

ABSTRACTS:

Diagnosis And Management Of Stable Chronic Obstructive Pulmonary Disease: A Clinical Practice Guideline Update From The American College Of Physicians, American College Of Chest Physicians, American Thoracic Society, And European Respiratory Society.

Qaseem A, Wilt TJ, Weinberger SE, Hanania NA, Criner G, van der Molen T et al

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DESCRIPTION: This guideline is an official statement of the American College of Physicians (ACP), American College of Chest Physicians (ACCP), American Thoracic Society (ATS), and European Respiratory Society (ERS). It represents an update of the 2007 ACP clinical practice guideline on diagnosis and management of stable chronic obstructive pulmonary disease (COPD) and is intended for clinicians who manage patients with COPD. This guideline addresses the value of history and physical examination for predicting airflow obstruction; the value of spirometry for screening or diagnosis of COPD; and COPD management strategies, specifically evaluation of various inhaled therapies (anticholinergics, long-acting β -agonists, and corticosteroids), pulmonary rehabilitation programs, and supplemental oxygen therapy.

METHODS: This guideline is based on a targeted literature update from March 2007 to December 2009 to evaluate the evidence and update the 2007 ACP clinical practice guideline on diagnosis and management of stable COPD. **RECOMMENDATION 1:** ACP, ACCP, ATS, and ERS recommend that spirometry should be obtained to diagnose airflow obstruction in patients with respiratory symptoms (Grade: strong recommendation, moderate-quality evidence). Spirometry should not be used to screen for airflow obstruction in individuals without respiratory symptoms (Grade: strong recommendation, moderate-quality evidence). **RECOMMENDATION 2:** For stable COPD patients with respiratory symptoms and FEV(1) between 60% and 80% predicted, ACP, ACCP, ATS, and ERS suggest that treatment with inhaled bronchodilators may be used (Grade: weak recommendation, low-quality evidence). **RECOMMENDATION 3:** For stable COPD patients with respiratory symptoms and FEV(1) <60% predicted, ACP, ACCP, ATS, and ERS recommend treatment with inhaled bronchodilators (Grade: strong recommendation, moderate-quality evidence). **RECOMMENDATION 4:** ACP, ACCP, ATS, and ERS recommend that clinicians prescribe monotherapy using either long-acting inhaled anticholinergics or long-acting inhaled β -agonists for symptomatic patients with COPD and FEV(1) <60% predicted. (Grade: strong recommendation, moderate-quality evidence). Clinicians should base the choice of specific monotherapy on patient preference, cost, and adverse effect profile. **RECOMMENDATION 5:** ACP, ACCP, ATS, and ERS suggest that clinicians may administer combination inhaled therapies (long-acting inhaled anticholinergics, long-acting inhaled β -agonists, or inhaled corticosteroids) for symptomatic patients with stable COPD and FEV(1)<60% predicted (Grade: weak recommendation, moderate-quality evidence). **RECOMMENDATION 6:** ACP, ACCP, ATS, and ERS recommend that clinicians should prescribe pulmonary rehabilitation for symptomatic patients with an FEV(1) <50% predicted (Grade: strong recommendation, moderate-quality

evidence). Clinicians may consider pulmonary rehabilitation for symptomatic or exercise-limited patients with an FEV(1) >50% predicted. (Grade: weak recommendation, moderate-quality evidence). **RECOMMENDATION 7:** ACP, ACCP, ATS, and ERS recommend that clinicians should prescribe continuous oxygen therapy in patients with COPD who have severe resting hypoxemia (Pao(2) ≤55 mm Hg or Spo(2) ≤88%) (Grade: strong recommendation, moderate-quality evidence).

Is There Delay In Diagnosis Of Pulmonary Tuberculosis In An Intermediate-To-Low Tb Incidence Setting?

Malbasa M, Pesut D

Pneumologia. 2011 Jul-Sep; 60(3):138-42.

A cross-sectional study on pulmonary TB diagnosis delay in an intermediate TB incidence setting showed average patient's delay of 44 +/- 61.65 days and total delay of 103 +/- 148 days. Alcoholism, lack of TB cases in family, diabetes mellitus, relapse, cough or tachycardia ($p < 0.01$), absence of hemoptysis, dyspnea and anemia ($p < 0.01$), age ≥ 40 ($p < 0.05$), negative auscultation and positive sputum smear findings ($p < 0.05$) were significantly associated with patient's delay > 30 days. Age < 40 years, negative auscultation and sputum smear findings ($p < 0.01$), female sex, city as residence ($p < 0.05$), absence of cough, sputum, weight loss, fever, excavation ($p < 0.01$), and night sweats ($p < 0.05$) were significantly associated with total delay > 103 days. Further population education and continual medical education are warranted.

The Relationship Between Coagulation/ Anticoagulation Imbalance And Oxidative Stress In Patients With Chronic Obstructive Pulmonary Disease.

Huang J, Liu XJ, Bao HR, Zhang Y, Tan EL, Liao JM.
Zhonghua Nei Ke Za Zhi. 2011 Aug; 50(8):664-7

OBJECTIVE: To explore the relationship between coagulation/anticoagulation imbalance and oxidative stress in the patients with chronic obstructive pulmonary disease during acute exacerbation (AECOPD) before and after treatment.

METHODS: Plasma tissue factor (TF) and tissue factor pathway inhibitor (TFPI) activity was detected by chromogenic assay in 28 AECOPD patients before and after treatment as well as in 30 healthy controls. The total antioxidative capacity (TAC), malondialdehyde (MDA) and glutathione peroxidase (GSH-PX) in plasma were measured in both groups.

RESULTS: The levels of plasma TF and TFPI, and their ratio (TF/TFPI) in AECOPD patients before treatment were significantly higher than those after treatment (all $P < 0.01$), the latter were still higher than those in the healthy persons (all $P < 0.01$). The levels of the TAC and GSH-PX in plasma in AECOPD patients before treatment were significantly lower than those after treatment (all $P < 0.01$), the latter were still lower

than those in the healthy persons (all $P < 0.01$). The plasma MDA in AECOPD patients before treatment was significantly higher than that after treatment ($P < 0.01$), which was still higher than that in the healthy persons ($P < 0.05$). There were negative correlations between TF/TFPI ratio and TAC ($r = -0.518$, $P < 0.01$), GSH-PX ($r = -0.454$, $P < 0.05$), PaO₂ ($r = -0.511$, $P < 0.01$) respectively and a positive correlation between TF/TFPI ratio and the percentage of neutrophils ($r = 0.379$, $P < 0.05$) in AECOPD patients before treatment. There still were negative correlations between TF/TFPI ratio and TAC ($r = -0.420$, $P < 0.05$), FEV(1)% to predicted ($r = -0.480$, $P < 0.05$) respectively, and a positive correlation between TF/TFPI ratio and MDA ($r = 0.451$, $P < 0.05$) in AECOPD patients after treatment.

CONCLUSIONS: There existed coagulation/anticoagulation imbalance and oxidation/antioxidation imbalance before and after treatment in AECOPD patients and their relationship was explored.

Hand Hygiene Compliance In The Intensive Care Units Of A Tertiary Care Hospital.

Sharma S, Sharma S, Puri S, Whig J.
Indian J Community Med. 2011 Jul; 36(3):217-21.

CONTEXT: Hand hygiene (HH) is the most important measure to prevent hospital-acquired infections but the compliance is still low.

AIMS: To assess the compliance, identify factors influencing compliance and to study the knowledge, attitude and perceptions associated with HH among health care workers (HCW).

SETTINGS AND DESIGN: Cross-sectional study conducted in 42 bedded Medical (Pulmonary, Medicine and Stroke) intensive care units (ICU) of a tertiary care hospital.

MATERIALS AND METHODS: HCWs (doctors and nurses) were observed during routine patient care by observers posted in each ICU and their HH compliance was noted. Thereafter, questionnaire regarding knowledge, perception and attitudes toward HH was filled by each HCW.

STATISTICAL ANALYSIS: Percentages and χ^2 test.

RESULTS: The overall compliance was 43.2% (394/911 opportunities). It was 68.9% (31/45) in the intensivists, 56.3% (18/32) in attending physicians, 40.0% (28/70) in the postgraduate residents and 41.3% (301/728) in the nurses. Compliance was inversely related to activity index. Compliance for high, medium and low risk of cross-transmission was 38.8% (67/170), 43.8% (175/401) and 44.7% (152/340), respectively.

CONCLUSIONS: Compliance of the study group is affected by the activity index (number of opportunities they come across per hour) and professional status. The

HCWs listed less knowledge, lack of motivation, increased workload as some of the factors influencing HH.

A New Alternative Treatment In Copd: Phosphodiesterase-4 Inhibitors.

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Tuberk Toraks. 2011 Sep; 59(3):285-90.

Abstract: Chronic obstructive pulmonary disease (COPD) is a disease which is characterized with progressive airflow obstruction and abnormal inflammatory response caused by noxious gases and particles. Recently oral phosphodiesterase-4 (PDE-4) inhibitors which block activation of inflammatory cells, are experimented as a new approach. Last studies showed that these drugs improve symptoms, pulmonary functions and quality of life, reduce the numbers of acute attacks, suppress bronchial inflammation in COPD. However these drugs lead to adverse reactions such as vomiting, diarrhea and headache. In this review we discussed roflumilast (Daxas) which was accepted by Food and Drug Administration (FDA), included in treatment of sever COPD in "The Global Initiative for Chronic Obstructive Lung Disease (GOLD)" guideline.

Clinical Presentations And Diagnostic Work-Up In Sarcoidosis: A Series Of Turkish Cases (Clinics And Diagnosis Of Sarcoidosis).

Kıter G, Müsellim B, Cetinkaya E, Türker H, Kunt Uzaslan AE, Yentürk E et al
Tuberk Toraks. 2011 Sep; 59(3):248-58.

Sarcoidosis is an idiopathic granulomatous disease. It usually affects the lung. The diagnosis may be problematic since the known causes of granulomatous inflammation must be excluded. This multicenter study aimed to evaluate the clinical presentations and diagnostic approaches of sarcoidosis. The study protocol was sent via internet, and the participants were asked to send the information (clinical, radiological and diagnostic) on newly diagnosed sarcoidosis cases. 293 patients were enrolled within two years. Pulmonary symptoms were found in 73.3% of the patients, and cough was the most common one (53.2%), followed by dyspnea (40.3%). Constitutional symptoms were occurred in half of the patients. The most common one was fatigue (38.6%). The most common physical sign was erythema nodosum (17.1%). The most common chest radiographical sign was bilateral hilar lymphadenomegaly (78.8%). Staging according to chest X-ray has revealed that most of the patients were in Stage I and Stage II (51.9% and 31.7%, respectively). Sarcoidosis was confirmed histopathologically in 265 (90.4%) patients. Although one-third of the bronchoscopy was revealed normal, mucosal hyperemi (19.8%) and external compression of the bronchial wall (16.8%) were common abnormal findings. The 100% success rate was obtained in mediastinoscopy among the frequently used sampling methods. Transbronchial biopsy was the most frequently used method with 48.8% success rate. Considering sarcoidosis with its most common and also rare findings in the differential diagnosis, organizing the related

procedures according to the possibly affected areas, and the expertise of the team would favor multimodality diagnosis.

Use Of Non-Invasive Ventilation In General Ward For The Treatment Of Respiratory Failure.

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J Miss State Med Assoc. 2011 Sep;52(9):278-81

Non-invasive ventilation (NIV), the provision of ventilatory assistance without an artificial airway, has emerged as an important ventilatory modality over the last 20 years. Delivery of pressured air at a certain level through a nasal or oro-nasal mask improves oxygenation and reduces ventilatory muscle fatigue. The equipment consists of a ventilator (typically a CPAP or BiPAP machine) with tubing, headgear, nasal or facial mask, filter and humidifier. In this article, we will discuss the medical literatures that support the use of NIV safely and effectively on the general medical floor to treat respiratory failure secondary to acute exacerbation of chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF).

Two-Year Home-Based Nocturnal Noninvasive Ventilation Added To Rehabilitation In Chronic Obstructive Pulmonary Disease Patients

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BACKGROUND: The use of noninvasive intermittent positive pressure ventilation (NIPPV) in chronic obstructive pulmonary disease (COPD) patients with chronic hypercapnic respiratory failure remains controversial as long-term data are almost lacking.

The aim was to compare the outcome of 2-year home-based nocturnal NIPPV in addition to rehabilitation (NIPPV + PR) with rehabilitation alone (PR) in COPD patients with chronic hypercapnic respiratory failure.

METHODS: Sixty-six patients could be analyzed for the two-year home-based follow-up period. Differences in change between the NIPPV + PR and PR group were assessed by a linear mixed effects model with a random effect on the intercept, and adjustment for baseline values. The primary outcome was health-related quality of life (HRQoL); secondary outcomes were mood state, dyspnea, gas exchange, functional status, pulmonary function, and exacerbation frequency.

RESULTS: Although the addition of NIPPV did not significantly improve the Chronic Respiratory Questionnaire compared to rehabilitation alone (mean difference in change between groups -1.3 points (95% CI: -9.7 to 7.4)), the addition of NIPPV did improve HRQoL assessed with the Mageri Respiratory Failure questionnaire (-13.4% (-22.7 to -4.2; p = 0.005)), mood state (Hospital Anxiety and Depression scale -4.0 points (-7.8 to 0.0; p = 0.05)), dyspnea (Medical Research Council -0.4 points (-0.8 to -0.0; p = 0.05)), daytime arterial blood gases (PaCO₂ -0.4 kPa (-0.8 to -0.2; p = 0.01); PaO₂ 0.8 kPa (0.0

to 1.5; $p = 0.03$), 6-minute walking distance (77.3 m (46.4 to 108.0; $p < 0.001$)), Groningen Activity and Restriction scale (-3.8 points (-7.4 to -0.4; $p = 0.03$)), and forced expiratory volume in 1 second (115 ml (19 to 211; $p = 0.019$)). Exacerbation frequency was not changed.

CONCLUSIONS: The addition of NIPPV to pulmonary rehabilitation for 2 years in severe COPD patients with chronic hypercapnic respiratory failure improves HRQoL, mood, dyspnea, gas exchange, exercise tolerance and lung function decline. The benefits increase further with time

Randomized Controlled Trial Of Mailed Nicotine Replacement Therapy To Canadian Smokers: Study Protocol

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BMC Public Health. 2011; 11: 741.

BACKGROUND: Considerable public health efforts are ongoing Canada-wide to reduce the prevalence of smoking in the general population. From 1985 to 2005, smoking rates among adults decreased from 35% to 19%, however, since that time, the prevalence has plateaued at around 18-19%. To continue to reduce the number of smokers at the population level, one option has been to translate interventions that have demonstrated clinical efficacy into population level initiatives. Nicotine Replacement Therapy (NRT) has a considerable clinical research base demonstrating its efficacy and safety and thus public health initiatives in Canada and other countries are distributing NRT widely through the mail. However, one important question remains unanswered - do smoking cessation programs that involve mailed distribution of free NRT work? To answer this question, a randomized controlled trial is required.

METHODS/DESIGN: A single blinded, panel survey design with random assignment to an experimental and a control condition will be used in this study. A two-stage recruitment process will be employed, in the context of a general population survey with two follow-ups (8 weeks and 6 months). Random digit dialing of Canadian home telephone numbers will identify households with adult smokers (aged 18+ years) who are willing to take part in a smoking study that involves three interviews, with saliva collection for 3-HC/cotinine ratio measurement at baseline and saliva cotinine verification at 8-week and 6-month follow-ups ($N = 3,000$). Eligible subjects interested in free NRT will be determined at baseline ($N = 1,000$) and subsequently randomized into experimental and control conditions to receive versus not receive nicotine patches. The primary hypothesis is that subjects who receive nicotine patches will display significantly

higher quit rates (as assessed by 30 day point prevalence of abstinence from tobacco) at 6-month follow-up as compared to subjects who do not receive nicotine patches at baseline.

CONCLUSION: The findings from the proposed trial are timely and highly relevant as mailed distribution of NRT require considerable resources and there are limited public health dollars available to combat this substantial health concern. In addition, findings from this randomized controlled trial will inform the development of models to engage smokers to quit, incorporating proactive recruitment and the offer of evidence based treatment.

Acute Kidney Injury In ADPKD Patients With Pneumonia

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Int J Nephrol. 2011; 2011: 617904.

BACKGROUND: In animal models, polycystic kidneys are susceptible to acute kidney injury (AKI). We examined the occurrence of AKI in a cohort of autosomal dominant polycystic kidney disease (ADPKD) and non-ADPKD patients with acute pneumonia.

DESIGN: All ADPKD patients admitted to Mayo Clinic Rochester for pneumonia from January 1990 to April 2010 were examined. Sixty-three patients had lobar infiltration and consolidation on chest X-ray. After excluding patients on dialysis, with organ transplantation, and on chronic immunosuppression, 24 remaining ADPKD patients were enrolled. Twenty-three of the 24 were matched with 92 (1 : 4 ratio) non-ADPKD pneumonia patients based on their baseline eGFR. AKI was defined as serum creatinine elevation ≥ 0.3 mg/dL.

RESULTS: Sixteen of the 23 ADPKD patients (69.6%) and 36 of the 92 (39.1%) non-ADPKD patients developed AKI, $P = 0.008$. In both groups, those who developed AKI had a lower baseline eGFR (41.1 ± 5.00 versus 58.7 ± 11.8 in ADPKD and 40.2 ± 3.65 versus 51.8 ± 2.24 mL/min/1.73 m² in the non-ADPKD group), more intensive care unit admissions, and longer hospital stays. AKI was associated with a reduced survival in both groups.

CONCLUSION: Patients with ADPKD admitted for acute pneumonia had more frequent episodes of AKI than non-ADPKD patients with comparable kidney function.

Allergic Bronchopulmonary Aspergillosis: Lessons For The Busy Radiologist

Ritesh Agarwal

World J Radiol. 2011 July 28; 3(7): 178–181.

The probability of a radiologist interpreting a disease correctly is not only influenced by their training and experience but also on the knowledge of a particular entity. This editorial reviews certain myths and realities associated with radiological manifestations of allergic bronchopulmonary aspergillosis (ABPA). ABPA is a hypersensitivity disorder against the antigens of *Aspergillus fumigatus*. Although commonly manifesting with central bronchiectasis (CB), the disorder can present without any abnormalities on high-resolution computed tomography (HRCT) of the chest, so-called serologic ABPA (ABPA-S). HRCT of the chest should not be used in screening or in the initial diagnostic work up of asthmatics, as asthma without ABPA can manifest with findings of CB. High-attenuation mucus (HAM) is the pathognomonic sign of ABPA and is very helpful in the diagnosis of ABPA complicating asthma and cystic fibrosis. Instead of classifying ABPA based on the presence and absence of CB into ABPA-CB and ABPA-S respectively, ABPA should be classified as ABPA-S, ABPA-CB and ABPA-CB-HAM. The classification scheme based on HAM not only identifies an immunologically severe disease but also predicts a patient with increased risk of recurrent relapses.

Long-Term Azithromycin Therapy In Patients With Severe COPD And Repeated Exacerbations

Xavier Pomares, Concepción Montón, Mateu Espasa, et al

Int J Chron Obstruct Pulmon Dis. 2011; 6: 449–456.

BACKGROUND: The aim of this study was to determine whether long-term intermittent azithromycin therapy reduces the frequency of exacerbation in severe chronic obstructive pulmonary disease (COPD).

METHODS: We retrospectively investigated the clinical benefits of long-term azithromycin (500 mg orally three times per week) over 12 months in patients with severe COPD and a minimum of four acute exacerbations (AECOPD) per year or

chronic bronchial colonization by *Pseudomonas aeruginosa*, comparing the number of AECOPD, hospitalizations due to respiratory disease, days of hospital stay, and bacterial infections during azithromycin treatment and in the year prior to this therapy.

RESULTS: Twenty patients who completed the 12-month treatment period were analyzed. No clinically significant adverse events were observed during azithromycin treatment. Compared with baseline data, azithromycin therapy significantly reduced the number of AECOPD (2.8 ± 2.5 versus 6.8 ± 2.8 , $P < 0.001$), hospitalizations (1.4 ± 1.5 versus 3.6 ± 1.4 , $P < 0.001$), and cumulative annual days of hospital stay (25 ± 32.2 versus 43.7 ± 21.4 , $P = 0.01$). The improvement was particularly significant in patients with exacerbations caused by common potentially pathogenic microorganisms, who had 70% fewer AECOPD and hospitalizations. Patients colonized by *P. aeruginosa* had reductions of 43% in AECOPD and 47% in hospitalizations.

CONCLUSION: Long-term azithromycin is well tolerated and associated with significant reductions in AECOPD, hospitalizations, and length of hospital stay in patients with severe COPD.

Predictors Of Death Among Patients Who Completed Tuberculosis Treatment: A Population-Based Cohort Study

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PLoS One. 2011; 6(9): e25315

BACKGROUND: Mortality among patients who complete tuberculosis (TB) treatment is still high among vulnerable populations. The objective of the study was to identify the probability of death and its predictive factors in a cohort of successfully treated TB patients.

METHODS: A population-based retrospective longitudinal study was performed in Barcelona, Spain. All patients who successfully completed TB treatment with culture-confirmation and available drug susceptibility testing between 1995–1997 were retrospectively followed-up until December 31, 2005 by the Barcelona TB Control Program. Socio-demographic, clinical, microbiological and treatment variables were examined. Mortality, TB Program and AIDS registries were reviewed. Kaplan-Meier and a Cox regression methods with time-dependent covariates were used for the survival analysis, calculating the *hazard ratio* (HR) with 95% confidence intervals (CI).

RESULTS: Among the 762 included patients, the median age was 36 years, 520 (68.2%) were male, 178 (23.4%) HIV-infected, and 208 (27.3%) were alcohol abusers. Of the 134 (17.6%) injecting drug users (IDU), 123 (91.8%) were HIV-infected. A total of 30 (3.9%) recurrences and 173 deaths (22.7%) occurred (mortality rate: 3.4/100 person-years of follow-up). The predictors of death were: age between 41–60 years old (HR: 3.5; CI:2.1–5.7), age greater than 60 years (HR: 14.6; CI:8.9–24), alcohol abuse (HR: 1.7; CI:1.2–2.4) and HIV-infected IDU (HR: 7.9; CI:4.7–13.3).

CONCLUSIONS: The mortality rate among TB patients who completed treatment is associated with vulnerable populations such as the elderly, alcohol abusers, and HIV-infected IDU. We therefore need to fight against poverty, and promote and develop interventions and social policies directed towards these populations to improve their survival.