

GUIDES ET NORMES

Exacerbation aiguë de la maladie pulmonaire obstructive chronique

Annexes complémentaires du rapport en appui au guide d'usage optimal

Une production de l'Institut national
d'excellence en santé
et en services sociaux (INESSS)



Exacerbation aiguë de la maladie pulmonaire obstructive chronique

Annexes complémentaires du rapport en appui au guide d'usage optimal

Le présent document contient les annexes complémentaires au rapport en appui au guide d'usage optimal - Exacerbation aiguë de la maladie pulmonaire obstructive chronique.

Le contenu de cette publication a été rédigé et édité par l'INESSS.

Ces annexes et le rapport final sont accessibles en ligne dans la section *Publications* de notre site Web.

Renseignements

Institut national d'excellence en santé et en services sociaux (INESSS)

2535, boulevard Laurier, 5e étage
Québec (Québec) G1V 4M3
Téléphone : 418 643-1339
Télécopieur : 418 646-8349

2021, avenue Union, bureau 10.083
Montréal (Québec) H3A 2S9
Téléphone : 514 873-2563
Télécopieur : 514 873-1369

inesss@inesss.qc.ca
www.inesss.qc.ca

Responsabilité

L'Institut rend accessibles les principales informations qui ont servi à la préparation du rapport en appui au guide d'usage optimal - Exacerbation aiguë de la maladie pulmonaire obstructive chronique aux lecteurs qui désirent plus de détails sur sa démarche scientifique.

Ce document n'a pas fait l'objet d'une révision linguistique. Il ne reflète pas forcément les opinions des autres personnes consultées aux fins du présent dossier.

TABLE DES MATIÈRES

ANNEXE A CRITÈRES ET MODÈLES DE RECHERCHE	1
ANNEXE B STRATÉGIE DE RECHERCHE D'INFORMATIONS POUR LES QUESTIONS DE RECHERCHE 1 À 5 ..	2
ANNEXE C SÉLECTION DES DOCUMENTS POUR RÉPONDRE AUX QUESTIONS DE RECHERCHE 1 À 5	6
ANNEXE D LISTE ET CARACTÉRISTIQUES DES DOCUMENTS INCLUS POUR RÉPONDRE AUX QUESTIONS DE RECHERCHE 1 À 5.....	7
ANNEXE E ÉVALUATION DE LA QUALITÉ MÉTHODOLOGIQUE DES GPC ET DES REVUES SYSTÉMATIQUES	14
ANNEXE F TABLEAU DES RÉSULTATS	21
ANNEXE G TABLEAUX D'EXTRACTION DES INFORMATIONS ISSUES DES GPC.....	25
RÉFÉRENCES.....	78

LISTE DES TABLEAUX

Tableau A-1 – Modèle de recherche PIPOH	1
Tableau B-1 — Mots clés pour la recherche d'information.....	2
Tableau E-1 : Critères d'évaluation de la grille AGREE II	14
Tableau E-2 : Résultats individuels de la qualité des 5 GPC évalués avec la grille AGREE II (évaluateurs 1 (SG) et 2 (FSP))	15
Tableau E-3 : Qualité globale des GPC selon la grille AGREE II	18
Tableau E-4 : Évaluation des RS - Grille R-AMSTAR détaillée (évaluateurs 1 (SG) et 2 (FSP))	19
Tableau E-4 : Évaluation des RS - Grille R-AMSTAR détaillée (évaluateurs 1 (SG) et 2 (FSP)) – Suite	20
Tableau F-1 – Résultats présentés dans les revues systématiques	21

LISTE DES FIGURES

Figure C-1 — Diagramme de flux.....	6
-------------------------------------	---

ANNEXE A

Critères et modèles de recherche

Tableau A-1 – Modèle de recherche PPOH

PIPOH	Description	GUO 2017 –EAMPOC
Population	La population ciblée et les caractéristiques de la maladie, de la condition ou de l'intervention faisant l'objet du GUO	Population adulte présentant des symptômes d'exacerbation aiguë de la MPOC et vivant dans la communauté.
Intervention	L'intervention sur laquelle porte le GUO	Une mise à jour dans l'établissement du diagnostic, des principes de traitements, de l'antibiothérapie, des interventions de préventions et du suivi des cas d'EAMPOC.
Professionnels/ Personnes	Les professionnels, les intervenants ou les patients ou usagers à qui s'adressera le GUO (utilisateurs du guide)	Les médecins et les infirmières de première ligne ainsi que les pharmaciens communautaires.
Objectifs (<i>outcomes</i>)	Les résultats attendus pour le patient ou l'utilisateur, pour la pratique ou pour la communauté (les objectifs du GUO)	Renouveler, modifier ou améliorer les recommandations présentées dans le GUO d'octobre 2009 quant au diagnostic, à la prévention, à l'antibiothérapie et au suivi de l'EAMPOC dans le but d'obtenir un usage optimal des ressources et des antibiotiques.
Lieu d'intervention et contexte (<i>healthcare setting and context</i>)	Le lieu de l'intervention et le contexte dans lequel le GUO sera implanté	Dans les cliniques externes, cliniques médicales, super-clinique, cabinets, groupes de médecine familiale, unités de médecine familiale, cliniques MPOC et les urgences pour un traitement du patient à domicile ou à l'urgence.

ANNEXE B

Stratégie de recherche d'informations pour les questions de recherche 1 à 5

Tableau B-1 — Mots clés pour la recherche d'information

Base de données : PubMed (NLM) Date de la recherche : 17 juin 2016 Limites : 2009-2016; anglais et français	
#1	(bronchitis/di OR bronchitis/dt OR bronchitis/th) AND acute
#2	acute bronchitis[tiab] OR bronchial infection[tiab] OR bronchitic syndrome[tiab] OR bronchus inflammation[tiab]
#3	randomized controlled trial[pt] OR (randomized[tiab] AND controlled[tiab] AND trial[tiab])
#4	#2 AND #3
#5	specificity[tiab]
#6	#2 AND #5
#7	#1 OR #4 OR #6
#8	pulmonary disease, chronic obstructive/di OR pulmonary disease, chronic obstructive/dt OR pulmonary disease, chronic obstructive/th
#9	bronchopneumopathie chronique obstructive[tiab] OR chronic airflow obstruction[tiab] OR chronic airway obstruction[tiab] OR chronic obstructive airway disease[tiab] OR chronic obstructive bronchitis[tiab] OR chronic obstructive bronchopulmonary disease[tiab] OR chronic obstructive lung disease[tiab] OR chronic obstructive pulmonary disease[tiab] OR chronic obstructive pulmonary disorder[tiab] OR chronic obstructive respiratory disease[tiab] OR obstructive lung disease[tiab] OR obstructive pulmonary disease[tiab] OR obstructive respiratory disease[tiab] OR obstructive respiratory tract disease[tiab] OR COAD[tiab] OR COPD[tiab]
#10	#9 AND #3
#11	#9 AND #5
#12	#8 OR #10 OR #11
#13	#7 OR #12
#14	disease progression[mh] OR disease progression[tiab] OR acute exacerbation*[tiab] OR disease flare[tiab]
#15	#13 AND #14
#16	anti-bacterial agents[mh] OR anti-bacterial agent*[tiab] OR anti-mycobacterial agent*[tiab] OR antibiotic*[tiab] OR antimycobacterial agent*[tiab] OR bacteriocidal agent*[tiab] OR bactericide*[tiab]
#17	#13 AND #16
#18	acute respiratory tract infections in ambulatory setting
#19	#16 AND #18
#20	#13 AND #14 Publication date from 2010/01/01 to 2016/12/31
#21	#13 AND #14 Publication date from 2010/01/01 to 2016/12/31; English
#22	#13 AND #14 Publication date from 2010/01/01 to 2016/12/31; English; French
#23	#13 AND #14 Publication date from 2010/01/01 to 2016/12/31; English; French; Randomized Controlled Trial

#24	(guidelines as topic[mh] OR practice guidelines as topic[mh] OR guideline[pt] OR health planning guidelines[mh] OR practice guideline[pt] OR consensus[mh] OR consensus development conference, NIH[pt] OR consensus development conference[pt] OR consensus development conferences, NIH as topic[mh] OR consensus development conferences as topic[mh] OR critical pathways[mh] OR clinical conference[pt] OR algorithms[mh] OR review literature as topic[mh] OR meta-analysis as topic[mh] OR meta-analysis[mh] OR meta-analysis[pt] OR technology assessment,biomedical[mh] OR guideline*[tiab] OR guide line*[tiab] OR CPG[tiab] OR CPGs[tiab] OR guidance[tiab] OR practical guide*[tiab] OR practice parameter*[tiab] OR best practice*[tiab] OR evidence base*[tiab] OR consensus[tiab] OR algorithm*[tiab] OR clinical pathway*[tiab] OR critical pathway*[tiab] OR recommendation*[tiab] OR committee opinion*[tiab] OR policy statement*[tiab] OR position statement*[tiab] OR standard[tiab] OR standards[tiab] OR (systematic*[tiab] AND (review*[tiab] OR overview*[tiab] OR search*[tiab] OR research*[tiab])) OR meta-analy*[tiab] OR metaanaly*[tiab] OR met analy*[tiab] OR metanaly*[tiab] OR HTA[tiab] OR HTAs[tiab] OR technology assessment*[tiab] OR technology overview*[tiab] OR technology appraisal*[tiab] OR (review[pt] AND medline[tiab] AND (cochrane[tiab] OR embase[tiab] OR cinhal[tiab] OR psycinfo[tiab]))) NOT (case reports[pt] OR comment[pt] OR editorial[pt] OR letter[pt])
#25	#22 AND #24
#26	#23 OR #25
#27	#16 AND #18 Publication date from 2010/01/01 to 2016/12/31
#28	#16 AND #18 Publication date from 2010/01/01 to 2016/12/31; English
#29	#16 AND #18 Publication date from 2010/01/01 to 2016/12/31; English; French
#30	#16 AND #18 Publication date from 2010/01/01 to 2016/12/31; English; French; Randomized Controlled Trial
#31	#29 AND #24
#32	#26 OR #31
#33	#13 AND #16 Publication date from 2010/01/01 to 2016/12/31
#34	#13 AND #16 Publication date from 2010/01/01 to 2016/12/31; English
#35	#13 AND #16 Publication date from 2010/01/01 to 2016/12/31; English; French
#36	#13 AND #16 Publication date from 2010/01/01 to 2016/12/31; English; French; Randomized Controlled Trial
#37	#35 AND #24
#38	#36 OR #37
#39	#32 OR #38
Base de données : Embase (OvidSP) Date de la recherche : 17 juin 2016 Limites : 2009-2016; anglais et français	
#1	bronchitis/di, dt, th AND acute.mp.
#2	(acute bronchitis OR bronchial infection OR bronchitic syndrome OR bronchus inflammation).ti,ab.
#3	limit 2 to "therapy (maximizes specificity)"
#4	limit 2 to "diagnosis (maximizes specificity)"
#5	1 OR 3 OR 4
#6	chronic obstructive lung disease/di, dt, th
#7	(bronchopneumopathie chronique obstructive OR chronic airflow obstruction OR chronic airway obstruction OR chronic obstructive airway disease OR chronic obstructive bronchitis OR chronic obstructive bronchopulmonary disease OR chronic obstructive lung disease OR chronic obstructive lung disorder OR chronic obstructive pulmonary disease OR chronic obstructive pulmonary disorder OR chronic obstructive respiratory disease OR obstructive lung disease OR obstructive pulmonary disease OR obstructive respiratory

	disease OR obstructive respiratory tract disease OR COAD OR COPD).ti,ab.
#8	limit 7 to "therapy (maximizes specificity)"
#9	limit 7 to "diagnosis (maximizes specificity)"
#10	6 OR 8 OR 9
#11	5 OR 10
#12	disease exacerbation/ OR (disease progression OR acute exacerbation* OR disease flare).ti,ab.
#13	11 AND 12
#14	antibiotic agent/ OR (anti-bacterial agent* OR anti-mycobacterial agent* OR antibiotic* OR antimycobacterial agent* OR bacteriocidal agent* OR bacteriocide*).ti,ab.
#15	11 AND 14
#16	limit 13 to (embase AND (english OR french) AND yr="2010 -Current")
#17	limit 16 to randomized controlled trial
#18	exp practice guideline/ OR health care planning/ OR consensus/ OR algorithm/ OR systematic review/ OR "systematic review (topic)"/ OR meta-analysis/ OR "meta analysis (topic)"/ OR biomedical technology assessment/ OR (guideline* OR guide line* OR CPG OR CPGs OR guidance OR practical guide* OR practice parameter* OR (best ADJ3 practice*) OR evidence base* OR consensus OR algorithm* OR (clinical ADJ3 pathway*) OR (critical ADJ3 pathway*) OR recommendation* OR committee opinion* OR policy statement* OR position statement* OR standard OR standards OR (systematic* ADJ3 (review* OR overview* OR literature OR search* OR research*)) OR meta-analy* OR metaanaly* OR met analy* OR metanaly* OR HTA OR HTAs OR technology assessment* OR technology overview* OR technology appraisal*).ti,ab. NOT (case report/ OR editorial/ OR letter/)
#19	16 AND 18
#20	17 OR 19
#21	limit 15 to (embase AND (english OR french) AND yr="2010 -Current")
#22	limit 21 to randomized controlled trial
#23	21 AND 18
#24	22 OR 23
#25	20 OR 24
#26	acute respiratory tract infections in ambulatory setting.mp.
Base de données : EBM Reviews : Cochrane Database of Systematic Reviews; Health Technology Assessment; NHS Economic Evaluation Database Date de la recherche : 17 juin 2016 Limites : 2009-2016; anglais et français	
#1	((bronchitis OR bronchial infection OR bronchitic syndrome OR bronchus inflammation) AND acute).mp.
#2	(bronchopneumopathie chronique obstructive OR chronic airflow obstruction OR chronic airway obstruction OR chronic obstructive airway disease OR chronic obstructive bronchitis OR chronic obstructive bronchopulmonary disease OR chronic obstructive lung disease OR chronic obstructive lung disorder OR chronic obstructive pulmonary disease OR chronic obstructive pulmonary disorder OR chronic obstructive respiratory disease OR obstructive lung disease OR obstructive pulmonary disease OR obstructive respiratory disease OR obstructive respiratory tract disease OR COAD OR COPD).mp.
#3	1 AND 2
#4	(disease progression OR acute exacerbation* OR disease flare).mp.
#5	3 AND 4

#6	(anti-bacterial agent* OR anti-mycobacterial agent* OR antibiotic* OR antimycobacterial agent* OR bacteriocidal agent* OR bacteriocide*).mp.
#7	3 AND 6
#8	limit 5 to (english OR french) [Limit not valid in CDSR,ACP Journal Club,DARE,CLCMR,CLEED; records were retained]
#9	limit 8 to yr="2010 -Current" [Limit not valid in DARE; records were retained]
#10	"specificity".mp.
#11	9 AND 10
#12	(randomized AND controlled AND trial).mp.
#13	9 AND 12
#14	(guideline* OR guide line* OR CPG OR CPGs OR guidance OR practical guide* OR practice parameter* OR (best ADJ3 practice*) OR evidence base* OR consensus OR algorithm* OR (clinical ADJ3 pathway*) OR (critical ADJ3 pathway*) OR recommendation* OR committee opinion* OR policy statement* OR position statement* OR standard OR standards OR (systematic* ADJ3 (review* OR overview* OR literature OR search* OR research*)) OR meta-analy* OR metaanaly* OR met analy* OR metanaly* OR HTA OR HTAs OR technology assessment* OR technology overview* OR technology appraisal*).mp.
#15	9 AND 14
#16	11 OR 13 OR 15
#17	limit 7 to (english OR french) [Limit not valid in CDSR,ACP Journal Club,DARE,CLCMR,CLEED; records were retained]
#18	limit 17 to yr="2010 -Current" [Limit not valid in DARE; records were retained]
#19	10 AND 18
#20	12 AND 18
#21	14 AND 18
#22	19 OR 20 OR 21
#23	16 OR 22

Autres sources

Les autres sources consultées sont les suivantes :

- GIN
- NGC
- HAS

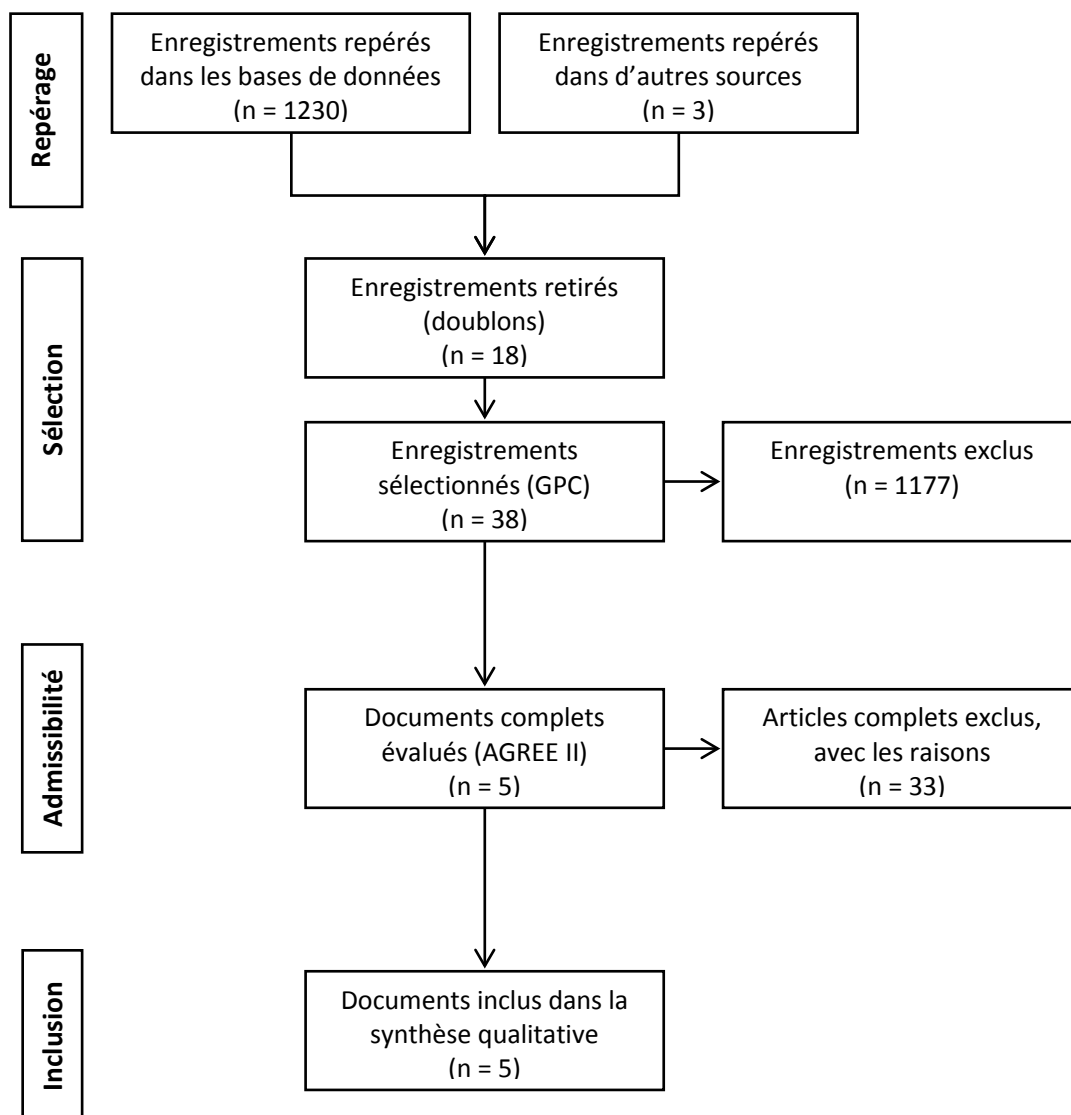
Les monographies des différents antibiotiques prescrits au Canada ont été consultées, et une recherche de la littérature grise a été effectuée afin de trouver des documents contenant de l'information sur les taux de résistance des différents microorganismes à l'origine des EAMPOC au Québec et au Canada. Les sites Web des agences et organismes suivants ont été visités :

- Système canadien de surveillance de la résistance aux antimicrobiens
- INSPQ et LSPQ

ANNEXE C

Sélection des documents pour répondre aux questions de recherche 1 à 5

Figure C-1 — Diagramme de flux



ANNEXE D

Liste et caractéristiques des documents inclus pour répondre aux questions de recherche 1 à 5

Type :	Guide de pratiques cliniques
Organisme :	National Institute for Health and Care Excellence (NICE)
Auteurs :	National Clinical Guideline Centre (NCGC)
Pays :	Angleterre
Titre :	Chronic obstructive pulmonary disease: Management of chronic obstructive pulmonary disease in adults in primary and secondary care
Année :	2010
Objectifs :	Il vise à définir les symptômes, les signes et les analyses nécessaires pour établir un diagnostic de la MPOC. Il vise également à définir les facteurs qui sont nécessaires pour évaluer la gravité, fournir des informations pronostiques et guider une meilleure gestion. Il donne des indications sur le traitement pharmacologique et non pharmacologique des patients atteints de MPOC stable et sur la gestion des exacerbations.
Période de la recherche documentaire :	De la création des bases de données jusqu'au 20 août 2009
Sources d'information :	MEDLINE, Cochrane Databases, Embase, CINAHL
Conflits intérêts :	Voir appendix N, la déclaration de chaque auteur

Type :	Guide de pratiques cliniques
Organisme :	COPD Guideline Team – University of Michigan Health System
Auteurs :	D. A. Chick, P. J. Grant, M. K. Han, R. V. Harrison, E. B. Picken
Pays :	États-Unis
Titre :	Chronic obstructive pulmonary disease
Année :	2012
Objectifs :	Fournir un cadre pour la gestion de la MPOC chronique et pour le traitement de légère à modérée exacerbations aiguës.
Période de la recherche documentaire :	Janvier 2003 – Mars 2012
Sources d'information :	MEDLINE
Conflits intérêts :	1 auteur (MKH Fournir un cadre pour la gestion de la MPOC chronique et pour le traitement de légère à modérée exacerbations aiguës) a été consultant auprès de quelques compagnies pharmaceutiques.

Type :	Guide de pratiques cliniques
Organisme :	GOLD – Global Initiative for Chronic Obstructive Lung Disease
Auteurs :	GOLD Board of directors
Pays :	Conglomérat mondial - WHO
Titre :	Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease: Updated 2016

Année :	2016
Objectifs :	Un objectif qui est de soulager immédiatement et réduire l'impact des symptômes de la MPOC et un objectif visant à réduire le risque d'événements indésirables sur la santé qui peuvent affecter le patient à un moment donné dans le futur.
Période de la recherche documentaire :	2011-2015
Sources d'information :	CINAHL, Cochrane Database of Systematic Reviews – Cochrane Library, Embase, MEDLINE
Conflits intérêts :	http://goldcopd.org/disclosure-statements/

Type :	Guide de pratiques cliniques
Organisme :	European Respiratory Society and European Society for Clinical Microbiology and Infectious Diseases
Auteurs :	M. Woodhead, F. Blasi, S. Ewig, J. Garau, G. Huchon, M. Ieven, A. Orqvist, T. Schaberg, A. Torres, G. van der Heijden, R. Read, T. J. M. Verheij
Pays :	Regroupement de pays européens
Titre :	Guidelines for the management of adult lower respiratory tract infections - Full version
Année :	2011
Objectifs :	Fournir des recommandations fondées sur des données probantes pour les questions de gestion les plus courants qui se produisent dans la pratique clinique de routine dans la gestion des patients adultes atteints d'infections respiratoires des voies inférieures.
Période de la recherche documentaire :	Juillet 2002 – Mai 2010
Sources d'information :	PubMed
Conflits intérêts :	Non disponible

Type :	Guide de pratiques cliniques
Organisme :	British Columbia – Ministry of Health Services
Auteurs :	Guidelines and Protocols Advisory Committee
Pays :	Canada
Titre :	Chronic Obstructive Pulmonary Disease (COPD)
Année :	2011
Objectifs :	Fournir des stratégies pour le diagnostic et la gestion améliorée des adultes souffrant de bronchite chronique et l'emphysème (bronchopneumopathie chronique obstructive, BPCO).
Période de la recherche documentaire :	De la création de la base de données jusqu'à novembre 2011
Sources d'information :	MEDLINE, PubMed, EBSCO, Ovid, Cochrane Collaboration's Database for Systematic Reviews.
Conflits intérêts :	Non disponible

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	S. C. Herath, P. Poole
Pays :	Australie, Nouvelle-Zélande
Titre :	Prophylactic antibiotic therapy for chronic obstructive pulmonary disease (COPD)
Année :	2013
Objectifs :	Déterminer si le traitement régulier des patients atteints de MPOC avec des antibiotiques en prophylaxie réduit ou non les exacerbations ou affecte la qualité de vie.
Période de la recherche documentaire :	De la création des bases de données jusqu'au mois d'août 2013
Sources d'information :	Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, CINAHL, AMED, PsycINFO
Conflits intérêts :	Aucun

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	J. C. Jacobson Vann, P. Szilagyi
Pays :	États-Unis
Titre :	Patient reminder and recall systems to improve immunization rates
Année :	2009
Objectifs :	Évaluer l'efficacité des systèmes de rappel des patients pour améliorer les taux de vaccination et comparer leurs effets dans différents contextes ou dans différentes populations de patients.
Période de la recherche documentaire :	De la création des bases de données jusqu'au 17 juillet 2007
Sources d'information :	MEDLINE, Embase, PsycINFO, Sociological Abstracts, CAB Abstracts
Conflits intérêts :	P. Szilagyi est un auteur sur 4 études incluses.

Type :	Revue systématique
Organisme :	Ne s'applique pas
Auteurs :	W. Ni, X. Shao, X. Cai, C. Wei, J. Cui, R. Wang, Y. Liu
Pays :	Chine
Titre :	Prophylactic use of macrolide antibiotics for the prevention of chronic obstructive pulmonary disease exacerbation: A meta-analysis
Année :	2015
Objectifs :	Évaluer l'efficacité et la sécurité du traitement avec des macrolides en prophylaxie sur la prévention des EAMPOC
Période de la recherche documentaire :	De la création des bases de données jusqu'au 30 septembre 2014
Sources d'information :	PubMed, Embase, Cochrane Library databases
Conflits intérêts :	Aucun

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	F. S. F. Ram, R. Rodriguez-Roisin, A. Granados-Navarrete, J. Garcia-Aymerich, N. C. Barnes
Pays :	Nouvelle-Zélande, Espagne, Angleterre
Titre :	Antibiotics for exacerbations of chronic obstructive pulmonary disease
Année :	2009
Objectifs :	Réaliser une revue systématique estimant la valeur du traitement antibiotique dans la gestion des exacerbations aiguës de la MPOC.
Période de la recherche documentaire :	CENTRAL (The Cochrane Library 2005, issue 4), MEDLINE (1966 à décembre 2005), Embase (1974 à décembre 2005)
Sources d'information :	CENTRAL, MEDLINE, EMBASE
Conflits intérêts :	Neil Barnes (NCB) a donné des conférences et a été consultant avec GlaxoSmithKline et AstraZeneca qui font tous deux des antibiotiques. Il a eu des fonds de recherches de la part de GlaxoSmithKline, AstraZeneca et Bayer Pharmaceuticals qui font tous des antibiotiques. Roberto Rodriguez-Roisin (RRR) a donné des conférences pour Almirall Prodesfarma, AstraZeneca, GlaxoSmithKline et Pfizer et a été consultant pour Almirall Prodesfarma, Chiesi Wasserman, GlaxoSmithKline, Laboratorios Dr. Esteve SA et Pfizer. Il a également reçu des fonds de recherche d'Almirall Prodesfarma, AstraZeneca, GlaxoSmithKline, Laboratorios Dr. Esteve SA et Pfizer, qui fabriquent tous des antibiotiques. Les trois autres auteurs (FSFR, JGA et AGN) n'ont aucun conflit d'intérêts connu.

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	L. F. Stead, D. Buitrago, N. Preciado, G. Sanchez, J. Hartmann-Boyce, T. Lancaster
Pays :	Angleterre, Colombie
Titre :	Physician advice for smoking cessation
Année :	2013
Objectifs :	Évaluer l'efficacité des conseils des médecins dans la promotion du renoncement au tabac; comparer les interventions minimales des médecins avec des interventions plus intensives; évaluer l'efficacité de diverses aides aux conseils visant à favoriser le renoncement au tabac et déterminer l'effet des conseils anti-tabagisme sur la mortalité.
Période de la recherche documentaire :	De la création des bases de données jusqu'au mois de février 2013
Sources d'information :	Cochrane Tobacco Addiction Group specialised register, MEDLINE, Embase, BVS, PsycINFO, Cochrane Central Register of Controlled Trials (CENTRAL)
Conflits intérêts :	Aucun

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	L. F. Stead, P. Koilpillai, T. Lancaster
Pays :	Angleterre, Canada
Titre :	Additional behavioural support as an adjunct to pharmacotherapy for smoking cessation
Année :	2015
Objectifs :	Évaluer l'effet d'une augmentation dans l'intensité du soutien des personnes utilisant des médicaments pour cesser de fumer et évaluer s'il existe des effets différents selon le type de pharmacothérapie ou selon la quantité de soutien fournie.
Période de la recherche documentaire :	De la création des bases de données jusqu'au mois de mai 2015
Sources d'information :	Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, PsycINFO
Conflits intérêts :	Aucun

Type :	Revue systématique
Organisme :	HQO - COPD Working Group
Auteurs :	M. Thabane
Pays :	Canada
Titre :	Smoking cessation for patients with chronic obstructive pulmonary disease (COPD): An evidence-based analysis
Année :	2012
Objectifs :	Déterminer l'efficacité et la rentabilité des interventions de cessation tabagique dans la prise en charge de la maladie pulmonaire obstructive chronique (MPOC).
Période de la recherche documentaire :	De la création des bases de données jusqu'au 24 juin 2010
Sources d'information :	OVID MEDLINE, MEDLINE In-Process and Other Non-Indexed Citations, Embase, Ontario Health Technology Assessment Series; Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane Library, Centre for Reviews and Dissemination
Conflits intérêts :	Aucun

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	E. A. M. Van Eerd, R. M. van der Meer, O. C. P. van Schayck, D. Kotz
Pays :	Pays-Bas, Allemagne
Titre :	Smoking cessation for people with chronic obstructive pulmonary disease
Année :	2016
Objectifs :	Évaluer l'efficacité des interventions comportementales ou

	pharmacologiques de cessation du tabagisme, ou les deux, chez les fumeurs atteints de MPOC.
Période de la recherche documentaire :	De la création des bases de données jusqu'au mois de mars 2016
Sources d'information :	Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, CINAHL, AMED, PsycINFO
Conflits intérêts :	OCPVS a reçu des subventions pour les études sur la dépendance à la nicotine dans les soins primaires et la santé publique et il est l'auteur de deux études incluses dans cette revue. L'institution de OCPVS a reçu des fonds comme consultant pour la Fondation Asthma, Achmea, Pfizer et Boehringer Ingelheim. DK a reçu une subvention de Pfizer pour un essai sur l'efficacité de la pratique des conseils infirmiers et de la varenicline sur la cessation de fumer dans les soins primaires. DK est l'auteur d'une étude incluse dans cette revue.

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	D. J. Vollenweider, H. Jarrett, C. A. Steurer-Stey, J. Garcia-Aymerich, M. A. Puhon
Pays :	États-Unis, Suisse, Espagne,
Titre :	Antibiotics for exacerbations of chronic obstructive pulmonary disease
Année :	2012
Objectifs :	Évaluer les effets des antibiotiques dans le traitement des exacerbations aiguës de la MPOC sur l'échec du traitement et sur d'autres résultats importants pour le patient (mortalité, effets indésirables, durée du séjour à l'hôpital).
Période de la recherche documentaire :	De la création des bases de données jusqu'au mois de septembre 2012
Sources d'information :	Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase
Conflits intérêts :	Claudia Steurer-Stey a donné des conférences aux entreprises productrices d'antibiotiques AstraZeneca, GlaxoWellcome, Merck Sharp & Dome, Pfizer et Novartis. Les quatre auteurs restants (DV, HJ, JGA et MAP) n'ont aucun conflit d'intérêts connu.

Type :	Revue systématique
Organisme :	The Cochrane Collaboration
Auteurs :	J. A. E. Walters, S. Smith, P. Poole, R. H. Granger, R. Wood-Baker
Pays :	Australie, Nouvelle-Zélande
Titre :	Injectable vaccines for preventing pneumococcal infection in patients with chronic obstructive pulmonary disease
Année :	2010
Objectifs :	Déterminer l'innocuité et l'efficacité de la vaccination contre le pneumocoque dans la MPOC. Les principaux résultats évalués ont été les épisodes de pneumonie et d'exacerbations aiguës de la MPOC. Les

	résultats secondaires d'intérêt incluent les admissions hospitalières, les événements indésirables liés au traitement, la modification de la fonction pulmonaire, la mortalité et la rentabilité.
Période de la recherche documentaire :	De la création des bases de données jusqu'au mois de Mars 2010
Sources d'information :	Cochrane Airways Group COPD trials register and the databases CENTRAL, MEDLINE, Embase
Conflits intérêts :	JAEW, SS, PP et RHG : aucun connu. RWB a reçu un soutien financier pour ses activités de recherche et ses dépenses de présentations voir détails : http://airways.cochrane.org/more-about-us

ANNEXE E

Évaluation de la qualité méthodologique des GPC et des revues systématiques

Tableau E-1 : Critères d'évaluation de la grille AGREE II

Domaine 1. Champ et objectifs (score 1 à 7)
1. Le ou les objectifs de la RPC sont décrits explicitement.
2. La ou les questions de santé couvertes par la RPC sont décrites explicitement.
3. La population à laquelle la RPC doit s'appliquer est décrite explicitement.
Domaine 2. Participation des groupes concernés (score 1 à 7)
4. Le groupe de travail ayant élaboré la RPC inclut des représentants de tous les groupes professionnels concernés.
5. Les opinions et leurs préférences de la population cible ont été identifiées.
6. Les utilisateurs cibles de la RPC sont clairement définis.
Domaine 3. Rigueur d'élaboration de la RPC (score 1 à 7)
7. Des méthodes systématiques ont été utilisées pour rechercher les preuves scientifiques.
8. Les critères de sélection des preuves sont clairement décrits.
9. Les forces et les limites des preuves scientifiques sont clairement définies.
10. Les méthodes utilisées pour formuler les recommandations sont clairement décrites.
11. Les bénéfices, les effets secondaires et les risques en termes de santé ont été pris en considération dans la formulation des recommandations.
12. Il y a un lien explicite entre les recommandations et les preuves scientifiques sur lesquelles elles reposent.
13. La RPC a été revue par des experts externes avant sa publication.
14. Une procédure d'actualisation de la RPC est décrite.
Domaine 4. Clarté et présentation (score 1 à 7)
15. Les recommandations sont précises et sans ambiguïté.
16. Les différentes options de prise en charge de l'état ou du problème de santé sont clairement présentées.
17. Les recommandations clés sont facilement identifiables.
Domaine 5. Applicabilité (score 1 à 7)
18. La RPC décrit les éléments facilitant son application et les obstacles
19. La RPC offre des conseils et/ou des outils sur les façons de mettre les recommandations en pratique.
20. Les répercussions potentielles sur les ressources de l'application des recommandations ont été examinées.
21. La RPC propose des critères de suivi et de vérification.
Domaine 6. Indépendance éditoriale (score 1 à 7)
22. Le point de vue des organismes de financement n'a pas influencé le contenu de la RPC.
23. Les intérêts divergents des membres du groupe ayant élaboré la RPC ont été pris en charge et documentés.
Appréciation générale de la qualité du guide (score de 1 à 7)
Recommandation de l'utilisation du guide (oui ou non)

Tableau E-2 : Résultats individuels de la qualité des 5 GPC évalués avec la grille AGREE II (évaluateurs 1 (SG) et 2 (FSP))

	EAMPOC									
	NICE, 2010 [NCGC, 2010]		COPDGT, 2012 [Chick et al., 2012]		GOLD, 2016 [GOLD, 2016]		ERS, 2011 [Woodhead et al., 2011]		BC-MSc, 2011 [BCGuidelines.ca, 2011]	
Évaluateurs	1	2	1	2	1	2	1	2	1	2
1. Le ou les objectifs de la RPC sont décrits explicitement.	7	7	7	7	7	5	7	7	7	7
2. La ou les questions de santé couvertes par la RPC sont décrites explicitement.	7	7	7	6	7	7	7	6	4	6
3. La population à laquelle la RPC doit s'appliquer est décrite explicitement.	7	7	7	5	7	6	5	5	6	7
4. Le groupe de travail ayant élaboré la RPC inclut des représentants de tous les groupes professionnels concernés.	7	5	7	4	5	4	5	4	1	2
5. Les opinions et les préférences de la population cible ont été identifiées.	7	7	1	1	1	1	1	1	1	1
6. Les utilisateurs cibles de la RPC sont clairement définis.	7	7	7	7	7	7	6	6	6	6
7. Des méthodes systématiques ont été utilisées pour rechercher les preuves scientifiques.	7	7	5	3	7	6	7	7	7	7
8. Les critères de sélection des	7	7	4	7	7	4	6	6	3	1

	EAMPOC									
	NICE, 2010 [NCGC, 2010]		COPDGT, 2012 [Chick <i>et al.</i> , 2012]		GOLD, 2016 [GOLD, 2016]		ERS, 2011 [Woodhead <i>et al.</i> , 2011]		BC-MSc, 2011 [BCGuidelines.ca, 2011]	
Évaluateurs	1	2	1	2	1	2	1	2	1	2
preuves sont clairement décrits.										
9. Les forces et les limites des preuves scientifiques sont clairement définies.	7	7	2	5	7	7	6	5	6	6
10. Les méthodes utilisées pour formuler les recommandations sont clairement décrites.	7	4	1	4	7	5	4	4	4	4
11. Les bénéfices, les effets secondaires et les risques en termes de santé ont été pris en considération dans la formulation des recommandations.	7	7	7	7	7	7	7	5	3	3
12. Il y a un lien explicite entre les recommandations et les preuves scientifiques sur lesquelles elles reposent.	7	7	7	4	7	5	7	5	2	2
13. La RPC a été revue par des experts externes avant sa publication.	1	4	3	4	6	5	4	4	5	5
14. Une procédure d'actualisation de la RPC est décrite.	5	7	1	6	6	7	1	1	6	6
15. Les recommandations sont précises et sans ambiguïté.	7	6	7	7	7	6	7	6	7	6
16. Les différentes options de prise	7	7	7	7	7	7	7	6	5	5

	EAMPOC									
	NICE, 2010 [NCGC, 2010]		COPDGT, 2012 [Chick <i>et al.</i> , 2012]		GOLD, 2016 [GOLD, 2016]		ERS, 2011 [Woodhead <i>et al.</i> , 2011]		BC-MSc, 2011 [BCGuidelines.ca, 2011]	
Évaluateurs	1	2	1	2	1	2	1	2	1	2
en charge de l'état ou du problème de santé sont clairement présentées.										
17. Les recommandations clés sont facilement identifiables.	7	7	5	4	5	7	5	5	3	4
18. La RPC décrit les éléments facilitant son application et les obstacles.	7	3	7	4	7	5	1	1	1	1
19. La RPC offre des conseils et/ou des outils sur les façons de mettre les recommandations en pratique.	5	3	2	3	5	5	1	1	7	6
20. Les répercussions potentielles sur les ressources de l'application des recommandations ont été examinées.	7	7	1	1	1	5	1	1	1	1
21. La RPC propose des critères de suivi et de vérification.	5	5	1	2	1	1	1	1	6	6
22. Le point de vue des organismes de financement n'ont pas influencé le contenu de la RPC.	4	4	1	3	7	4	3	3	3	3
23. Les intérêts divergents des membres du groupe ayant élaboré la RPC ont	5	4	7	3	7	5	1	1	3	3

	EAMPOC									
	NICE, 2010 [NCGC, 2010]		COPDGT, 2012 [Chick <i>et al.</i> , 2012]		GOLD, 2016 [GOLD, 2016]		ERS, 2011 [Woodhead <i>et al.</i> , 2011]		BC-MSc, 2011 [BCGuidelines.ca, 2011]	
Évaluateurs	1	2	1	2	1	2	1	2	1	2
été pris en charge et documentés.										
Somme de la cotation pour les 23 critères	144	136	104	104	135	121	100	91	97	98
Qualité générale du guide (1 à 7)	7	6	4	5	6	6	4	4	4	3
Recommandation de l'utilisation du guide	Oui	Oui	Oui	oui	Oui	Oui	Oui	Oui	Oui	Oui

Tableau E-3 : Qualité globale des GPC selon la grille AGREE II

	NICE, 2010 [NCGC, 2010]				COPDGT, 2012 [Chick <i>et al.</i> , 2012]				GOLD, 2016 [GOLD, 2016]				ERS, 2011 [Woodhead <i>et al.</i> , 2011]				BC-MSc, 2011 [BCGuidelines.ca, 2011]			
Évaluateurs	1	2			1	2			1	2			1	2			1	2		
Domaines			T*	% [†]			T*	% [†]			T*	% [†]			T*	% [†]			T*	% [†]
Champ d'application et objectifs	21	21	42	100,0	21	18	39	91,7	21	18	39	91,7	19	18	37	86,1	17	20	37	86,1
Participation des groupes concernés	21	19	40	94,4	15	12	27	58,3	13	12	25	52,8	12	11	23	47,2	8	9	17	30,6
Rigueur du proc. d'élaboration du guide	48	50	98	85,4	30	40	70	56,3	54	46	100	87,5	42	37	79	65,6	36	34	70	56,3
Clarté et présentation	21	20	41	97,2	19	18	37	86,1	19	20	39	91,7	19	17	36	83,3	15	15	30	66,7
Applicabilité	24	18	42	70,8	11	10	21	27,1	14	16	30	45,8	4	4	8	0,0	15	14	29	43,8
Indépendance éditoriale	9	8	17	54,2	8	6	14	41,7	14	9	23	79,2	4	4	8	16,7	6	6	12	33,3
Total	144	136	280		104	104	208		135	121	256		100	91	191		97	98	195	
Score Global**				84,8				58,7				76,1				52,5				54,0
Recommandation - utilisation guide	Oui				Oui				Oui				Oui				Oui			

*Somme des scores obtenus par domaine pour chaque évaluateur.

† Pourcentage des scores par domaine = [(Total – score minimal possible (46)) / (score maximal possible (322) - score minimal possible(46))] x 100.

** Score global = [(Total des scores pour l'ensemble des domaines – score minimal possible (46)) / (score maximal possible (322) - score minimal possible(46))] x 100.

Tableau E-4 : Évaluation des RS - Grille R-AMSTAR détaillée (évaluateurs 1 (SG) et 2 (FSP))

	Herath et Poole, 2013		Jacobson Vann et Szilagyi, 2009		Ni et al., 2015		Ram et al., 2009		Stead et al., 2013		Stead et al., 2015		Thabane, 2012		Van Eerd et al., 2016	
Évaluateurs	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1. Un plan de recherche établi a priori est-il fourni?	3	4	3	3	3	3	4	4	3	3	3	4	3	3	3	4
2. La sélection des études et l'extraction des données ont-ils été confiés à au moins deux personnes?	4	3	4	4	4	4	4	4	4	4	1	1	1	1	4	4
3. La recherche documentaire était-elle exhaustive?	4	4	4	3	4	3	4	4	4	4	4	3	4	3	4	3
4. La nature de la publication (littérature grise, par exemple) était-elle un critère d'inclusion?	4	4	3	3	4	4	4	3	4	4	3	3	3	3	4	4
5. Une liste des études (incluses et exclues) est-elle fournie?	4	4	4	4	2	3	4	4	4	4	4	4	1	2	4	4
6. Les caractéristiques des études incluses sont-elles indiquées?	4	4	4	4	4	3	4	4	4	3	4	4	4	4	4	4
7. La qualité scientifique des études incluses a-t-elle été évaluée et consignée?	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4
8. La qualité scientifique des études incluses dans la revue a-t-elle été utilisée adéquatement dans la formulation des conclusions?	4	4	4	4	2	3	2	4	2	4	4	4	4	4	4	4
9. Les méthodes utilisées pour combiner les résultats des études sont-elles appropriées?	4	4	4	4	3	4	4	4	4	4	4	4	4	3	4	4
10. La probabilité d'un biais de publication a-t-elle été évaluée?	3	2	2	2	3	4	2	2	2	3	3	3	1	2	3	3
11. Les conflits d'intérêts ont-ils été déclarés?	4	4	3	2	4	3	3	3	4	3	4	4	2	2	3	3
Total	42	41	39	37	37	38	39	40	39	40	37	38	31	31	41	41
Pourcentage moyen	92,4 %		81,8 %		80,3 %		86,4 %		86,4 %		80,3 %		60,6 %		90,9 %	
Qualité méthodologique	Bonne		Bonne		Bonne		Bonne		Bonne		Bonne		Moyenne		Bonne	

Tableau E-4 : Évaluation des RS - Grille R-AMSTAR détaillée (évaluateurs 1 (SG) et 2 (FSP) – Suite

	Vollenweider <i>et al.</i> , 2012		Walters <i>et al.</i> , 2010	
Évaluateurs	1	2	1	2
1. Un plan de recherche établi a priori est-il fourni?	4	4	3	3
2. La sélection des études et l'extraction des données ont-ils été confiés à au moins deux personnes?	4	3	4	4
3. La recherche documentaire était-elle exhaustive?	4	4	4	3
4. La nature de la publication (littérature grise, par exemple) était-elle un critère d'inclusion?	4	2	4	4
5. Une liste des études (incluses et exclues) est-elle fournie?	4	4	4	4
6. Les caractéristiques des études incluses sont-elles indiquées?	4	4	4	4
7. La qualité scientifique des études incluses a-t-elle été évaluée et consignée?	4	4	4	4
8. La qualité scientifique des études incluses dans la revue a-t-elle été utilisée adéquatement dans la formulation des conclusions?	3	4	2	4
9. Les méthodes utilisées pour combiner les résultats des études sont-elles appropriées?	4	4	4	4
10. La probabilité d'un biais de publication a-t-elle été évaluée?	2	2	3	3
11. Les conflits d'intérêts ont-ils été déclarés?	2	2	3	1
Total	39	37	39	38
Pourcentage moyen	81,8 %		83,3 %	
Qualité méthodologique	Bonne		Bonne	

ANNEXE F

Tableau des résultats

Tableau F-1 – Résultats présentés dans les revues systématiques

Auteur (année)	Nombre d'études incluses	Nombre total de participant s	Intervention (N)	Comparateur (N)	Durée du suivi	Résultats rapportés				
						Unité de la méta- analyse	Effet (IC à 95 %)	p	I ² (%)	Direction de l'effet
Prophylaxie antibiotique - Nombre de personne avec une EAMPOC										
Herath 2013	3	1262	Usage continue d'un antibiotique (macrolide)	Placebo	6 à 12 mois	OR	0,55 (0,39 à 0,77)	0,006	14	Favorisant l'usage d'antibiotiques en prophylaxie avec une différence statistiquement significative
Ni 2015	7	1614	Usage continue d'un antibiotique (macrolide)	Placebo	3 à 12 mois	RR	0,70 (0,56 à 0,87)	< 0,01	66,43	Favorisant l'usage d'antibiotiques en prophylaxie avec une différence statistiquement significative
Prophylaxie antibiotique – Toutes causes de mortalité										
Herath 2013	3	2841	Usage continue d'un antibiotique (macrolide)	Placebo	6 à 36 mois	OR	0,89 (0,67 à 1,19)	0,44	0	Favorisant l'usage d'antibiotiques en prophylaxie sans différence statistiquement significative
Ni 2015	3	1248	Usage continue d'un antibiotique (macrolide)	Placebo	6 à 36 mois	RR	0,66 (0,23 à 1,85)	0,43	22,95	Favorisant l'usage d'antibiotiques en prophylaxie sans différence statistiquement significative

Auteur (année)	Nombre d'études incluses	Nombre total de participant s	Intervention (N)	Comparateur (N)	Durée du suivi	Résultats rapportés				
						Unité de la méta- analyse	Effet (IC à 95 %)	p	I ² (%)	Direction de l'effet
Tabagisme – Taux de cessation de fumer										
Stead 2013	17	13 724	Avis de cessation simple (20 min)	Aucun avis de cessation	Au suivi le plus éloigné dans le temps	RR	1,66 (1,42 à 1,94)	< 0,00001	31	Favorisant l'avis de cessation simple de façon statistiquement significative
Stead 2013	11	8515	Avis de cessation intensif (20 min)	Aucun avis de cessation	Au suivi le plus éloigné dans le temps	RR	1,86 (1,60 à 2,15)	< 0,00001	50	Favorisant l'avis de cessation intensif de façon statistiquement significative
Van Eerd 2016	1	3562	Intervention comportemen tale intense (approche psychologique avec plusieurs rencontres)	Intervention standard	Au suivi le plus éloigné dans le temps (6 mois)	RR	25,38 (8,03 à 80,22)	< 0,00001	S.O.	Favorisant l'intervention comportementale intense de façon statistiquement significative
Van Eerd 2016	4	1429	Intervention comportemen tale intense avec outils pharmacologi ques	Intervention comportementa le intense sans outil pharmacologi que	Au suivi le plus éloigné dans le temps (6 à 12 mois)	RR	2,53 (1,83 à 3,50)	< 0,00001	0	Favorisant l'intervention comportementale intense combinée à un outil pharmacologique de façon statistiquement significative
Vaccination - Nombre d'EAMPOC										
Walters 2010	2	216	Patients atteints de maladie chronique pulmonaire vaccinés contre le pneumocoqu	Patients atteints de maladie chronique pulmonaire non vaccinés contre le pneumocoque	> 6 mois	OR	0,58 (0,30 à 1,13)	0,11	33	Favorisant la vaccination contre le pneumocoque de façon non statistiquement significative

Auteur (année)	Nombre d'études incluses	Nombre total de participant s	Intervention (N)	Comparateur (N)	Durée du suivi	Résultats rapportés				
						Unité de la méta- analyse	Effet (IC à 95 %)	p	I ² (%)	Direction de l'effet
			e (> 14 sérotypes)							
Vaccination – Taux de vaccination										
Jacobson Vann 2009	33	60922	Système de rappel aux patients	Aucun rappel	1 – 24 mois	OR	1,57 (1,41- 1,75)	< 0,00001	80	Favorisant l'utilisation d'un système de rappel de façon statistiquement significative
Usage d'antibiotiques – Échec thérapeutique										
Ram 2009	6	705	Usage d'un antibiotique	Placebo	7 – 14 jours	RR	0,67 (0,56 à 0,81)	< 0,00002	67	Favorisant l'usage d'antibiotiques de façon statistiquement significative
Vollen- weider 2012	7	931	Usage d'un antibiotique pour une EAMPOC légère à modérée, traitée à domicile	Placebo	7-28 jours	RR	0,75 (0,60 à 0,94)	0,011	35	Favorisant l'usage d'antibiotiques de façon statistiquement significative
Vollen- weider 2012	4	612	Usage d'un antibiotique pour une EAMPOC sévère, traitée à l'hôpital	Placebo	7-28 jours	RR	0,77 (0,65 à 0,91)	0,0025	47	Favorisant l'usage d'antibiotiques de façon statistiquement significative
Vollen- weider 2012	1	93	Usage d'un antibiotique pour une EAMPOC très sévère, traitée	Placebo	7-28 jours	RR	0,19 (0,08 à 0,45)	0,00016	S.O.	Favorisant l'usage d'antibiotiques de façon statistiquement significative

Auteur (année)	Nombre d'études incluses	Nombre total de participant s	Intervention (N)	Comparateur (N)	Durée du suivi	Résultats rapportés				
						Unité de la méta- analyse	Effet (IC à 95 %)	p	I ² (%)	Direction de l'effet
			aux soins intensifs							
Usage d'antibiotiques - Mortalité										
Ram 2009	4	356	Usage d'un antibiotique	Placebo	7 – 14 jours ou jusqu'à la décharge de l'hôpital	RR	0,23 (0,10 à 0,52)	0,00038	0	Favorisant l'usage d'antibiotiques de façon statistiquement significative
Usage d'antibiotiques – Présence d'expectorations purulentes										
Ram 2009	3	465	Usage d'un antibiotique	Placebo	8 – 14 jours	RR	0,56 (0, 41 à 0,77)	0,00031	0	Favorisant l'usage d'antibiotiques de façon statistiquement significative
Usage d'antibiotiques – Effets indésirables – Diarrhée										
Ram 2009	2	363	Usage d'un antibiotique	Placebo	8 jours ou jusqu'à la décharge de l'hôpital	RR	2,86 (1,06 à 7,76)	0,039	0	Favorisant le placebo de façon statistiquement significative
Vollen- weider 2012	3	698	Usage d'un antibiotique	Placebo	5 jours ou jusqu'à la décharge de l'hôpital	OR	2,62 (1,11 à 6,17)	0,028	0	Favorisant le placebo de façon statistiquement significative

N.D. = Non disponible; S.O. = Sans objet

ANNEXE G

Tableaux d'extraction des informations issues des GPC

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
Généralités						
Pathogènes						
BACTÉRIES: majorité des cas Pathogènes les plus fréquemment rencontrés : • Haemophilus influenzae • Streptococcus pneumoniae • Moraxella catarrhalis • Bactéries Gram - Un pourcentage non négligeable des exacerbations aiguës de la MPOC est attribuable à un virus ou à un mycoplasme: • Virus influenza A et B	Although bacteria can be cultured for the sputum of patients with stable COPD there is evidence that they are also responsible for exacerbations. Viruses are also important aetiological agents, particularly during winter months. Non-infectious agents are also responsible for some exacerbations. The cause of the exacerbation may be unidentifiable in up to 30% of exacerbations. The following factors are known causes of exacerbations of COPD. Infections	Causes of acute exacerbation include: • Infection (both viral and bacterial) • Environmental conditions • Air pollution • Lack of compliance with long-term oxygen therapy • Unknown (~1/3 of cases)	Bronchoscopic studies have shown that at least 50% of patients have bacteria in their lower airways during exacerbations of COPD⁴⁰⁷⁻⁴⁰⁹, but a significant proportion of these patients also have bacteria colonizing their lower airways in the stable phase of the disease. Exacerbations of respiratory symptoms often occur in patients with COPD, triggered by infection with bacteria or viruses (which may coexist),	However, if exacerbations of chronic bronchitis and/or COPD may be due to viral and/or bacterial infection, such infections may occur without exacerbation⁸⁷. In one case-control study of AECOPD, viruses were found in an important percentage of AECOPD patients requiring hospitalization¹⁶⁸. A causal relationship between infections and exacerbations of COPD has not been established but the	The most common cause is a viral or bacterial infection.	L'étiologie de l'EAMPOC semble plus variée qu'uniquement les bactéries selon les différents GPC consultés. Devrions-nous moduler la phrase ou insérer un tableau afin d'inclure les virus, et les polluants, de même que la notion qu'un tiers des EAMPOC ont des causes non identifiées ? La liste des agents pathogènes devrait-elle être mise à jour avec plus d'éléments ? Le terme bactéries Gram- est assez large, devrait-on ajouter, du moins, P aeruginosa dans la liste ? Les auteurs du GPC de NICE énumèrent d'abord les virus puis les

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSC, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
• Virus parainfluenza • Métapneumovirus	- Rhinoviruses (common cold) - Influenza - Parainfluenza - Coronavirus - Adenovirus - Respiratory Syncytial Virus - C pneumoniae - H influenzae - S pneumoniae - M catarrhalis - Staph aureus - P aeruginosa Common pollutants - Nitrogen dioxide - Particulates - Sulphur dioxide Ozone		environmental pollutants, or unknown factors. Exacerbations of COPD can be precipitated by several factors. The most common causes appear to be viral upper respiratory tract infections and infection of the tracheobronchial tree. However, the cause of about one-third of severe exacerbations of COPD cannot be identified. Hemophilus influenzae, Streptococcus pneumoniae, and Moraxella catarrhalis are the most common bacterial pathogens involved in an exacerbation⁴⁰⁹; in GOLD 3 and GOLD 4 patients	association between the two is very strong. Respiratory viruses are more frequently found in induced sputum of hospitalized patients with COPD exacerbations than in control stable COPD subjects (47% vs. 10%). Finally, bacterial exacerbations of COPD could be related to the appearance of new strains of S. pneumoniae, H. influenzae or M. catarrhalis in the colonized airways⁸⁸. Moraxella catarrhalis has recently been shown to be associated with approximately 10% of all exacerbations of COPD¹⁶⁶.		bactéries. Êtes-vous en accord avec cet ordre ? Devrions-nous conserver les bactéries en premier ?

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (<u>G</u> lobal Initiative for Chronic <u>O</u> bstructive <u>L</u> ung <u>D</u> isease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
			Pseudomonas aeruginosa becomes important.	It is confirmed that P. aeruginosa is associated with a small percentage of exacerbations that need hospitalization ^{157,160} . The most frequent viruses being rhinovirus, influenza, parainfluenza and RSV.		

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
L'étiologie varie avec le degré de gravité de la maladie de base en fonction du VEMS. Plus le VEMS est bas, plus les bactéries Gram- (entérobactéries et Pseudomonas aeruginosa) jouent un rôle important	Ø	Risk factors for Pseudomonas aeruginosa are: • Recent hospitalization • Frequent administration of antibiotics (4 courses over the past year) • Severe COPD exacerbations • Isolation of P. aeruginosa during a previous hospitalization or colonization during a stable period	In GOLD 3 and GOLD 4 patients Pseudomonas aeruginosa becomes important.	In severe cases with FEV1 < 50% of normal, Gram-negative flora, including P. aeruginosa, become increasingly important as associated pathogens⁴⁵⁸. Acquisition of a new strain of P. aeruginosa is associated with exacerbations^{85,458}. The microbiological pattern of airway infection may also differ between pneumonic and non-pneumonic hospitalized exacerbations of COPD, as shown in a prospective study of 240 patients. Identification of a pathogen was more frequent in pneumonic cases (96% vs. 71%)	Ø	Cette notion de sévérité de la MPOC en fonction d'une possibilité accrue de la présence de P aeruginosa semble encore pertinente. Devrait-on conserver cette indication dans la section des agents pathogènes ou l'inclure dans le principe de traitement ?

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
Autres généralités						
Ø	DEFINITION : An exacerbation is a sustained worsening of the patient's symptoms from his or her usual stable state that is beyond normal day-to-day variations, and is acute in onset. Commonly reported symptoms are worsening breathlessness, cough, increased sputum production and change in sputum colour. The change in these symptoms often necessitates a change in medication.	DEFINITION : No single definition of acute COPD exacerbation is universally accepted. It can reasonably be described as an acute change in a patient's baseline dyspnea, cough, and/or sputum that is beyond normal day-to-day variability and is sufficient to warrant a change in medication in a patient with underlying COPD.	DEFINITION : An exacerbation of COPD is defined as an acute event characterized by a worsening of the patient's respiratory symptoms that is beyond normal day-to-day variations and leads to a change in medication ¹²⁸⁻¹³⁰ .	DEFINITION : An event in the natural course of the disease characterized by a worsening of the patient's baseline dyspnoea, cough and/or sputum beyond day-to-day variability sufficient to warrant a change in management. If chest radiograph shadowing, consistent with infection, is present the patient is considered to have CAP.	DEFINITION : Acute exacerbations are characterized by sustained (48 hrs or more) worsening of shortness of breath and coughing, with or without sputum.	Est-ce que l'ajout d'une définition de l'EAMPOC serait pertinent dans le nouveau GUO ?
Ø	Patient survey noted that the majority (83%) of patients report frequent exacerbation of their COPD. In patients admitted to hospital in the UK with an exacerbation of COPD a retrospective	Ø	Long-term prognosis following hospitalization for COPD exacerbation is poor, with a five-year mortality rate of about 50% ⁶⁰⁴ .	Ø	Ø	Est-ce que l'ajout de statistiques sur l'EAMPOC serait pertinent (p. ex : la prévalence, le risque de réadmission ou le taux de mortalité à la suite d'une EAMPOC) ? Est-ce que la notion de mauvais pronostic

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
	audit of 1400 admissions has shown that 34% were re-admitted and 14% had died within 3 months⁴⁵². In a Spanish study of patients admitted to hospital with an exacerbation of COPD 63% were readmitted within 1 year⁴⁹¹. Patients experiencing frequent exacerbations have a worse prognosis and much of the cost of caring for COPD results from managing exacerbations. Strategies to reduce the frequency and impact of exacerbations are essential. Patients experiencing frequent exacerbations (more than 2.92 per year) have more rapid lung function decline (40.1 ml/yr (95% CI 38 to 42 ml/yr) -v- 32.1 ml/yr (95%CI 31 to 33 ml/yr) p<0.05). A study in the USA of		Exacerbations of COPD are important events in the course of the disease because they: • Negatively affect a patient's quality of life^{144,391} • Have effects on symptoms and lung function that take several weeks to recover from³⁹⁸ • Accelerate the rate of decline of lung function^{399,400} • Are associated with significant mortality, particularly in those requiring hospitalization • Have high socioeconomic costs⁴⁰¹ In-hospital mortality of patients admitted for a hypercapnic exacerbation with acidosis is approximately 10%⁴⁰². Mortality reaches 40% at 1 year after			<i>résultant d'une EAMPOC, telle que présentée dans les GPC du NICE et du GOLD, devrait être ajoutée au GUO ?</i>

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
	patients admitted to an ITU with an exacerbation of COPD (Median FEV1 = 0.8 l, Mean age = 70, 78% had 2 co-morbid illnesses) has shown that the 2, 6, 12 and 24 month mortality rates were 20%, 33%, 43% and 49% respectively⁴⁹².		discharge in those needing mechanical support, and all-cause mortality 3 years after hospitalization is as high as 49%⁴⁰¹⁻⁴⁰⁵. Prevention, early detection, and prompt treatment of exacerbations are vital to reduce the burden of COPD⁴⁰⁶. COPD exacerbations account for the greatest proportion of the total COPD burden on the health care system. In addition, worsening airflow limitation is associated with an increasing prevalence of exacerbations and risk of death. Hospitalization for a COPD exacerbation is			

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (<u>G</u> lobal Initiative for Chronic <u>O</u> bst ^u ctive <u>L</u> ung <u>D</u> isease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
			associated with a poor prognosis with increased risk of death ⁵⁵⁶ .			

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
Ø	Chronic obstructive lung disease, mainly chronic obstructive pulmonary disease, is the third largest cause of respiratory death, accounting for more than one fifth (23%) of all respiratory deaths¹². COPD is the fifth leading cause of death in the UK and fourth worldwide^{21,23}. COPD is set to become the third leading cause of death worldwide by the year 2020, surpassed only by heart disease and stroke²⁴. Most patients are not diagnosed (with COPD) until they are in their fifties. Prevalence increases with increasing age⁵ and there are significant geographic variations in the prevalence of COPD.	COPD is the fourth-leading cause of death in the United States, accounting for over 120,000 deaths annually	Chronic Obstructive Pulmonary Disease (COPD), the fourth leading cause of death in the world¹ The Global Burden of Disease Study projected that COPD, which ranked sixth as a cause of death in 1990, will become the third leading cause of death worldwide by 2020; a newer projection estimated COPD will be the fourth leading cause of death in 2030⁵. The prevalence and burden of COPD are projected to increase in the coming decades due to continued exposure to COPD risk factors and the changing age structure of the world's population (with more people living longer and therefore expressing the long-term effects of exposure to COPD risk factors)⁵.	Ø	Ø	<i>La MPOC est considérée comme la 4^e cause de décès mondialement et il est estimé qu'elle deviendra la 3^e cause en 2020.</i> <i>Est-ce que l'ajout d'une telle statistique sur la MPOC serait pertinent dans la nouvelle version du GUO ?</i>

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
Prévention						
Facteurs de risque						
Ø	An observational cohort study of 2138 patients by Hurst et al. (2010) provides further context, noting that exacerbations increased with the severity of COPD. Frequent exacerbations were observed in: 22% of patients with GOLD stage 2 disease (exacerbation rate = 0.85 per person during first year of follow-up), 33% with stage 3 (rate = 1.34), and 47% with stage 4 (rate = 2.00). It was also found that a history of exacerbations appeared to be the best predictor of exacerbations at all stages of disease	The most commonly associated noxious agent is cigarette smoke, and cigarette smoking is the single largest risk factor for COPD. Second hand smoke is a recognized risk factor, as are environmental and occupational air pollutants. Risk factors for the disease : chronic tobacco smoke, occupational dusts and chemicals, and smoke from home cooking and heating fuels	The rate at which exacerbations occur varies greatly between patients^{131,512}. The best predictor of having frequent exacerbations (2 or more exacerbations per year) is a history of previous treated events¹³². The data in Table 2.6 are derived from prospectively collected data from large medium-term clinical trials¹³²⁻¹³⁴. They are not precise estimates that apply to each patient, but they illustrate clearly the increased risk of exacerbations and death between spirometric levels. Roughly, although up to 20% of	Ø	Ø	<i>Les facteurs de risque les plus fréquemment cités sont le tabagisme, la sévérité de la MPOC sous-jacente et l'historique d'EAMPOC précédente.</i> <i>Devrions-nous mentionner ces divers facteurs de risque dans la nouvelle version du GUO 2016 ?</i>

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (<u>Global Initiative for Chronic Obstructive Lung Disease</u>) Mondial	4 – ERS, 2011 (<u>European Respiratory Society</u>) Europe	5 – BC-MSc, 2011 (<u>British Columbia – Medical Service Commission</u>) Canada	QUESTIONS
			GOLD 2 (Moderate airflow limitation) patients may experience frequent exacerbations requiring treatment with antibiotics and/or systemic corticosteroids¹³², the risk of exacerbations significantly increases in GOLD 3 (Severe) and GOLD 4 (Very Severe). Since exacerbations increase the decline in lung function, deterioration in health status and risk of death, the assessment of exacerbation risk can also be seen as an assessment of the risk of poor outcomes in general.			

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
Tabagisme						
- Stratégies de prévention : - Cessation du tabac	Encouraging patients with COPD to stop smoking is one of the most important components of their management. All COPD patients still smoking, regardless of age should be encouraged to stop, and offered help to do so, at every opportunity. Offer help to stop smoking at every opportunity Combine pharmacotherapy with appropriate support as part of a programme. Getting patients with COPD to stop smoking is one of the single most important interventions. Stopping smoking slows the rate of decline in FEV1 with consequent benefits in terms of progression of symptoms and survival. Smokers with early COPD who were assigned to a smoking cessation intervention	Smoking cessation is the single most important intervention to slow the rate of lung function decline regardless of disease severity. [IA] Early diagnosis is encouraged, as the most effective therapy for COPD in terms of slowing lung function decline is smoking cessation. Education regarding smoking cessation has the greatest capacity to influence the natural history of COPD. Education also improves patient response to	Smoking cessation is the intervention with the greatest capacity to influence the natural history of COPD. Smoking cessation is the key intervention for all COPD patients who continue to smoke (Evidence A). Cigarette smokers have a higher prevalence of respiratory symptoms and lung function abnormalities, a greater annual rate of decline in FEV1, and a greater COPD mortality rate than nonsmokers⁴⁴. Other types of tobacco (e.g., pipe, cigar, water pipe^{45,614}) and marijuana⁴⁶ are also risk factors for COPD^{47,48}.	Ø	Smoking Cessation - Smoking is the most important cause of and contributing factor for COPD progression. - Smoking cessation is the most important factor in slowing the progression of COPD. - Smoking cessation is effective in preventing disease progression even in long-term smokers. - Effective strategies exist to aid in smoking cessation. These include: - nicotine replacement therapy which may need to be used long term - other pharmacotherapy (note that	Dans les nouvelles versions des GUO une section prévention est maintenant présente. La cessation du tabac est une mesure de prévention unanime aux différents GPC consultés. Devrions-nous l'ajouter à la section prévention du nouveau GUO ? La majorité des GPC consultés vont même jusqu'à recommander de fournir tous les outils nécessaires pour faire cesser le tabagisme chez le patient MPOC (prescription, traitement actif, soutien psychologique...). Devrions-nous inclure une recommandation en ce sens dans la nouvelle version du GUO ? Devrions-nous ajouter un hyperlien vers le site web des centres d'abandon du tabac(www.jarrette.qc.ca)?

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
	had fewer respiratory symptoms after 5 years of follow-up¹¹⁹. Recommandation 26 (GRADE A) Unless contraindicated, offer NRT, varenicline or bupropion, as appropriate, to people who are planning to stop smoking combined with an appropriate support programme to optimise smoking quit rates for people with COPDa. 2012 update Smoking cessation counselling plus either nicotine replacement therapy or an antidepressant are effective ways to help patients to stop smoking.	exacerbations. The benefit of smoking cessation on the natural history of COPD is greater the earlier in the disease that cessation is achieved. Smoking cessation should be encouraged at each visit. The combination of pharmacologic and psychosocial treatment for smoking cessation has been shown to be superior to psychosocial treatment alone in patients with COPD. Directly measured second hand smoke (SHS) exposure appears to have an adverse	In patients who smoke, smoking cessation is very important. Pharmacotherapy and nicotine replacement reliably increase long-term smoking abstinence rates. Effective treatments for tobacco dependence exist and all tobacco users should be offered these treatments. Brief smoking cessation counseling is effective and every tobacco user should be offered such advice at every contact with health care providers. Counseling delivered by physicians and other health professionals significantly		these have significant side effects) • Even minimal intervention may be helpful and should be offered to every smoker. Counselling may be appropriate. • Consider referral of the smoker with COPD to the BC Smokers Helpline (refer Patient Guide). • Smoking cessation of the patient and household contacts should be reinforced at every contact.	

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
		impact on health outcomes in COPD, independent of personal smoking. SHS is a modifiable risk factor. Clinicians should assess SHS exposure in their patients and counsel its avoidance.	increases quit rates over self-initiated strategies ¹⁷⁰ (Evidence A). First-line pharmacotherapies for tobacco dependence—varenicline, bupropion SR, nicotine gum, nicotine inhaler, nicotine nasal spray, and nicotine patch—are effective and at least one of these medications should be prescribed in the absence of contraindications.			
Pollution, exposition à des irritants pulmonaires, fumée secondaire et autres						
Ø	The following factors are known causes of exacerbations of COPD ⁴⁹⁸ . Common pollutants : • Nitrogen dioxide • Particulates • Sulphur dioxide • Ozone	<u>Occupational fumes</u> : Nineteen percent of COPD cases are attributed to occupational pulmonary irritant exposure. Therefore, limiting exposure to industrial fumes and dust	Although in many countries, outdoor, occupational and indoor air pollution – the latter resulting from the burning of wood and other biomass fuels – are major COPD risk factors ⁶ .	Ø	Ø	<i>Devrions-nous ajouter une note sur l'impact de la présence de polluant dans l'air (information maintenant disponible sur la plupart des sites web de météo) comme un facteur de risque d'exacerbation ?</i> <i>Devrions-nous mentionner de rester à la maison comme mesure préventive</i>

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
		is advised. Limiting exposure can help slow progression of disease and improve symptoms. In men with early COPD, each year of continued occupational fume exposure has been found to be associated with a 0.25% reduction in post-bronchodilator FEV1% predicted. Particulates (air pollution): Patients with COPD should be counseled to monitor the pollution index and stay indoors when pollution is high. Staying indoors when air quality is poor	Occupational exposures, including organic and inorganic dusts and chemical agents and fumes, are an underappreciated risk factor for COPD⁵⁵⁻⁵⁷. An analysis of the large U.S. population-based NHANES III survey of almost 10,000 adults aged 30-75 years estimated the fraction of COPD attributable to work was 19.2% overall, and 31.1% among never-smokers⁵⁸. Although studies as yet have not been done to demonstrate whether interventions to reduce occupational exposures also reduce the burden of COPD, it seems common sense to advise patients to			<i>lorsque la pollution de l'air est trop élevée comme proposé par les GPC du COPDGT et du GOLD?</i>

CDM, 2009 (Conseil du médicament) Québec	1 – NICE, 2010+2012 ^{upd} (National Institute for Health and Care Excellence) Angleterre	2 – COPDGT, 2012 (COPD Guideline team, University of Michigan) Etats-Unis	3 – GOLD, 2016 (Global Initiative for Chronic Obstructive Lung Disease) Mondial	4 – ERS, 2011 (European Respiratory Society) Europe	5 – BC-MSc, 2011 (British Columbia – Medical Service Commission) Canada	QUESTIONS
		may help reduce symptoms. Emergency room visits have been shown to increase among patients with COPD following days of high air pollution. Patients should be counseled to avoid indoor air pollution as well. Use of biomass fuels, such as wood, crop material, and garbage, for indoor cooking is a significant risk factor for COPD, especially in developing countries.	avoid continued exposures to potential aggravants, if possible (Evidence D)			

Vaccination						
- Vaccination antigrippale	Frequent exacerbations: - Offer annual influenza vaccination - Offer pneumococcal vaccination Recommendation R88 Pneumococcal vaccination and an annual influenza vaccination should be offered to all patients with COPD as recommended by the Chief Medical Officeriii. (Evidence from Health Service Circulars-HSC) 2012^{update} Recent evidence appears to suggest that pneumococcal vaccination in patients with COPD may not reduce the risk of pneumonia, exacerbations or mortality. Large, well-designed trials of newer polyvalent vaccines are needed.	Patients with COPD are at increased risk for complications from pulmonary infections (e.g., hospitalization, increased use of antibiotics). Therefore, the CDC Advisory Committee of Immunization Practices recommends all patients receive pneumococcal polysaccharide vaccine and yearly influenza vaccine. Provide annual flu shots for all COPD patients. Provide pneumococcal vaccination. Pneumococcal vaccine has not been shown in randomized controlled trials to have significant impact on morbidity or mortality in patients with COPD. However, the vaccine remains recommended based on consensus expert opinion. Yearly influenza vaccination has been shown to reduce exacerbations and influenza-related respiratory infections. Influenza vaccine reduces serious illness and death from influenza in COPD patients by approximately 50%.	Influenza and pneumococcal vaccination should be offered to every COPD patient; they appear to be more effective in older patients and those with more severe disease or cardiac comorbidity. Influenza vaccination can reduce serious illness (such as lower respiratory tract infections requiring hospitalization²⁶⁷) and death in COPD patients²⁶⁸⁻²⁷⁰ (Evidence A). Vaccines containing killed or live, inactivated viruses are recommended²⁷¹ as they are more effective in elderly patients with COPD²⁷². The strains are adjusted each year for appropriate effectiveness and should be given once each year²⁷³.	In patients with COPD H. influenzae oral vaccine [B1] or bacterial extracts (OM-85 BV) [B2] should not be given. Recommendation: 1 Influenza vaccine should be given yearly to persons at increased risk of complications due to influenza [A2]. 2 Repeated vaccinations are safe and do not lead to a decreased immune response [B1]. 3 In adults, inactivated, rather than live attenuated, vaccine should be used [A1]. Recommendation: 1 The 23-valent polysaccharide pneumococcal vaccine prevents invasive pneumococcal disease in older persons and in other high-risk groups and should be given to all adult persons at risk of pneumococcal disease [A1].	Ø	<i>L'utilisation de la vaccination contre l'influenza et le pneumocoque chez les personnes atteintes de MPOC semble être incontournable dans la prévention de l'EAMPOC, bien que les ECRA n'ont pas été en mesure de démontrer un effet sur la morbidité et la mortalité des patients MPOC.</i> <i>Devrions-nous ajouter de suivre les indications du programme de vaccination pour l'influenza et pour les pneumocoques pour les personnes atteintes de MPOC ?</i>

			Pneumococcal polysaccharide vaccine is recommended for COPD patients 65 years and older, and also in younger patients with significant comorbid conditions such as cardiac disease ²⁷⁴⁻²⁷⁶ .			
--	--	--	---	--	--	--

Antibiotique en prophylaxie vs l'exacerbation						
Ø	Prophylactic antibiotic therapy was used some years ago in an attempt to prevent exacerbations and there has been renewed interest in this area recently. Recommandation R98 (Grade D): There is insufficient evidence to recommend prophylactic antibiotic therapy in the management of stable COPD. (Grade D)	The use of routine prophylactic antibiotics can not currently be recommended, although the utility of daily macrolide antibiotics in particular has recently received attention and is currently being investigated.	In older studies prophylactic, continuous use of antibiotics was shown to have no effect on the frequency of exacerbations in COPD²⁷⁸⁻²⁸⁰, and a study that examined the efficacy of chemoprophylaxis undertaken in winter months over a period of 5 years concluded that there was no benefit²⁸¹. Although studies have shown some effects of antibiotics on exacerbation rate^{282,283}, the role of this treatment is unclear. A trial of daily azithromycin showed efficacy on exacerbation end-points with little evidence of treatment effect among current smokers⁵⁹³; however, treatment is not recommended because of an unfavorable balance between benefits and side effects²⁸⁴. Thus, the use of antibiotics, other than for treating infectious	<i>What is the role of prophylactic antibiotic therapy in chronic bronchitis or COPD?</i> Recommendation: In patients with CB or COPD, oral or parenteral antibiotics should not be given for prevention [A1]. <i>What is the role of prophylactic antibiotic therapy in patients with COPD?</i> Recommendation: The use of nebulized antibiotics or intermittent long-term macrolide therapy is not recommended in COPD patients in general [C4].	Ø	<i>L'utilisation d'un traitement antibiotique en prophylaxie afin d'éviter les EAMPOC n'est recommandée par aucun GPC consulté.</i> <i>Est-ce que cette pratique existe au Québec?</i> <i>Devrions-nous mettre également une phrase pour éviter cette pratique dans la nouvelle version du GUO ?</i>

			exacerbations of COPD and other bacterial infections, is currently not indicated ^{285,286} (Evidence B).			
--	--	--	---	--	--	--

Diagnostics						
Symptômes						
Présence d'au moins 2 des symptômes suivants (critères d'Anthonisen) : • Augmentation de la quantité des expectora-tions • Présence de purulence dans les expectorations • Augmentation de la dyspnée	Exacerbations may lead to different constellations of symptoms, of varying severity, in different patients. There is no single defining symptom of an exacerbation, but change in breathlessness, cough and sputum production are common Exacerbations of COPD can be associated with the following symptoms: - increased dyspnoea - increased sputum purulence and volume - increased cough - upper airway symptoms (e.g. colds and sore throats) - increased wheeze - chest tightness - reduced exercise tolerance - fluid retention - increased fatigue - acute confusion Other conditions may present with similar symptoms in patients with COPD. These must be considered and excluded when making a diagnosis of an exacerbation : - pneumonia	Antibiotics are recommended for patients with: • increased sputum purulence • plus either - increased dyspnea or - increased sputum volume. When performing a differential diagnosis of acute exacerbation of COPD, alternate diagnoses need to be considered including: • Pneumonia • Congestive heart failure • Pneumothorax • Pleural effusion • Pulmonary embolism • Cardiac arrhythmia The outpatient assessment for an acute exacerbation of COPD starts with the clinical history and physical examination. Obtaining an oxygen saturation via pulse oximetry is recommended. Spirometry, arterial blood gas, and electrocardiogram are generally not	The diagnosis of exacerbation relies exclusively on the clinical presentation of the patient complaining of an acute change of symptoms (baseline dyspnea, cough, and/or sputum production) that is beyond normal day-to-day variation. During respiratory exacerbations there is increased hyperinflation and gas trapping, with reduced expiratory flow, thus accounting for the increased dyspnea⁹⁸. There is also worsening of VA/Q abnormalities, which can result in hypoxemia⁹⁹. The presence of purulent sputum reflects an increase in inflammatory mediators¹¹³, and its development may identify the onset of a bacterial	Recommendation: An antibiotic should be given in exacerbations of COPD in patients with all three of the following symptoms: increased dyspnoea, sputum volume and sputum purulence. In addition, antibiotics should be considered for exacerbations in patients with severe COPD [C1]. The relationship between purulence and bacterial growth is confirmed in one study⁴⁵⁸. In addition, a bronchoscopic study found that referred purulence by the patient had a sensitivity of 89.5%, a specificity of 76%, a predictive positive value of 77% and a negative predictive value of 89% to detect bacteria in protected specimen brush bronchoscopic samples in COPD hospitalized patients with exacerbation⁴⁵⁹.	Acute exacerbations are characterized by sustained (48 hrs or more) worsening of shortness of breath and coughing, with or without sputum.	Les critères d'Anthonisen présents dans le GUO de 2009 sont encore suggérés dans tous les GPC consultés. Est-ce qu'il y a actuellement, au Québec, des problèmes en pratique concernant le diagnostic de la EAMPOC ? La mesure de la saturation en oxygène est recom-mandée dans la plupart des GPC consultés tandis que la spirométrie n'est pas recommandée. Par conséquent, devrions-nous modifier la phrase sur les symptômes afin d'inclure la saturation et d'exclure la spirométrie ?

	- pneumothorax - left ventricular failure/pulmonary oedema - pulmonary embolus - lung cancer - upper airway obstruction - pleural effusion - recurrent aspiration In patients who have their exacerbation managed in primary care: pulse oximetry is of value if there are clinical features of a severe exacerbation. (Grade D)	recommended.	exacerbation¹¹⁴ The presence of purulent sputum during an exacerbation can be sufficient indication for starting empirical antibiotic treatment¹¹⁴ In summary, antibiotics should be given to patients with exacerbations of COPD who have three cardinal symptoms – increase in dyspnea, sputum volume, and sputum purulence (Evidence B); have two of the cardinal symptoms, if increased purulence of sputum is one of the two symptoms (Evidence C); or require mechanical ventilation (Evidence B)^{273,351}. Conditions that may mimic and/or aggravate exacerbations, including pneumonia, pulmonary embolism, congestive heart	Biomarkers such as procalcitonin may help to detect those exacerbations requiring antibiotics but the information available comes from a single-centre randomized study⁴⁶²		<i>Devrions-nous également inclure, dans la nouvelle version du GUO, une liste des pathologies ou d'aggravations ayant des symptômes similaires, mais qui nécessiteraient une exclusion avant de diagnostiquer une EAMPOC ?</i>
--	---	---------------------	--	--	--	---

			failure, cardiac arrhythmia⁶²³, pneumothorax, and pleural effusion, need to be considered in the differential diagnosis and treated if present^{128,291,398,417}. Spirometry is not recommend-ed during an exacerbation because it can be difficult to perform and measurements are not accurate enough. Pulse oximetry is useful for tracking and/or adjusting supplemental oxygen therapy. The measurement of arterial blood gases is vital if the coexistence of acute or acute-on-chronic respiratory failure is suspected ($\text{PaO}_2 < 8.0 \text{ kPa}$) Assessment of the acid-base status is necessary before initiating mechanical ventilation^{291,418}.			
Culture des expectorations						

Culture des expectorations : utile pour les patients hospitalisés et dans les cas de non-réponse au traitement après 72 heures d'antibiothérapie ou si infections répétées.	Recommandation 10 (GRADE D) Additional investigations should be performed to aid management in some circumstances: <u>Sputum culture</u> To identify organisms if sputum is persistently present and purulent Recommandation 136 (GRADE D) In patients who have their exacerbation managed in primary care: - sending sputum samples for culture is not recommended in routine practice. Recommandation 137 (GRADE D): In all patients with an exacerbation referred to hospital: - if sputum is purulent, a sample should be sent for microscopy and culture	Sputum culture is not routinely recommended. [IIIC] There is limited utility in obtaining a sputum gram stain & culture. An exception may be patients who have recently been on antibiotics.	If an infectious exacerbation does not respond to the initial antibiotic treatment, a sputum culture and an antibiotic sensitivity test should be performed²⁹¹. In outpatients, sputum cultures are not feasible as they take too long (at least 2 days) and frequently do not give reliable results for technical reasons, i.e., more than 4 hours elapse between expectoration of sputum and analysis in the microbiology lab. In patients with frequent exacerbations, severe airflow limitation^{417,441}, and/or exacerbations requiring mechanical ventilation⁴¹², cultures from sputum or other materials from the lung should be performed, as gram-negative bacteria (e.g.,	Recommendation: Microbiological tests such as cultures and Gram stains are not recommended [B1]. Biomarkers to assess the presence of a bacterial pathogen are not recommended in primary care' [A1]. A new systematic review and two observational studies underlined these recommendations 94,228,229 <i>Which microbiological investigations are recommended for the hospitalized patient with COPD exacerbation?</i> Recommendation: Sputum cultures or endotracheal aspirates (in mechanically ventilated patients) should be obtained and are a good alternative to bronchosco-pic procedures for evaluation of the bacterial burden by potential pathogenic microorganisms [A3].	Ø	<i>La culture d'expectoration est encore recommandée lors de l'hospitalisation dans la plupart des GPC consultés.</i> <i>La culture est recommandée également lorsqu'aucune réponse au traitement de première intention n'est remarquée après 72 h et lorsqu'une ventilation mécanique est nécessaire.</i> <i>Toutefois, la culture d'expectoration n'est pas recommandée lors d'un traitement en communauté.</i> <i>Devrions-nous ajouter certains de ces éléments à la phrase qui était présente dans le GUO de 2009 ?</i> <i>Selon votre expérience, est-</i>
---	--	--	---	--	----------	---

			Pseudomonas species) or resistant pathogens that are not sensitive to the above-mentioned antibiotics may be present.			<i>ce que la culture d'expectorations est souvent demandée en communauté malgré qu'elle ne soit pas recommandée ?</i>
--	--	--	---	--	--	--

Radiographie						
Radiographie pulmonaire : à considérer si suspicion de pneumonie ou d'insuffisance cardiaque congestive chez le patient. Test de routine chez les patients hospitalisés.	Recommandation 137 (GRADE D): In all patients with an exacerbation referred to hospital: - a chest radiograph should be obtained	Consider chest radiograph if clinically indicated. Ordering a chest radiograph is generally not recommended, however may be reasonable for patients >65 years of age, exposure to inhaled steroids, or the presence of fever.	Chest radiographs are useful in excluding alternative diagnoses.	Ø	Ø	<i>La radiographie pulmonaire est recommandée lors d'une hospitalisation ou pour exclure d'autres pathologies.</i> <i>Certaines conditions semblent également nécessiter une radiographie (>65 ans, utilisation de cortico-stéroïdes inhalés ou la présence de fièvre).</i> <i>Devrions-nous moduler quelque peu la phrase sur la radiographie ?</i>

Présence de fièvre						
Fièvre:peu présente dans les cas d'exacerbation aiguë de la MPOC; sa présence devrait évoquer d'autres diagnostics (influenza, pneumonie, etc.).	Chest pain and fever are uncommon features of COPD exacerbations and should prompt a search for other aetiologies.	Ordering a chest radiograph is generally not recommended, however may be reasonable for patients >65 years of age, exposure to inhaled steroids, or the presence of fever.	Ø	Fever is not observed in 30% of exacerbations ⁴⁵⁷ .	Ø	<i>Cette phrase semble encore pertinente, devrions-nous la conserver, la modifier ou la modifier ?</i>
Évaluation de la sévérité - Traitement à la maison ou hôpital						
Ø	A number of factors can be used to assess the severity of an exacerbation. Not all will be present, but the occurrence of any of these should alert the clinician. The following signs are features of a severe exacerbation: - marked dyspnoea - tachypnea - pursed lip breathing - use of accessory muscles (sternomastoid and abdominal) at rest	A commonly used operational classification of COPD acute exacerbation severity is: • Level I: treated at home • Level II: requires hospitalization • Level III: leads to respiratory failure This guideline will focus on Level I exacerbations, which can be treated as an outpatient. The outpatient assessment for an acute exacerbation of COPD starts with the clinical history and physical examination. Obtaining an oxygen saturation via pulse oximetry is recommended. Spirometry, arterial blood gas, and electrocardiogram	The assessment of an exacerbation is based on the patient's medical history and clinical signs of severity Assessment of COPD Exacerbations: <u>Medical History :</u> •Severity of COPD based on degree of airflow limitation • Duration of worsening or new symptoms • Number of previous episodes (total/hospitalizations) • Comorbidities • Present treatment regimen • Previous use of mechanical ventilation <u>Signs of Severity:</u>	The following characteristic are associated with a complicated course: - Presence of COPD, - Diabetes - Heart failure - Previous hospitalization in the past year, - Taking oral glucocorticoids - Antibiotic use in the previous month - General malaise - Absence of upper respiratory symptoms - Confusion / diminished consciousness, - Pulse >100, - Temperature >38 - Respiratory rate >30 - Blood pressure <90/60 - and when the primary care physician diagnoses	Severe AECOPD complicated by acute respiratory failure is a medical emergency.	<i>Comment est évaluée la sévérité d'une EAMPOC au Québec ?</i> <i>Afin d'harmoniser les pratiques devrions-nous proposer une méthode pour évaluer la sévérité d'une EAMPOC ?</i> <i>Si oui quels sont les critères que vous utilisez (Anthonisen, CAT, autres) ?</i> <i>Selon vous est-ce une pratique courante en</i>

	- acute confusion - new onset cyanosis - new onset peripheral oedema - marked reduction in activities of daily living Most patients with an exacerbation of COPD can be managed at home but a few need hospital treatment. This may be because of the severity of the exacerbation, the need for therapies that are not available to that patient at home, or the need for specialist interventions. The decision about referral to hospital involves an assessment of the severity of symptoms (particularly the degree of breathlessness, the presence of cyanosis or peripheral oedema and the	are generally not recommended. <u>Determine care setting.</u> Consider hospitalization for patients with marked symptoms, severe underlying disease, significant complicating comorbidities, respiratory failure, uncertain diagnosis, or insufficient outpatient supports. <u>Indications for hospitalization.</u> The following are reasons for emergency department evaluation or hospital admission: • Marked increase in symptoms such as dyspnea at rest • Severe underlying COPD • Frequent exacerbations • Significant comorbidities (e.g., older age, pneumonia, congestive heart failure, diabetes mellitus, renal or liver failure) • Worsening hypoxemia or hypercapnia • Changes in mental status • Inadequate response to outpatient therapy • Uncertain diagnosis • Insufficient home support	• Use of accessory respiratory muscles • Paradoxical chest wall movements • Worsening or new onset central cyanosis • Development of peripheral edema • Hemodynamic instability • Deteriorated mental status Depending on the severity of an exacerbation and/or the severity of the underlying disease, an exacerbation can be managed in an outpatient or inpatient setting. More than 80% of exacerbations can be managed on an outpatient basis^{132,143,214} with pharmacologic therapies including bronchodilators, corticosteroids, and antibiotics. Potential Indications for Hospital <u>Assessment or Admission</u> : • Marked increase in intensity of symptoms, such as sudden development of resting dyspnea • Severe underlying	pneumonia [A3]. Recommendation: Group A: admitted to hospital without risk factors for P. aeruginosa infection [A3]. Group B: admitted to hospital with risk factors for P. aeruginosa [A3]. Recommendation: P. aeruginosa should be considered in the presence of at least two of the following. 1 Recent hospitalization [A3] 2 Frequent (>4 courses per year) or recent administration of antibiotics (last 3 months) [A3]. 3 Severe disease (FEV1 < 30%) [A3]. 4 Oral steroid use (>10 mg of prednisolone daily in the last 2 weeks) [A3]. Despite the fact that recommendations for treating Pseudomonas aeruginosa remain unchanged in these guidelines, some members of the panel disagreed about covering Pseudomonas aeruginosa as initial	première ligne de diriger le patient à l'hôpital pour le traitement ? Est-ce que les critères de décision proposés par les GPC du NICE, du COPDGT et du GOLD devraient être ajoutés dans la nouvelle version du GUO ?
--	--	--	---	--	---

	level of consciousness), the presence of co-morbidities, whether or not the patient is already receiving long term oxygen therapy, the level of physical functioning, and the patient's ability to cope at home. Recommendation 135 (GRADE D): Factors that should be used to assess the need to treat patients in hospital are listed in table 8.1 There are currently insufficient data to make firm recommendations about which patients with an exacerbation are most suitable for hospital-at-home or early discharge. (Grade D) Patients' preferences about treatment		COPD • Onset of new physical signs (e.g., cyanosis, peripheral edema) • Failure of an exacerbation to respond to initial medical management • Presence of serious comorbidities (e.g., heart failure or newly occurring arrhythmias) • Frequent exacerbations • Older age • Insufficient home support When a patient comes to the emergency department the first actions are to provide supplemental oxygen therapy and to determine whether the exacerbation is life-threatening. If so, the patient should be admitted to the ICU immediately. Otherwise, the patient may be managed in the emergency department or hospital.	empirical treatment in patients at risk. The rationale behind this disagreement lies in the studies that consider that <i>P. aeruginosa</i> is a colonizer and not a pathogen.		
--	---	--	--	---	--	--

	at home or in hospital should be considered. (Grade D)					
Principes de traitement						
Traitement de soutien						
Il est essentiel de considérer les mesures suivantes dans le traitement des exacerbations aiguës de la MPOC: • Traitement des conditions associées (insuffisance cardiaque)	COPD is an important co-morbidity in those dying from other smoking related diseases, most commonly ischaemic heart disease and lung cancer^{12,22}. Advances in the understanding of COPD have stressed the importance of co-morbidities²⁷. The National COPD audit showed a very high level of co-morbidity, the association with cardiovascular disease being particularly strong.	Patients with COPD are frequently at increased risk for: • cardiovascular disease, heart failure, hypertension • diabetes • osteoporosis • cancer • psychiatric disorders including anxiety and depression. Monitor comorbidities. Consider increased risk for cardiovascular disease, depression, anxiety, and other smoking related diseases such as osteoporosis and cancer.	The goal of treatment in COPD exacerbations is to minimize the impact of the current exacerbation and to prevent the development of subsequent exacerbations. Comorbidities are common in COPD, amplify the disability associated with COPD, and can potentially complicate its management. Until more integrated guidance about disease management for specific comorbid problems becomes available, the focus should be on identification and management of these individual problems in line with local treatment guidance.	Ø	Manage co-morbidities COPD patients commonly present with several co-morbidities which reduce quality of life and significantly increase the cost of care to patients and the health care system. Once detected, these co-morbidities should be treated aggressively.¹³ In patients with mild to moderate COPD, cardiovascular diseases are the leading causes of hospitalizations and the second leading cause of mortality after	<i>Croyez-vous que les cliniciens sont sensibles au traitement des conditions associées à l'EAMPOC ?</i> <i>L'insuffisance cardiaque est-elle la seule comorbidité qui devrait être mentionnée, ou bien d'autres comorbidités devraient également être mentionnées (p. ex. : cancer des poumons, diabète, ostéoporose, problème psychologique) ?</i>

					lung cancer. In severe and very severe COPD, respiratory failure and pneumonia are the leading causes of morbidity and mortality. However, even in these patients, cardiovascular diseases remain a major concern.¹⁴ Common Co-Morbidities with COPD: Cardiovascular disease • Cardiac arrhythmias • Ischemic heart disease • Heart failure Musculoskeletal disorders • Osteoporosis • Peripheral muscle weakness Mental health disorders • Depression • Anxiety • Sleep disorders Systemic complications • Weight loss • Cachexia	
--	--	--	--	--	---	--

					- Chronic anemia or polycythemia - Cancer - Diabetes mellitus	
Bronchodilatateurs						
Utilisation de bronchodilatateurs à courte action	Increased breathlessness is a common feature of an exacerbation of COPD. This is usually managed by taking increased doses of short-acting bronchodilators. Recommandation 142 (Grade A): Both nebulisers and hand-held inhalers can be used to administer inhaled therapy during exacerbations of COPD. Recommandation 143 (Grade D): The choice of delivery system should reflect the dose of drug required, the ability of the	Acute exacerbation medication management includes bronchodilators (B2-agonists and anticholinergics), antibiotics, and corticosteroid therapy based on clinical indications (Table 12). Bronchodilators. Bronchodilators are considered first-line therapy since they improve respiratory symptoms and FEV1. The dose and/or frequency of short-acting β2-agonists, either inhaler or nebulizer, should be increased. An inhaled anticholinergic (ipratropium) can be added if not already used, although the effectiveness of combination therapy in the setting of acute exacerbation is questionable. Clinical response does not appear to differ between bronchodilator delivery via MDI with a spacer or by	Although there are no controlled trials, short-acting inhaled beta2-agonists with or without short-acting anticholinergics are usually the preferred bronchodilators for treatment of an exacerbation^{290,291} (Evidence C). A systematic review of the route of delivery of short-acting bronchodilators found no significant differences in FEV1 between metered-dose inhalers (with or without a spacer device) and nebulizers⁴²⁰, although the latter can be more convenient for sicker patients. Intravenous	Ø	Therapy with short-acting beta2 agonists and anticholinergic bronchodilators	<i>Cette phrase semble encore pertinente, devrions-nous la conserver, la modifier, l'étoffer ou la modifier ?</i> <i>Devrions-nous inclure de l'information sur le mode de diffusion (inhalateur, nébuliseur) ?</i>

	patient to use the device and the resources available to supervise the administration of the therapy.	nebulizer.	methylxanthines (theophylline or aminophylline) are considered second-line therapy, only to be used in selected cases when there is insufficient response to short-acting bronchodilators ⁴²¹⁻⁴²⁵ (Evidence B). Side effects of methylxanthines are significant and their beneficial effects in terms of lung function and clinical endpoints are modest and inconsistent ^{426,427} .			
Corticostéroïdes						
• Utilisation de corticostéroïdes systémiques dans les cas modérés à graves	Recommandation 147 (Grade A): In the absence of significant contraindications oral corticosteroids should be used, in conjunction with other therapies, in all patients admitted to hospital with an exacerbation of COPD. Recommandation 148 (Grade B): In the absence of significant	Acute exacerbation medication management includes bronchodilators (B2-agonists and anticholinergics), antibiotics, and corticosteroid therapy based on clinical indications (Table 12). Systemic corticosteroids. Corticosteroids can reduce recovery time, improve lung function (FEV1), and improve hypoxemia (PaO2). Prednisone 30-40mg PO daily is recommended for 10-14 days, particularly in	A dose of 40 mg prednisone per day for 5 days is recommended^{567,624} (Evidence B), although there are insufficient data to provide firm conclusions concerning the optimal duration of corticosteroid therapy of acute exacerbations of COPD⁵⁴². Therapy with oral prednisolone is preferable⁴³³.	Inhaled steroids might decrease the risk of acute exacerbation in subgroups of COPD patients, but they do not decrease the risk of LRTI. In fact they seem to increase the risk of LTRI/CAP in COPD patients.	Long term oral corticosteroid therapy is not recommended. Therapies should include oral corticosteroids (e.g. prednisone 25-50 mg/day) for less than two weeks in most moderate to severe COPD patients. A dose of 30 – 40 mg of prednisone equivalent per day has been	Cette phrase semble encore pertinente, devrions-nous ajouter une liste de corticostéroïdes indiqués et leur posologie comme dans les différents GPC consultés ? Croyez-vous qu'il y a un bon usage des corticostéroïdes dans le traitement de

	contraindications, oral corticosteroids should be considered in patients in the community who have an exacerbation with a significant increase in breathlessness which interferes with daily activities. Recommandation 150 (Grade D): Prednisolone 30 mg orally should be prescribed for 7 to 14 days. Recommandation 151 (Grade A): It is recommended that a course of corticosteroid treatment should not be longer than 14 days as there is no advantage in prolonged therapy. Recommandation 155 (Grade D): Patients, particularly those discharged from hospital, should	patients with an FEV1 % predicted < 50%. Discontinue corticosteroids following exacerbation therapy. Inhaled corticosteroids should be considered only for patients with severe disease (FEV1 < 50% predicted) and frequent (at least annual) exacerbations. [IA] Oral corticosteroids are not for general maintenance and should be weaned following exacerbation therapy. Oral glucocorticosteroids are not generally indicated for chronic use.	Nebulised budesonide alone may be an alternative (although more expensive) to oral corticosteroids in the treatment of exacerbations^{429,434,435}. Nebulised magnesium as an adjuvant to salbutamol treatment in the setting of acute exacerbations of COPD has no effect on FEV1⁵⁶⁸. In view of the well-known toxicity of long-term treatment with oral corticosteroids, prospective studies on the long-term effects of these drugs in COPD are limited^{262,263}. However, systemic corticosteroids for treating acute exacerbations have been shown to improve symptoms, lung function, reduce rate of treatment failure, and shorten length of hospital stay. The effect of preventing a subsequent		used in practice.²	<i>l'EAMPOC au Québec ?</i> <i>Une phrase précisant l'utilisation adéquate des corticostéroïdes inhalés devrait-elle être ajoutée ?</i>
--	---	--	---	--	--------------------------------------	---

	be given clear instructions about why, when and how to stop their corticosteroid treatment Patients should be made aware of the optimum duration of treatment and the adverse effects of prolonged therapy. (Grade D)		exacerbation has been shown in a pooled data analysis and it was demonstrated that systemic corticosteroids when being used to treat acute exacerbations can reduce 30-day readmission rates due to recurrent exacerbations⁶²⁰. Data from studies in secondary health care indicate that systemic corticosteroids in COPD exacerbations shorten recovery time, improve lung function (FEV₁) and arterial hypoxemia (PaO₂)⁴²⁸⁻⁴³¹ (Evidence A), and reduce the risk of early relapse, treatment failure⁵⁴¹, and length of hospital stay^{428,430,432}.			
Assistance respiratoire non-invasive						
Ø	During exacerbations some patients develop hypercapnic	Ø	Noninvasive mechanical ventilation. The use of noninvasive mechanical	Several studies indicate that non-invasive ventilation (NIV) may also work in patients with pneumonia,	Ø	<i>L'assistance respiratoire non-invasive est-elle une pratique de</i>

	respiratory failure. This is now usually managed using non-invasive ventilation Non-invasive ventilation (NIV) is a method of providing ventilatory support that does not require the placement of an endotracheal tube. It is usually delivered via a mask that covers the nose, but occasionally a full face mask covering the nose and the mouth is required. The ventilators themselves are compact and portable. Recommandation 171 (Grade A): NIV should be used as the treatment of choice for persistent hypercapnic ventilatory failure during exacerbations despite optimal medical therapy.		ventilation (NIV) has increased significantly over time among patients hospitalized for acute exacerbations of COPD. NIV has been studied in randomized controlled trials showing a success rate of 80-85%^{443-446,543}. NIV has been shown to improve acute respiratory acidosis (increases pH and decreases PaCO₂), decrease respiratory rate, work of breathing, severity of breathlessness, complications such as ventilator associated pneumonia, and length of hospital stay (Evidence A). More importantly, mortality and intubation rates are reduced by this intervention^{444,447-449} (Evidence A). Indications for Noninvasive Mechanical Ventilation 291,445,451,452 At least one of the following:	particularly in patients with COPD^{431,432}. Non-invasive ventilation has been shown to reduce intubation in patients with ARDS in 54% of treated cases⁴³³.		<i>première ligne ?</i> <i>Si oui, devrait-elle être suggérée comme traitement lors de la présence d'acidose respiratoire et de dyspnée sévère ?</i>
--	--	--	--	--	--	--

	Recommendation 172 (Grade D): It is recommended that NIV should be delivered in a dedicated setting with staff who have been trained in its application, who are experienced in its use and who are aware of its limitations. Centrally acting drugs have also been used to stimulate respiratory drive. These drugs have a short duration of action and must be given by intravenous infusion. There is insufficient evidence to recommend a change from current clinical practice of using doxapram to treat respiratory failure during exacerbations of COPD. (Evidence IV)		• Respiratory acidosis (arterial pH ≤ 7.35 and/or PaCO₂ ≥ 6.0 kPa, 45 mm Hg) • Severe dyspnea with clinical signs suggestive of respiratory muscle fatigue, increased work of breathing, or both, such as use of respiratory accessory muscles, paradoxical motion of the abdomen, or retraction of the intercostal spaces			
--	---	--	--	--	--	--

	It is recommended that doxapram is used only when non-invasive ventilation is either unavailable or considered inappropriate. (Grade D)					
Antibiothérapie						
État Clinique : Exacerbation aiguë de la MPOC simple Symptômes et présence de facteur de risque : Augmentation de la toux et expectorations • Expectorations purulentes • Dyspnée Traitement de oral 1^{re} intention* : Amoxicilline 500 mg TID x 7 jours OU Céfuroxime axétil (CeftinMC) 500 mg BID x 5 jours OU Clarithromycine (Biaxin BidMC) 500 mg BID x 7 jours ou (Biaxin XLMC) 1 000 mg DIE x 5 à 7 jours OU Doxycycline (Vibra-	Antibiotics are commonly prescribed for episodes of purulent sputum. The bacteria that have been isolated during exacerbations are generally sensitive to most broad-spectrum antibiotics. A meta-analysis of nine trials⁵²¹ cited in⁵¹⁰ found a small but statistically significant effect favouring antibiotics over placebo in patients with exacerbations of COPD. Effect size 0.22 (95% CI, 0.1 to 0.34). (Evidence Ia) Three of these	Empiric antibiotics are recommended for patients with increased sputum purulence plus either increased dyspnea or increased sputum volume. [IA] Antibiotic choice should be selected for presumptive therapy based on local resistance patterns. For patients who meet criteria for antibiotics, the selection of a specific antibiotic depends on risk factors and unusual circumstances Antibiotics are recommended for patients with: • increased sputum purulence • plus either - increased dyspnea or - increased sputum volume. Antibiotics: Patients without risk factors (Risk factors	Systemic corticosteroids and antibiotics can shorten recovery time, improve lung function (FEV1) and arterial hypoxemia (PaO2), and reduce the risk of early relapse, treatment failure, and length of hospital stay. There is evidence supporting the use of antibiotics in exacerbations when patients have clinical signs of a bacterial infection, e.g., increase in sputum purulence¹¹⁴. The presence of purulent sputum during an exacerbation can be sufficient indication for starting empirical	Recommendation: 1 In patients without risk factors for P. aeruginosa several options for antibiotic treatment are available. The selection of one or other antibiotic should depend on the severity of the exacerbation, local pattern of resistance, tolerability, cost and potential compliance. <u>Amoxicillan-clavulanic acid</u> is recommended, while <u>levofloxacin</u> and <u>moxifloxacin</u> are alternatives [A2]. 2 In patients with risk factors for P. aeruginosa, <u>ciprofloxacin</u> (or <u>levofloxacin</u> 750 mg/24 h or 500 mg twice daily) is the antibiotic of choice when the oral route is available. When parenteral treatment is needed	Antibiotic use is based on risk factors Simple COPD No risk factors Symptoms & Risk Factors Increased dyspnea, increased cough and sputum, sputum purulence • FEV1 ≥ 50% of predicted • < 4 exacerbations/year Antimicrobial treatment First Choice (alphabetical) • <u>amoxicillin</u> • <u>doxycycline</u> • <u>trimethoprim/sulfamethoxazole</u>	Croyez-vous qu'il y a actuellement un usage non optimal des antibiotiques chez les patients diagnostiqués avec une EAMPOC en communauté ? La division du traitement, lors de la suspicion de la présence d'un agent bactérien, en deux catégories basées sur la MPOC sous-jacente (MPOC simple et MPOC complexe) est-elle encore pertinente ou devrait-elle être révisée ? Devrions-nous

Tabs MC) 100 mg BID x 10 jours OU TMP-SMX (Septra DSMC générique) 1 co BID x 10 jours OU Azithromycine† (ZithromaxMC) 500 mg DIE jour 1 puis 250 mg DIE x 4 jours Traitement oral de 2^e intention : <u>Amoxicilline-clavulanate</u> de K (ClavulinMC) 875 mg BID ou 500 mg TID x 7 jours OU <u>Lévofloxacin</u> (LevaquinMC) 500 mg DIE x 7 jours ou 750 mg DIE x 5 jours OU <u>Moxifloxacin</u> (AveloxMC) 400 mg DIE x 5 jours État Clinique : Exacerbation aiguë de la MPOC complexe Symptômes et présence de facteur de risque : Comme ci-dessus (1), plus 1 des facteurs de risque suivants : • VEMS < 50 % de la	studies suggest that the worse the COPD severity of exacerbation (lung function impairment (FEV1, PEFR), purulence of sputum) then the greater the degree of benefit from antibiotics. (Evidence Ib) Anthonisen et al⁵²⁵ showed a relationship of better outcomes with antibiotic versus placebo treatment based upon the severity of exacerbations. Type 1 exacerbations (increased amount and purulence of sputum and dyspnoea) benefited the most with resolution of symptoms in 63% of the antibiotic treated exacerbations and 43% of the placebo group. Patients with type-3 exacerbation	include: age > 65, FEV1 < 50% predicted, > 3 exacerbations/year, and presence of comorbid diseases): <u>Azithromycin</u> (Zithromax) 500 mg PO on day 1, then 250 mg PO on days 2-5 OU Cephalosporins (2nd or 3rd generation): <u>Cefdinir</u> (Omnicef) 300 mg PO BID <u>Cefpodoxime</u> (Vantin) 200 mg PO BID <u>Cefprozil</u> (Cefzil) 500 mg PO BID OU <u>Doxycycline</u> (Vibramycin capsule ou Vibramycin syrup) 100 mg PO BID OU Trimethoprim/sulfamethoxazole (Bactrim) 160/800 (DS tab) PO BID ou (Septra) 160/800 (DS tab) PO BID ou Sulfatrim (liquid) 20 mL PO BID Patients with risk factors (no particular order) (age > 65, FEV1 < 50% predicted, > 3 exacerbations/year, and presence of comorbid diseases): <u>Amoxicillin/clavulanate</u> (Augmentin) 500 mg PO q8 hrs or 875 mg PO q12 hrs OU <u>Levofloxacin*</u> (Levaquin) 500 mg PO daily	antibiotic treatment¹¹⁴. A systematic review of the very few available placebo-controlled studies has shown that antibiotics reduce the risk of short-term mortality by 77%, treatment failure by 53% and sputum purulence by 44%. This review supports antibiotics for only moderately or severely ill patients with COPD exacerbations with increased cough and sputum purulence^{437,438}. In summary, antibiotics should be given to patients with exacerbations of COPD who have three cardinal symptoms – increase in dyspnea, sputum volume, and sputum purulence (Evidence B); have two of the cardinal symptoms, if increased purulence of sputum is one of	<u>ciprofloxacin, or a beta-lactam with antipseudomonal activity</u>, are the options available. The addition of aminoglycosides is optional [A2]. 3 The use of the oral or intravenous route should be guided by the stability of the clinical condition and the severity of exacerbation. Switch (intravenous to oral) should be done by day 3 of admission if the patient is clinically stable [A3]. Oral <u>gemifloxacin and levofloxacin</u> (750 mg/24 h) over 5 days may be used to effectively treat AECOPD patients that require hospitalization^{474,475}. Recommendation: 1 After close re-evaluation of non-infectious causes of failure (i.e. inadequate medical treatment, embolisms, cardiac failure, other) a careful microbiological reassessment, as mentioned in the section on microbiological diagnosis, should be	Alternate Antibiotics: • <u>beta-lactam/beta-lactamase inhibitor</u> • <u>extended spectrum macrolides</u> • <u>2nd or 3rd generation cephalosporins</u> Complicated COPD Have 1 or more risk factors for treatment failure and/or more virulent or resistant pathogens Symptoms & Risk Factors Increased dyspnea, increased cough and sputum, sputum purulence plus at least 1 of the following: • FEV1 < 50% of predicted • ≥ 4 exacerbations/year • ischemic heart disease • use of home oxygen	baser le traitement sur une évaluation de la sévérité de l'EAMPOC (Anthonisen, CAT, autres) ? Le risque de la présence de P. aeruginosa devrait-il être considéré dans le choix de traitement ? Dans les cas d'EAMPOC chez un patient avec une MPOC sévère ou lorsque la ventilation mécanique est nécessaire est-ce qu'un traitement antibiotique devrait être prescrit par défaut ? Devrions-nous ajouter une mise en garde concernant les patients allergiques aux pénicillines ou aux céphalosporines ? Devrions-nous
---	--	--	--	--	--	---

valeur prédite • ≥ 4 exacerbations/année • Maladie cardiaque ischémique • Oxygénothérapie • Corticothérapie orale chronique • Utilisation d'antibiotiques au cours des 3 derniers mois† Traitement de oral 1^{re} intention* : <u>Levofloxacin</u> (LevaquinMC) 500 mg DIE x 7 jours ou 750 mg DIE x 5 jours OU <u>Moxifloxacin</u> (AveloxMC) 400 mg DIE x 5 jours OU <u>Amoxicilline-clavulanate</u> de K (ClavulinMC) 875 mg BID ou 500 mg TID x 7 jours Traitement de oral 2^e intention : <u>Ciprofloxacin</u> (CiproMC) 500-750 mg BID x 7 à 10 jours OU Peut nécessiter une thérapie parentérale Note de base de page : * Les antibiotiques sont généralement	(who met none of the three criteria) did not show any benefit. (Evidence Ib) Berry et al⁵²⁷ assessed the severity of exacerbation at presentation on a 4-point scale (baseline, mild, moderate or severe). Mild exacerbations demonstrated no significant difference. For patients presenting with moderate or severe exacerbations, the antibiotic group had significantly less severe symptoms on days 2 and 7 (but were not significant at two weeks). (Evidence Ib) Although quinolones have performed equally well in clinical trials, no clinical superiority over other antibiotics has yet been shown⁵²⁸.	Patients at risk for infection with Pseudomonas aeruginosa (no particular order) (risk factors are: Recent hospitalization; Frequent administration of antibiotics (4 courses over the past year); Severe COPD exacerbations; Isolation of P. aeruginosa during a previous hospitalization or colonization during a stable period) <u>Ciprofloxacin</u> (Cipro) 500-750 mg PO BID OU <u>Levofloxacin*</u> (Levaquin) 750 mg PO daily * Use of fluoroquinolones should be reserved for use only when other options are not feasible, due to high rates of E coli resistance and propensity for collateral damage (resistance, C difficile infection).	the two symptoms (Evidence C); or require mechanical ventilation (invasive or noninvasive) (Evidence B)^{273,351}. The recommended length of antibiotic therapy is usually 5-10 days (Evidence D). The choice of the antibiotic should be based on the local bacterial resistance pattern. <u>Usually initial empirical treatment is an aminopenicillin with or without clavulanic acid, macrolide, or tetracycline.</u> The route of administration (oral or intravenous) depends on the ability of the patient to eat and the pharmacokinetics of the antibiotic, although preferably antibiotics are given orally. Improvements in dyspnea and sputum purulence suggest clinical success.	considered [C3]. 2 Change to an antibiotic with good coverage against P. aeruginosa, S. pneumoniae resistant to antibiotics and non-fermenters, and subsequent adjustment of the new antibiotic treatment according to microbiological results, should be considered for treatment in cases of failure [C3]. Recommendation: 1 Patients with all three of the following symptoms: increased dyspnoea, sputum volume and sputum purulence (a type I Anthonisen exacerbation) [A2]. 2 Patients with only two of the above three symptoms (a type II Anthonisen exacerbation) when increased purulence of sputum is one of the two cardinal symptoms [A2]. 3 Patients with a severe exacerbation that requires invasive or non-invasive mechanical ventilation [A2].	• chronic oral steroid use • antibiotic use in the past 3 months Antimicrobial treatment First Choice • <u>antibiotics for uncomplicated patients when combined with oral steroids may suffice</u> • <u>beta-lactam/beta-lactamase inhibitor</u> • <u>fluoroquinolones (newer)</u> Alternate Antibiotics May require parental therapy. Consider referral to specialist or hospitalization.	ajouter les céphalosporines proposées par le GPC du COPDGT ? Devrions-nous faire un algorithme de traitement ? La voie d'administration peut-elle être affectée par les symptômes de l'EAMPOC ? Si oui devrions-nous proposer les traitements IV dans le GUO ?
--	---	--	---	--	---	--

inscrits par ordre alphabétique de dénomination commune. Une seule marque de commerce a été inscrite, bien que plusieurs fabricants puissent offrir les produits sous d'autres noms commerciaux. ‡ Dans ce cas, on devrait utiliser une classe différente d'antibiotiques. † Une étude canadienne de cohorte prospective (Vanderkooi et al., 2005) a démontré un risque significativement plus bas d'émergence de résistance aux macrolides lors de l'utilisation de la clarithromycine (Biaxin BidMC ou Biaxin XLMC) en comparaison avec l'azithromycine (ZithromaxMC).	(Evidence Ib) Recommandation n 156 (Grade A): Antibiotics should be used to treat exacerbations of COPD associated with a history of more purulent sputum. Recommandation n 157 (Grade B): Patients with exacerbations without more purulent sputum do not need antibiotic therapy unless there is consolidation on a chest radiograph or clinical sign of pneumonia. Recommandation n 158 (Grade D): Initial empirical treatment should be an aminopenicillin, a macrolide or a tetracycline. When initiating empirical antibiotic treatment prescribers should always take account of any guidance issued by their			4 Antibiotics are generally not recommended in Anthonisen type II without purulence and type III patients (one or less of the above symptoms) [A2]. Recommendation: <u>Amoxicillin or tetracycline</u> should be used as antibiotic of first choice based on least chance of harm and wide experience in clinical practice. In case of hypersensitivity a tetracycline or macrolide such as <u>azithromycin, clarithromycin, erythromycin or roxithromycin</u> is a good alternative in countries with low pneumococcal macrolide resistance. When there are clinically relevant bacterial resistance rates against all first-choice agents, treatment with <u>levofloxacin or moxifloxacin</u> may be considered [C1].		
---	---	--	--	---	--	--

	local microbiologists. Recommandation 159 (Grade D): When sputum has been sent for culture, the appropriateness of antibiotic treatment should be checked against laboratory culture and sensitivities when they become available.					
Suivi						
Réhabilitation pulmonaire						
Ø	The GDG also noted the strong evidence supporting the benefits of rehabilitation programmes generally, and could see no reason why patients who had recently suffered from an exacerbation should not be considered for a course of pulmonary rehabilitation. A modification to the existing	Pulmonary rehabilitation should be considered for all patients with functional impairment. [IA] Controlled trials suggest that pulmonary rehabilitation may reduce the number of hospital days and health-care utilization in patients with COPD.	Benefits of Pulmonary Rehabilitation in COPD: Improves recovery after hospitalization for an exacerbation ⁵²⁴ (Evidence A). Early outpatient pulmonary rehabilitation after hospitalization for an exacerbation is safe and results in clinically significant improvements in		Refer the patient to a pulmonary rehabilitation program where available and to community respiratory services Formal pulmonary rehabilitation programs that include patient education and exercise can reduce symptoms, decrease exacerbations,	<i>La réhabilitation pulmonaire, semble efficace à la suite d'une EAMPOC afin de diminuer les risques de refaire une EAMPOC et d'améliorer la qualité de vie.</i> <i>Selon votre expérience est-ce que les programmes de</i>

	recom-mendation was therefore made to this effect. Recommandation U11: Pulmonary rehabilitation should be made available to all appropriate people with COPD including those who have had a recent hospitalisation for an acute exacerbation. Compared with usual care, people with an exacerbation of COPD who received early pulmonary rehabilitation had a significantly decreased: - Risk of readmission to hospital [low quality evidence] Compared with usual care, people with an exacerbation of COPD who received early pulmonary rehabilitation		exercise capacity and health status at 3 months⁴⁷⁵.		and improve exercise endurance and quality of life.	<i>réhabilitation pulmonaire, et les ressources locales, sont connus des médecins en première ligne ? Devrions-nous ajouter un hyperlien vers des ressources ?</i> <i>Est-ce que tous les patients avec un EAMPOC seraient des candidats à une réhabilitation pulmonaire ? Sinon lesquels ?</i>
--	--	--	---	--	--	---

	had a significantly improved: - Six minute walk distance (expressed as change from baseline) [very low quality evidence] - Six minute walk distance (expressed as mean difference between groups at end of follow-up) [very low quality evidence] - Shuttle walk distance (expressed as change from baseline) [very low quality evidence] - Health related quality of life (expressed as SGRQ total score) [low quality evidence] 2012^{update} Pulmonary rehabilitation in patients who have recently experienced an exacerbation may reduce hospital admissions and possibly mortality (Cochrane					
--	--	--	--	--	--	--

	review, Puhan et al. (2011))					
Suivi médical						
Ø	Recommandation 178 (Grade D): Patients' recovery should be monitored by regular clinical assessment of their symptoms and observation of their functional capacity. Recommandation 182 (Grade D): Spirometry should be measured in all patients before discharge. Studies of a cohort of patients observed in the community have shown that symptoms and peak expiratory flow rates recover slowly after an exacerbation. Pulse oximetry should be used to monitor the recovery of patients with non-hypercapnic,	Consider repeat spirometry 4-6 weeks following exacerbation if symptoms have not returned to baseline. Re-evaluate necessity of oxygen therapy. After hospitalization for acute exacerbation. Patients should be reassessed following hospital discharge for acute COPD exacerbation. The assessment should include: • spirometry (significant declines in lung function can occur with exacerbations) • ability to cope in their home environment • inhaler technique and understanding of treatment regimen. • need for oxygen	Improvements in dyspnea and sputum purulence suggest clinical success. HOSPITAL DISCHARGE AND FOLLOW-UP Thereafter, follow-up is the same as for stable COPD: supervise smoking cessation, monitor the effectiveness of each medication, and monitor changes in spirometric parameters⁴⁶⁷. Prior hospital admission, oral corticosteroids, use of long-term oxygen therapy, poor health-related quality of life, and lack of routine physical activity have been found to be predictive of readmission⁴⁶⁸. For patients who are hypoxemic during an exacerbation, arterial blood gases and/or pulse	Recommendation: A patient should be advised to return if the symptoms take longer than 3 weeks to disappear. A clinical effect of antibiotic treatment should be expected within 3 days and patients should be instructed to contact their doctor if this effect is not noticeable. Seriously ill patients, meaning those with suspected pneumonia and elderly patients with relevant co-morbidity, should be followed-up 2 days after the first visit. All patients or persons in their environment should be advised to contact their doctor again if fever exceeds 4 days, dyspnoea gets worse, patients stop drinking or consciousness is decreasing' [C3].	Ø	Actuellement comment est fait le suivi en première ligne des patients ayant une EAMPOC ? Est-ce que des informations sur le suivi médical à prodiguer à la suite d'une EAMPOC devraient être ajoutées au nouveau GUO ?

	non-acidotic respiratory failure. (Grade D) Intermittent arterial blood gas measurements should be used to monitor the recovery of patients with respiratory failure who are hypercapnic or acidotic, until they are stable. (Grade D) Daily monitoring of PEF or FEV1 should not be performed routinely to monitor recovery from an exacerbation because the magnitude of changes is small compared with the variability of the measurement. (Grade D)		oximetry should be evaluated prior to hospital discharge and in the following 3 months. If the patient remains hypoxemic, long-term supplemental oxygen therapy may be required.			
Suivi psychologique						
Ø	Be aware of anxiety and depression and screen for them in those most physically	Ø	Dyspnea, a cardinal symptom of COPD, is a major cause of disability and anxiety associated with the disease.	Ø	Ø	<i>Une mention de surveiller la possibilité de dépression et/ou d'anxiété chez les</i>

	disabled Recommandation 103 (GRADE D): Health care professionals should be alert to the presence of depression in patients with COPD. The presence of anxiety and depression should be considered in patients: - who are hypoxic - who have severe dyspnoea - who have been seen at or admitted to a hospital with an exacerbation of COPD.		Symptoms of depression and/or anxiety merit specific enquiry in the clinical history because they are common in COPD¹¹⁷ and are associated with increased risk of exacerbations and poorer health status. Patients should be encouraged to maintain physical activity, and anxiety, depression and social problems should be discussed. Anxiety and depression are major comorbidities in COPD^{117,497-499} and both are associated with a poor prognosis^{498,500}. Both are often associated with younger age, female gender, smoking, lower FEV1, cough, higher SGRQ score, and a history of cardiovascular disease^{117,499}			<i>patients atteints de MPOC ayant fait une EAMPOC devrait-elle être ajoutée à la nouvelle version du GUO, comme ce qui est présent dans le GPC du NICE ?</i>
Référer à un spécialiste						
Ø	Recommandation 22: (GRADE D)	Refer to COPD specialist. For patients with severe exacerbation and/or	Ø	Ø	Specialist referral if there are severe or	<i>Quelles sont les indications pour orienter le</i>

	It is recommended that referrals for specialist advice are made when clinically indicated. Referral may be appropriate at all stages of the disease and not solely in the most severely disabled patients (GRADE D) A specialist opinion may be helpful at any stage of the disease. Referral may be to establish the diagnosis, to exclude other pathology, to reassure the patient, to reinforce the need to stop smoking, to optimise treatment, or to assess the need for the more complex and expensive therapies appropriate to severe COPD.	frequent exacerbations, consider referral for co-management and consideration of surgical options. Consider referral to a pulmonologist / COPD specialist if: • Concurrent cardiac disease, suspected asthma, or another pulmonary disease complicates diagnosis or management; • α-1-antitrypsin deficiency is diagnosed/strongly considered • Upper airway obstruction is suspected (e.g. upper airway wheezing or stridor); • Symptoms do not respond to optimal therapy or are out of proportion to obstructive findings; • Supplementary oxygen therapy is required; • Severe or frequent (at least one per year) exacerbations or pneumonia complicate management; • Lung volume reduction surgery or lung transplantation is considered • Intensive care pulmonary hospitalization or mechanical ventilation is required.			recurrent exacerbations and treatment failure. Indications for specialist referral • The diagnosis is uncertain. • A young patient with COPD and limited smoking history or those with severe symptoms and disability which is disproportionate to their lung function decline. • There are signs and symptoms of hypoxemic or hypercarbic respiratory failure. • There are severe or recurrent exacerbations and treatment failure. • The patient has severe COPD and disability requiring more intensive interventions including surgical	<i>patient atteint d'une EAMPOC vers un spécialiste ?</i>
--	--	---	--	--	---	---

					therapies. • More intensive co-morbidity assessment and management is required. • Difficulty in assessing home oxygen or sleep disorders.	
Informations aux patients pour réagir adéquatement aux premiers signes d'exacerbation						
Ø	Self-management plans in COPD on the other hand are designed to enable patients to respond appropriately to the first signs of an exacerbation and are not concerned with minor day-to-day variations in symptoms. Recommandation 122 (GRADE A): Patients at risk of having an exacerbation of COPD should be given self-management advice that encourages them to respond promptly to the symptoms of an exacerbation.	Education also improves patient response to exacerbations.	Use of a written action plan increases appropriate therapeutic interventions for an exacerbation, an effect that does not decrease health-care resource utilization ⁴⁷³ (Evidence B) but may shorten recovery time ⁴⁷⁴ .	Ø	Develop an exacerbation plan with the patient. A chronic disease and self-management approach directed by health professionals can significantly improve health status and reduce hospital admissions for exacerbations by 40%. ²⁰ Education of the patients and family can improve coping skills and quality of life and reduce the likelihood of hospitalization from COPD. The physician is	<i>L'usage d'un plan d'autogestion semble efficace dans la réduction du nombre d'admissions à l'hôpital et dans la durée de l'EAMPOC.</i> <i>L'utilisation d'un plan d'autogestion est-elle une option valable dans le contexte québécois actuel ?</i>

	Recommendation 123 (GRADE D): Patients should be encouraged to respond promptly to the symptoms of an exacerbation by: - starting oral corticosteroid therapy if their increased breathlessness interferes with activities of daily living (unless contraindicated) - starting antibiotic therapy if their sputum is purulent - adjusting their bronchodilator therapy to control their symptoms. Recommendation 124 (GRADE D) : Patients at risk of having an exacerbation of COPD should be given a course of antibiotic and cortico-steroid tablets to keep at home for use as part of a self-management strategy (see recommendation 150).				encouraged to: • reinforce smoking cessation • encourage exercise • refer the smoker with COPD to the BC Smokers Helpline • help the patient identify resources and a support team (e.g. physician, pharmacist, nurse, dietitian as appropriate) • refer the patient to a pulmonary rehabilitation program where available and to community respiratory services • encourage patients to stay indoors when air quality is poor, as air quality may have a significant effect on COPD	
--	--	--	--	--	--	--

	Patients given self-management plans should be advised to contact a health care professional if they do not improve. (Grade D)					
Gradation de la preuve utilisée						
Ø	Hierarchy of Evidence Ia- Evidence from systematic reviews or meta-analysis of random-ised controlled trials Ib- Evidence from at least one randomised controlled trial IIa- Evidence from at least one controlled study without randomisation IIb- Evidence from at least one other type of quasi experimental study III- Evidence from non experimental descriptive studies, such as comparative studies, correlation	* Strength of recommendation: I = generally should be performed; II = may be reasonable to perform; III = generally should not be performed. Levels of evidence for the most significant recommendations A= randomized controlled trials; B= controlled trials, no randomization; C= observational trials; D= opinion of expert panel	Evidence Category : A Randomized controlled trials (RCTs). Rich body of data. Evidence is from endpoints of well-designed RCTs that provide a consistent pattern of findings in the population for which the recommendation is made. Category A requires substantial numbers of studies involving substantial numbers of participants. B Randomized controlled trials (RCTs). Limited body of data.	Evidence grades (hierarchy of methods) 1. = Systematic reviews and meta-analyses (of study types under grade 2 or 3) 2. = Randomized trials 3. = Prospective cohort 4. = Case-control, cross-sectional, retrospective cohort 5. = Case reports 6. = Expert opinion, consensus Suffix for evidence grades 1–6.A = low risk of biased results (flaws very unlikely for both blinding and follow-up) B = moderate risk of biased results (flaws unlikely for both blinding and follow-up) C = high risk of biased results (flaws likely for either or both blinding and follow-up)	Ø	Ø

	studies and case control studies IV- Evidence from expert committee reports or opinions and/or clinical experience of respected authorities DS- Evidence from diagnostic studies NICE- Evidence from NICE guidelines or Health Technology Appraisal programme HSC- Evidence from Health Service Circulars Grading of Recommendations A Based on hierarchy I evidence B Based on hierarchy II evidence or extrapolated from hierarchy I evidence C Based on hierarchy III evidence or extrapolated from hierarchy I or II		Evidence is from endpoints of intervention studies that include only a limited number of patients, posthoc or subgroup analysis of RCTs, or meta-analysis of RCTs. In general, Category B pertains when few randomized trials exist, they are small in size, they were undertaken in a population that differs from the target population of the recommendation, or the results are somewhat inconsistent. C Nonrandomized trials. Observational studies. Evidence is from outcomes of uncontrolled or nonrandomized trials or from observational studies D Panel Consensus Judgment. This category is used only in cases	Recommendation grading Grades A = Consistent evidence ->Clear outcome B = Inconsistent evidence ->Unclear outcome C = Insufficient evidence ->Consensus Suffix for recommendation grades A–C For studies of diagnosis and treatment (including prevention and harm) 1. = Systematic review (SR) or meta-analysis (MA) of RCTs 2. = 1 RCT or more (>1: no SR or MA yet) 3. = 1 cohort study or more (>1: no SR or MA yet) 4. = Else For studies of prognosis and aetiology 1. = SR or MA of cohort studies 2. = 1 cohort study or more (>1: no SR or MA yet) 3. = Else		
--	---	--	--	---	--	--

	evidence D Directly based on hierarchy IV evidence or extrapolated from hierarchy I, II or III evidence. DS Evidence from diagnostic studies NICE- Evidence from NICE guidelines or Health Technology Appraisal programme HSC- Evidence from Health Service Circulars		where the provision of some guidance was deemed valuable but the clinical literature addressing the subject was deemed insufficient to justify placement in one of the other categories. The Panel Consensus is based on clinical experience or knowledge that does not meet the above-listed criteria			
--	--	--	---	--	--	--

RÉFÉRENCES

- BCGuidelines.ca. Chronic obstructive pulmonary disease (COPD): Diagnosis and management [site Web]. Victoria, BC : Guidelines and Protocols Advisory Committee (GPAC); 2011. Disponible à : <http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/copd>.
- Chick DA, Grant PJ, Han MK, Van Harrison R, Picken EB. Chronic obstructive pulmonary disease. Ann Arbor, MI : University of Michigan Health System; 2012. Disponible à : <http://www.med.umich.edu/1info/FHP/practiceguides/copd/copd.pdf>.
- Conseil du médicament (CDM). Bronchite aiguë et exacerbation aiguë de la MPOC. Guide clinique. Québec, Qc : CDM; 2009. Disponible à : <https://www.inesss.qc.ca/fileadmin/doc/CDM/UsageOptimal/Guides-seriel/CdM-Antibio1-Bronchite-fr.pdf>.
- Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease: Updated 2016. GOLD; 2016. Disponible à : <http://goldcopd.org/download/120/>.
- Herath SC et Poole P. Prophylactic antibiotic therapy for chronic obstructive pulmonary disease (COPD). Cochrane Database Syst Rev 2013;(11):CD009764.
- Jacobson Vann JC et Szilagyi P. Patient reminder and patient recall systems to improve immunization rates. Cochrane Database Syst Rev 2009;(3):CD003941.
- National Clinical Guideline Centre (NCGC). Chronic obstructive pulmonary disease: Management of chronic obstructive pulmonary disease in adults in primary and secondary care. Update guideline. Londres, Angleterre : National Institute for Health and Care Excellence (NICE); 2010. Disponible à : https://www.ncbi.nlm.nih.gov/books/NBK65039/pdf/Bookshelf_NBK65039.pdf.
- Ni W, Shao X, Cai X, Wei C, Cui J, Wang R, Liu Y. Prophylactic use of macrolide antibiotics for the prevention of chronic obstructive pulmonary disease exacerbation: A meta-analysis. PLoS One 2015;10(3):e0121257.
- Ram FS, Rodriguez-Roisin R, Granados-Navarrete A, Garcia-Aymerich J, Barnes NC. Antibiotics for exacerbations of chronic obstructive pulmonary disease. Cochrane Database Syst Rev 2009;(2):CD004403.
- Stead LF, Koilpillai P, Lancaster T. Additional behavioural support as an adjunct to pharmacotherapy for smoking cessation. Cochrane Database Syst Rev 2015;(10):CD009670.
- Stead LF, Buitrago D, Preciado N, Sanchez G, Hartmann-Boyce J, Lancaster T. Physician advice for smoking cessation. Cochrane Database Syst Rev 2013;(5):CD000165.
- Thabane M. Smoking cessation for patients with chronic obstructive pulmonary disease (COPD): An evidence-based analysis. Ont Health Technol Assess Ser 2012;12(4):1-50.
- Van Eerd EA, van der Meer RM, van Schayck OC, Kotz D. Smoking cessation for people with chronic obstructive pulmonary disease. Cochrane Database Syst Rev 2016;(8):CD010744.
- Vollenweider DJ, Jarrett H, Steurer-Stey CA, Garcia-Aymerich J, Puhan MA. Antibiotics for

exacerbations of chronic obstructive pulmonary disease. Cochrane Database Syst Rev 2012;12:CD010257.

Walters JA, Smith S, Poole P, Granger RH, Wood-Baker R. Injectable vaccines for preventing pneumococcal infection in patients with chronic obstructive pulmonary disease. Cochrane Database Syst Rev 2010;(11):CD001390.

Woodhead M, Blasi F, Ewig S, Garau J, Huchon G, Ieven M, et al. Guidelines for the management of adult lower respiratory tract infections - Full version. Clin Microbiol Infect 2011;17(Suppl 6):E1-E59.