or recurrent IE
CHD
Unrepaired cyanotic congenital CHD, including palliative shunts and conduits.
Completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or by transcatheter during the first 6 mo after the procedure
Repaired CHD with residual defects at the site of or adjacent to the site of a prosthetic patch or prosthetic device
Surgical or transcatheter pulmonary artery valve or conduit placement such as Melody valve and Contegra conduit
Cardiac transplant recipients who develop cardiac valvulopathy
AP for a dental procedure not suggested
Implantable electronic devices such as a pacemaker or similar devices
Septal defect closure devices when complete closure is achieved
Peripheral vascular grafts and patches, including those used for hemodialysis
Coronary artery stents or other vascular stents
CNS ventriculoatrial shunts
Vena cava filters
Pledgets

AP indicates antibiotic prophylaxis; CHD, congenital heart disease; CNS, central nervous system; and IE, infective endocarditis.

L'endocardite infectieuse

L'antibioprophylaxie: l'Évolution en Amérique du nord

2021 Guidelines

Table 4. Dental Procedures and AP

AP suggested
All dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa
AP not suggested
Anesthetic injections through noninfected tissue, taking dental radiographs, placement of removable prosthodontic or orthodontic appliances, adjustment of orthodontic appliances, placement of orthodontic brackets, shedding of primary teeth, and bleeding from trauma to the lips or oral mucosa

The antibiotic regimens suggested for prophylaxis for a dental procedure in patients at a high risk of adverse outcome from viridans group streptococcal infective endocarditis are shown in Table 5.

AP indicates antibiotic prophylaxis.

Circulation. 2021;143:e963–e978. DOI: 10.1161/QR0000000000000969



Table 5. Antibiotic Regimens for a Dental Procedure Regimen: Single Dose 30 to 60 Minutes Before Procedure

Situation	Agent	Adults	Children
Oral	Amoxicillin	2 g	50 mg/kg
Unable to take oral medication	Ampicillin OR	2 g IM or IV	50 mg/kg IM or IV
	Cefazolin or ceftriaxone	1 g IM or IV	50 mg/kg IM or IV
Allergic to penicillin or ampicillin—oral	Cephalexin*† OR	2 g	50 mg/kg
	Azithromycin or clarithromycin OR	500 mg	15 mg/kg
	Doxycycline	100 mg	<45 kg, 2.2 mg/kg >45 kg, 100 mg
Allergic to penicillin or ampicillin and unable to take oral medication	Cefazolin or ceftriaxonet	1 g IM or IV	50 mg/kg IM or IV

Clindamycin is no longer recommended for antibiotic prophylaxis for a dental procedure.

IM indicates intramuscular; and IV, intravenous.

*Or other first- or second-generation oral cephalosporin in equivalent adult or pediatric dosing.

†Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticarial with penicillin or ampicillin.

L'endocardite infectieuse

L'antibioprophylaxie: l'Évolution en Amérique du nord

Table 6. Summary of Findings and Suggestions

2021 Guidelines

Key findings
VGS IE is much more likely to develop as a result of transient VGS bacteremia attributable to routine daily activities such as chewing food and toothbrushing than from a dental procedure.
An exceedingly small number of cases of VGS IE could be prevented by AP for a dental procedure, even if prophylaxis is 100% effective.
If AP for a dental procedure is effective in preventing a very small number of cases of VGS IE, it should be suggested only for those patients with the highest risk of adverse outcome from VGS IE.
There is no convincing evidence of an increased frequency of or morbidity or mortality from VGS IE in patients at low, moderate, or high risk of adverse outcome since publication of the 2007 document.
AP for a dental procedure is not suggested solely on the basis of an increased lifetime risk of acquisition of VGS IE

Suggestions
AP for a dental procedure that involves manipulation of gingival tissues, periapical region of teeth, or perforation of the oral mucosa is suggested only for patients with the highest risk of adverse outcome from VGS IE.
Maintenance of good oral health and regular access to dental care are considered more important to prevent VGS IE than AP for a dental procedure. We suggest that patients have biannual dental examinations when such care is available.
Shared decision making is important between patients and health care providers. There may be instances when a health care provider and a patient disagree with the suggestions in the 2021 scientific statement. In these cases, the health care provider should be familiar with and understand the 2021 suggestions to adequately inform patients of the risks and benefits of AP for a dental procedure so that an informed decision may be made.

AP indicates antibiotic prophylaxis; IE, infective endocarditis; and VGS, viridans group streptococcal.

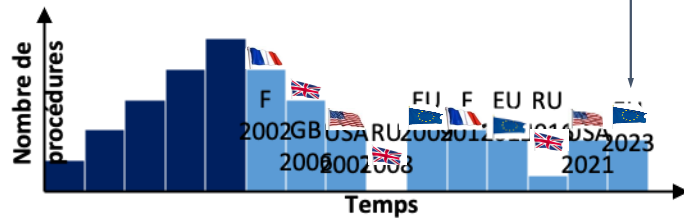


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L'endocardite infectieuse L'antibioprophylaxie l'évolution en Europe

24^e congrès



ESC
European Society
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ESC GUIDELINES

2023 ESC Guidelines for the management of endocarditis

Developed by the task force on the management of endocarditis
of the European Society of Cardiology (ESC)

Endorsed by the European Association for Cardio-Thoracic Surgery
(EACTS) and the European Association of Nuclear Medicine (EANM)

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Recommendation Table 1 — Recommendations for antibiotic prophylaxis in patients with cardiovascular diseases undergoing oro-dental procedures at increased risk for infective endocarditis

Recommendations	Class ^a	Level ^b
General prevention measures are recommended in individuals at high and intermediate risk for IE.	I	C
Antibiotic prophylaxis is recommended in patients with previous IE. ^{47,84,86}	I	B
Antibiotic prophylaxis is recommended in patients with surgically implanted prosthetic valves and with any material used for surgical cardiac valve repair. ^{47,87–89}	I	C
Antibiotic prophylaxis is recommended in patients with transcatheter implanted aortic and pulmonary valvular prostheses. ^{91–94}	I	C
Antibiotic prophylaxis is recommended in patients with untreated cyanotic CHD, and patients treated with surgery or transcatheter procedures with post-operative palliative shunts, conduits, or other prostheses. After surgical repair, in the absence of residual defects or valve prostheses, antibiotic prophylaxis is recommended only for the first 6 months after the procedure. ^{8,47,97,101}	I	C
Antibiotic prophylaxis is recommended in patients with ventricular assist devices. ¹⁰²	I	C
Antibiotic prophylaxis should be considered in patients with transcatheter mitral and tricuspid valve repair. ⁹⁵	IIa	C
Antibiotic prophylaxis may be considered in recipients of heart transplant. ^{105–107}	IIb	C
Antibiotic prophylaxis is not recommended in other patients at low risk for IE. ^{11,51}	III	C

CHD, congenital heart disease; IE, infective endocarditis.

^aClass of recommendation.

^bLevel of evidence.

L'endocardite infectieuse L'antibioprophylaxie: l'Évolution en Europe

Recommendation Table 2 — Recommendations for infective endocarditis prevention in high-risk patients

Recommendations	Class ^a	Level ^b
Antibiotic prophylaxis is recommended in dental extractions, oral surgery procedures, and procedures requiring manipulation of the gingival or periapical region of the teeth. ^{11,49,51,108}	I	B



Dental procedures at risk

At-risk dental procedures include dental extractions, oral surgery procedures (including periodontal surgery, implant surgery, and oral biopsies), and dental procedures involving manipulation of the gingival or periapical region of the teeth (including scaling and root canal procedures).

The use of dental implants raises concerns about potential risk due to foreign material at the interface between the buccal cavity and blood, but available data remain very limited. So far there is no evidence to contraindicate implants in all patients at risk and the indication should be discussed on an individual basis.

L'endocardite infectieuse L'antibioprophylaxie: l'Évolution en Europe

Table 6 Prophylactic antibiotic regime for high-risk dental procedures

Situation	Antibiotic	Single-dose 30–60 min before procedure	
		Adults	Children
No allergy to penicillin or ampicillin	Amoxicillin	2 g orally	50 mg/kg orally
	Ampicillin	2 g i.m. or i.v.	50 mg/kg i.v. or i.m.
	Cefazolin or ceftriaxone	1 g i.m. or i.v.	50 mg/kg i.v. or i.m.
Allergy to penicillin or ampicillin	Cephalexin ^{a,b}	2 g orally	50 mg/kg orally
	Azithromycin or clarithromycin	500 mg orally	15 mg/kg orally
	Doxycycline	100 mg orally	<45 kg, 2.2 mg/kg orally >45 kg, 100 mg orally
	Cefazolin or ceftriaxone ^b	1 g i.m. or i.v.	50 mg/kg i.v. or i.m.

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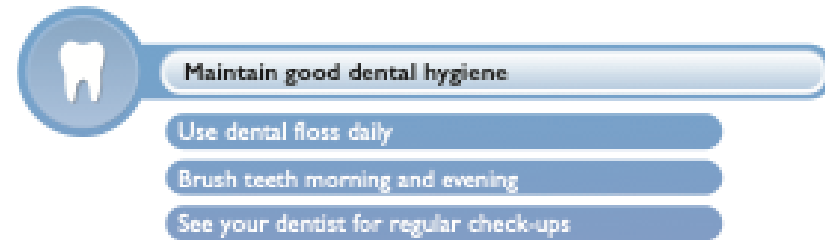
i.m., intramuscular; i.v., intravenous.

^aOr other first- or second-generation oral cephalosporin in equivalent adult or paediatric dosing.

^bCephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticarial with penicillin or ampicillin.



Education of high-risk patients to prevent infective endocarditis





HAUTE AUTORITÉ DE SANTÉ

RECOMMANDER LES BONNES PRATIQUES

NOTE DE
CADRAGE

Prise en charge bucco-dentaire des patients à haut risque d'endocardite infectieuse

Validée par le Collège le 17 novembre 2021

L'endocardite infectieuse Et demain en France ?

**NOTE DE
CADRAGE**



Développer la qualité dans le champ
sanitaire, social et médico-social

Parution premier trimestre
2024

Questions à traiter :

- Quels sont les patients à haut risque d'endocardite infectieuse et quels sont les facteurs de risque qui leur sont associés ?
- Quels sont les actes bucco-dentaires à risque de bactériémie et donc d'endocardite ?
- Quelles sont les indications, précautions et contre-indications (adultes et enfants) de ces actes chez les patients à haut risque d'EI ?
- Quand recourir à l'antibioprophylaxie et selon quelles modalités (choix de l'antibiotique, dosage, durée, ...) en fonction :
 - des actes bucco dentaires ?
 - de la population concernée ?
- Quels sont le suivi et les complications à long terme des actes bucco-dentaires pour les patients à haut risque d'EI ?
- Quels sont le bilan et la remise en état bucco-dentaires à réaliser chez les patients devant bénéficier d'une intervention chirurgicale cardiaque susceptible d'exposer le patient à haut risque d'EI ?

L'endocardite infectieuse Comment avancer ? Respecter les recommandations

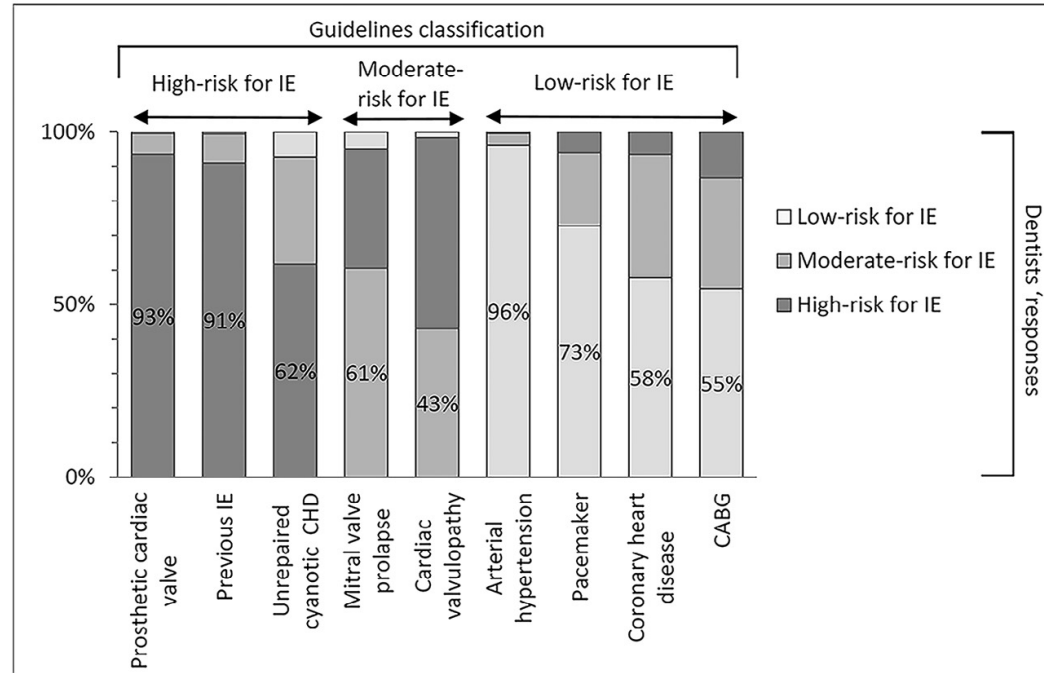


Fig. 1. Identification by dentists of infective endocarditis (IE) risk for various cardiac conditions according to the current guidelines. CHD, congenital heart disease; CABG, coronary artery bypass graft surgery. Percent values in the histograms underlined the correct-answer rate (2012 survey).

L'endocardite infectieuse Comment avancer ? Respecter les recommandations

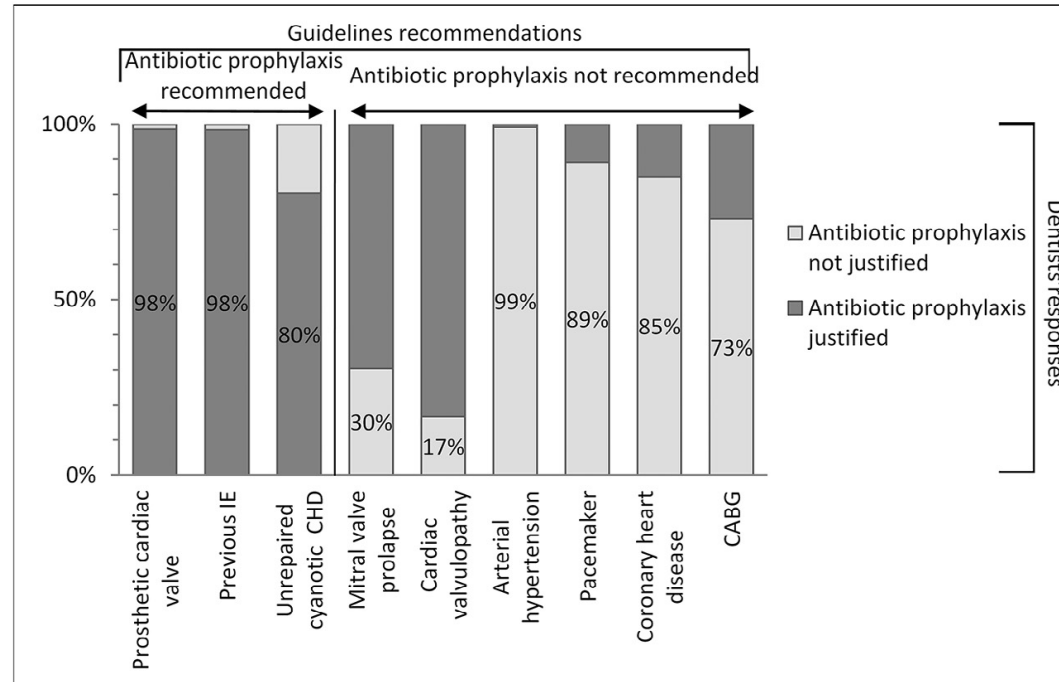


Fig. 2. Identification by dentists of indications for infective endocarditis antibiotic prophylaxis for various cardiac conditions according to the current guidelines. CHD, congenital heart disease; CABG, coronary artery bypass graft surgery. Percent values in the histograms underlined the correct-answer rate (2012 survey).

L'endocardite infectieuse

Comment avancer ? Respecter les recommandations

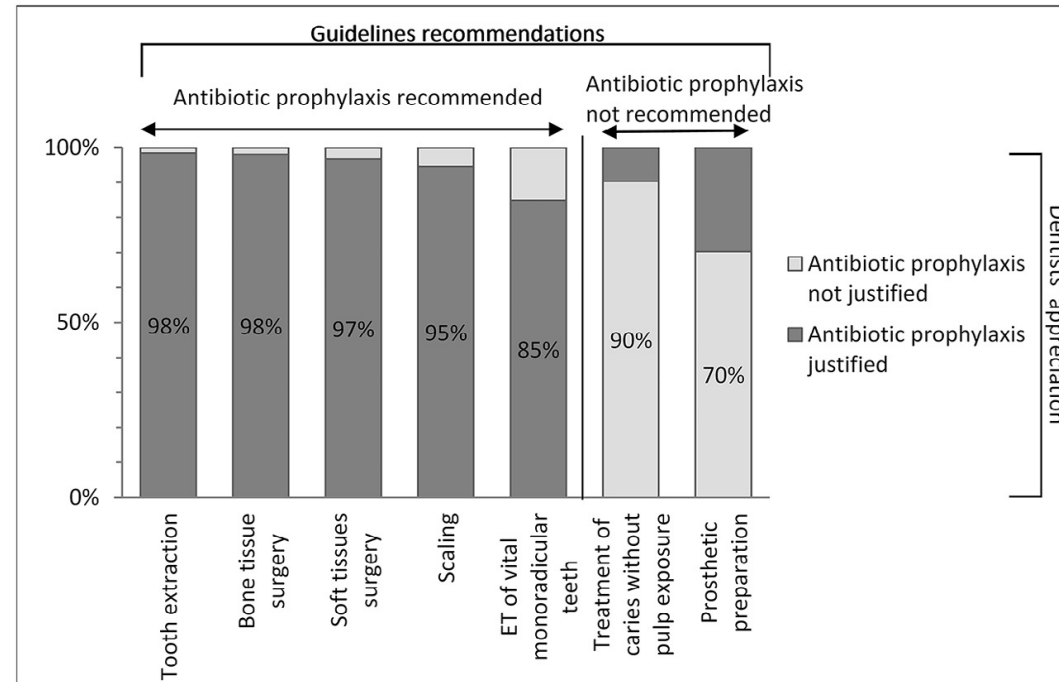


Fig. 3. Identification by dentists of dental procedures depending on whether they require antibiotic prophylaxis for a patient with a valvular prosthesis according to the current guidelines. ET, endodontic treatment. Percent values in the histograms underline the correct-answer rate (2012 survey).

L'endocardite infectieuse

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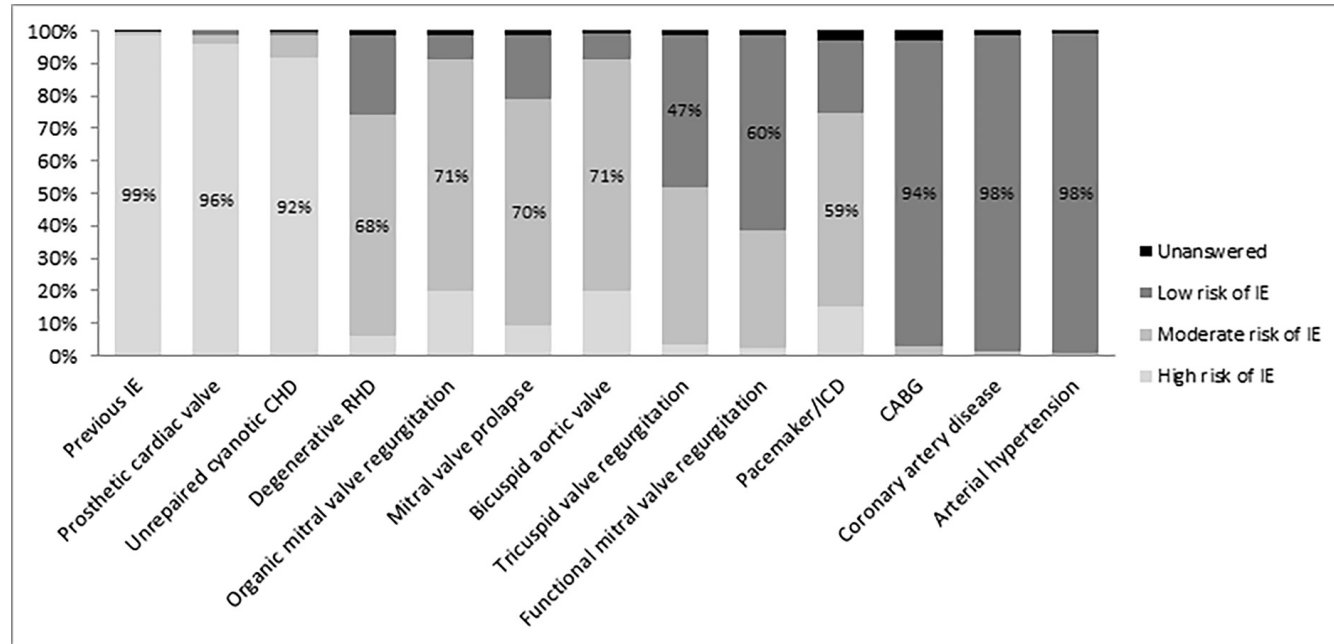
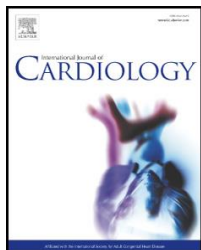


Fig. 1. Identification by cardiologists of infective endocarditis (IE) risk for patients with various cardiac conditions according to the current ESC guidelines. % Values in the histograms underlined the correct rate answer. CHD: cyanotic heart diseases; RHD: rheumatic heart disease; ICD: implantable cardioverter defibrillators; CABG: coronary artery bypass grafting.

Antibiotic prophylaxis of infective endocarditis in patients with predisposing cardiac conditions: French cardiologists' implementation of current guidelines

A. Cloitre ^a, P. Lesclous ^{a,1}, Q. Trochu ^a, C. Selton-Suty ^b, D. Boutoille ^c, T. Le Tourneau ^d, F. Delahaye ^e, D. Thomas ^f, B. Lung ^g, A. Gaudin ^a, X. Duval ^{h,2}, J.N. Trochu ^{d,*}

L'endocardite infectieuse

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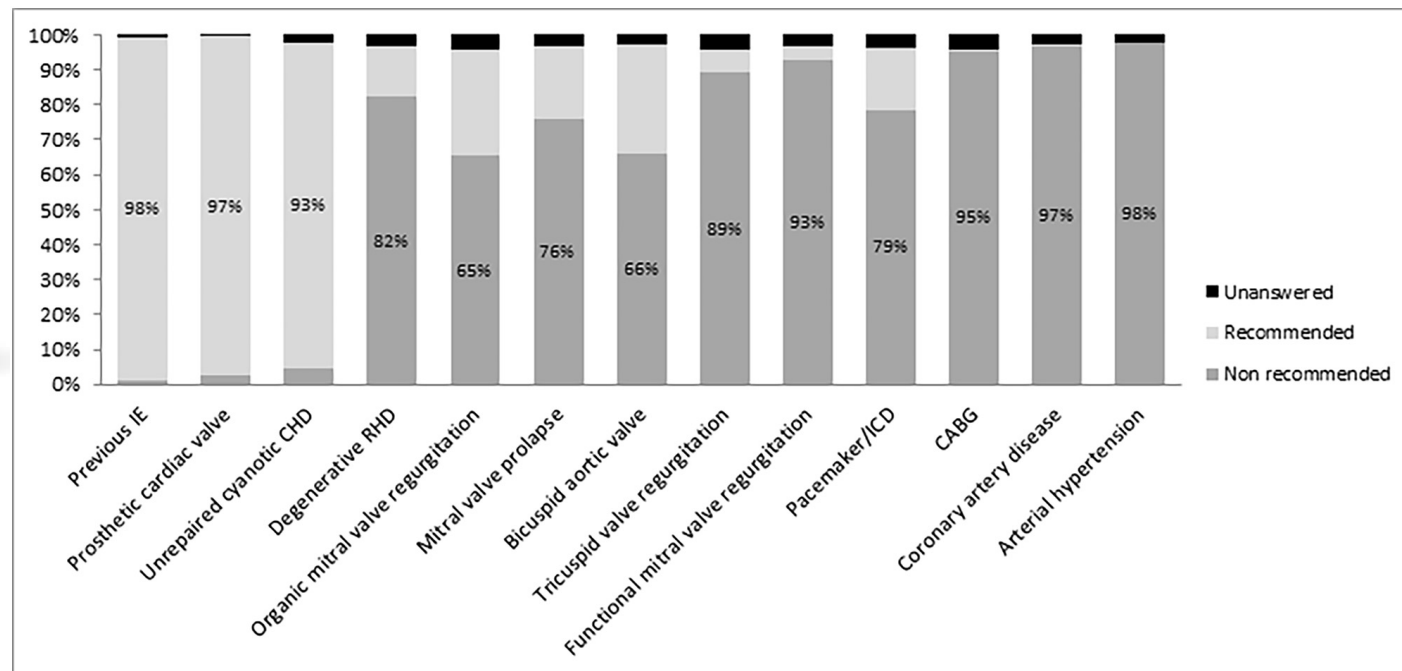
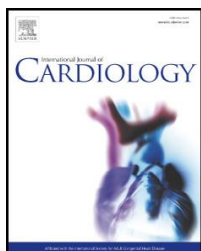


Fig. 2. Identification by cardiologists of indications for infective endocarditis (IE) antibiotic prophylaxis for various cardiac conditions according to the current ESC guidelines. % Values in the histograms underlined the correct rate answer. CHD: cyanotic heart diseases; RHD: rheumatic heart disease; ICD: implantable cardioverter defibrillators; CABG: coronary artery bypass grafting.

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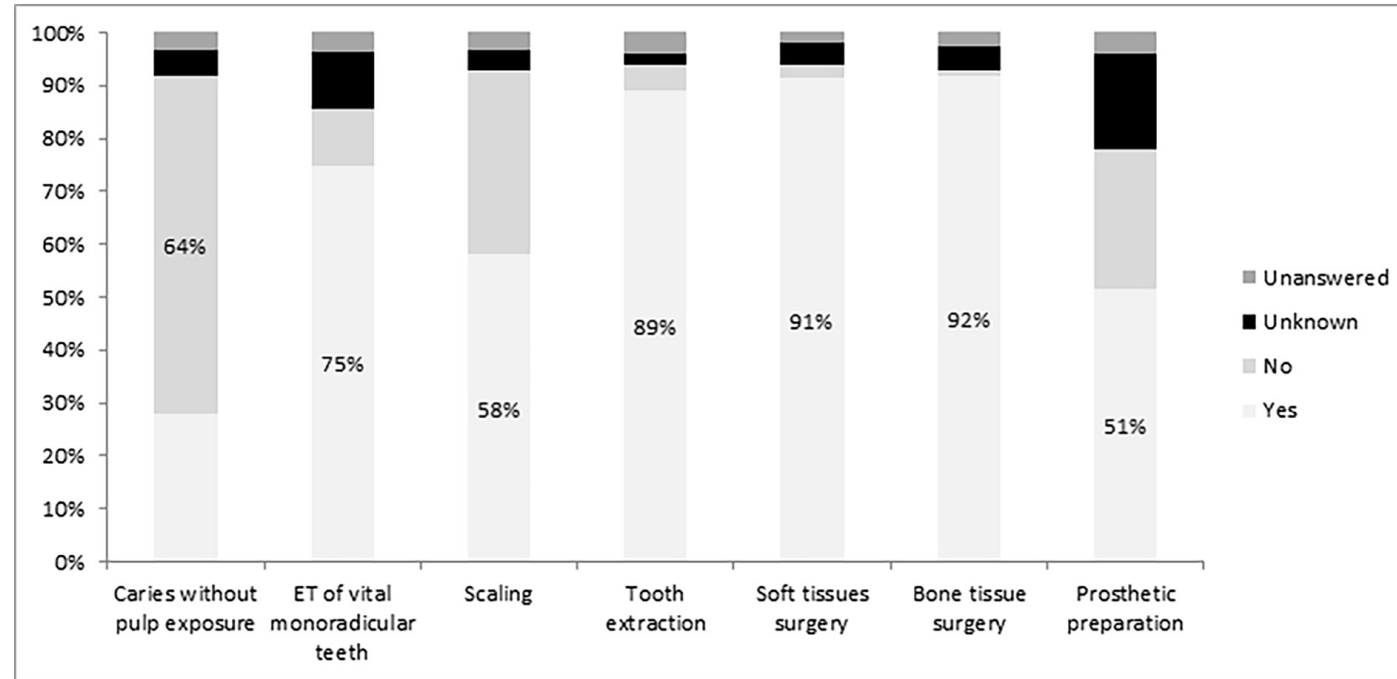
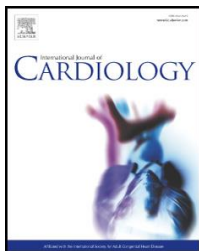
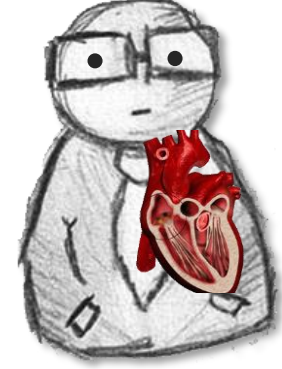
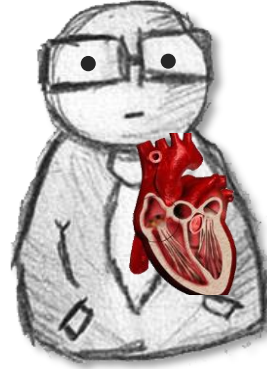
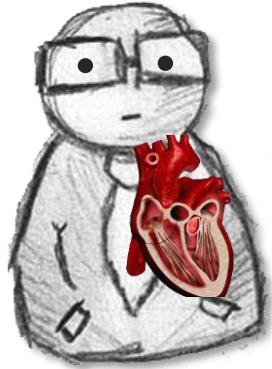


Fig. 3. Identification by cardiologists of dental procedures requiring or not antibiotic prophylaxis for a patient with a valvular prosthesis according to the current ESC guidelines. % Values in the histograms underlined the correct rate answer. CHD ET: endodontic treatment.

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Prise en charge bucco-dentaire des patients à haut risque d'endocardite infectieuse : Recommandations actualisées

24^e congrès

SOCIETY FOR
DENTAL SCIENCE

Philippe Lesclous – Chirurgie Orale – CHU Nantes

Aucun lien d'intérêt à déclarer

