**CPAP, nutrition and feeding methods**

**The audience/context:** For a dietitian who wanted evidence on nutrition and feeding methods for people on CPAP. Results were intended to support the care of COVID patients, but happy to look for evidence not specifically related to COVID.

**Date search conducted:** 30th April 2020

**Source(s):** Medline, CINAHL, Emcare, Embase, BDA website, Google

**BDA Website had a link to this guideline:** [Route of Nutrition Support in Patients Requiring NIV & CPAP During the COVID-19 Response](https://www.bapen.org.uk/pdfs/covid-19/nutrition-in-niv-21-04-20.pdf)

**Search strategy**: At end of document. Single lines for HDAS:

**Medline** ((CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab OR ("continuous positive airway pressure").ti,ab OR (nCPAP).ti,ab OR "CONTINUOUS POSITIVE AIRWAY PRESSURE"/) AND ((feed\*).ti OR (nutrition\*).ti OR (diet\*).ti OR exp "FEEDING METHODS"/ OR exp \*"DIET, FOOD, AND NUTRITION"/ OR NUTRITIONISTS/ OR DIETETICS/)

**Embase** ((CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab OR ("continuous positive airway pressure").ti,ab OR (nCPAP).ti,ab OR \*"POSITIVE END EXPIRATORY PRESSURE"/) AND ((feed\*).ti OR (nutrition\*).ti OR (diet\*).ti OR "GERIATRIC NUTRITION"/ OR exp \*DIET/ OR exp \*"DIETARY INTAKE"/ OR NUTRITION/ OR DIETETICS/ OR DIETITIAN/)

**Emcare** ((CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab OR ("continuous positive airway pressure").ti,ab OR (nCPAP).ti,ab OR \*"POSITIVE END EXPIRATORY PRESSURE"/) AND ((feed\*).ti OR (nutrition\*).ti,ab OR (diet\*).ti,ab OR "GERIATRIC NUTRITION"/ OR exp DIET/ OR exp "DIETARY INTAKE"/ OR NUTRITION/ OR DIETETICS/ OR DIETITIAN/)

**CINAHL** ((CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab OR ("continuous positive airway pressure").ti,ab OR (nCPAP).ti,ab OR "CONTINUOUS POSITIVE AIRWAY PRESSURE"/) AND ((feed\*).ti OR (nutrition\*).ti,ab OR (diet\*).ti,ab OR exp "FEEDING METHODS"/ OR exp NUTRITION/ OR DIETITIANS/ OR DIETETICS/)

30 Apr 20 - 16:03

HDAS Export

Strategy CPAP and feeding methods

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Strategy 845360/saved

Contents 34 of 34 results on Saved Results

[1. Early nutritional supplementation in non-critically ill patients hospitalized for the 2019 novel coronavirus disease (COVID-19): Rationale and feasibility of a shared pragmatic protocol.](#7cc269d7-f306-f0ec-600b-4498248fcbbb-1)

[2. Enteral nutrition during non-invasive ventilation for children with acute bronchiolitis admitted to the pediatric intensive care unit is well tolerated and associated with reduced respiratory rate](#d8f0d1f4-d4c4-b455-f7c3-3377ebee99e0-2)

[3. Effect of continuous positive airway pressure on glucose metabolism in adults with type 2 diabetes: a systematic review and meta-analysis of randomized controlled trials.](#ef6bc55c-06d6-a0fd-c638-01ea457f0f12-3)

[4. To eat or to breathe? The answer is both! Nutritional management during noninvasive ventilation.](#aac222ec-a896-0bcb-2de5-8d6bb37e1047-4)

[5. Effect of gastric gases discharge on gastrointestinal complications in ICU patients on mechanical ventilation with nasogastric feeding tube](#c2413b8b-5c49-b1fd-11b9-dd59c6a9713d-5)

[6. Enteral Nutrition Practices in Critically Ill Children Requiring Noninvasive Positive Pressure Ventilation.](#aef0a46e-ca78-05a2-a712-5865b056583b-6)

[7. Initial nutritional management during noninvasive ventilation and outcomes: a retrospective cohort study.](#7063d1e4-bf9e-6c95-ea56-95ca59358c44-7)

[8. Efficacy of noninvasive positive pressure ventilation for improving the respiratory function, use of accessory respiratory muscles, quality of sleep and nutrition of cystic fibrosis patients](#53fd3ec3-ace3-7f03-0d9c-30ab3f03a97b-8)

[9. Enteral Nutrition During Noninvasive Ventilation: We Should Go Deeper in the Investigation-Reply.](#3e86e044-1f44-5bf8-2eb5-7f2efa8abd9f-9)

[10. Enteral Nutrition During Noninvasive Ventilation: We Should Go Deeper in the Investigation.](#fa6352dc-f9f0-d8fe-75da-da6bd301e3f8-10)

[11. Enteral Nutrition Is a Risk Factor for Airway Complications in Subjects Undergoing Noninvasive Ventilation for Acute Respiratory Failure.](#4c874583-8c2d-f752-8bbc-40f7cebd8a31-11)

[12. VAMONOS (Veterans Affairs' Metabolism, Obstructed and Non-Obstructed Sleep) Study: Effects of CPAP Therapy on Glucose Metabolism in Patients with Obstructive Sleep Apnea.](#bb097a37-07b1-0466-f4e2-3dc14fe50b6e-12)

[13. Effect of continuous positive airway pressure (CPAP) on glycemic control and variability in type 2 diabetes.](#4a1cf75a-f825-0df7-334e-8d11338aec91-13)

[14. Effect of one week of CPAP treatment of obstructive sleep apnoea on 24-hour profiles of glucose, insulin and counter-regulatory hormones in type 2 diabetes.](#70440043-0a34-d421-7675-c505e6bb77db-14)

[15. Enteral feeding in critically ill children requiring noninvasive positive pressure ventilation](#1694a9cd-6865-b5e0-497a-2d4e703315c4-15)

[16. Effect of Continuous Positive Airway Pressure on Glycemic Control in Patients with Obstructive Sleep Apnea and Type 2 Diabetes. A Randomized Clinical Trial.](#e3ccdc53-6153-5dc0-92b3-90f9f10c955c-16)

[17. The Effect of Treatment of Obstructive Sleep Apnea on Glycemic Control in Type 2 Diabetes.](#a09ac301-019e-4485-b9ab-5bec890bc861-17)

[18. Changes in Vitamin D Status after Nasal Continuous Positive Airway Pressure: Could Alterations in Systemic Inflammatory Markers Explain These Observations?](#14fdc8a9-6ef5-5592-650f-ac24ad0f7786-18)

[19. Estrogen Deficiency Hampers the Beneficial Effect of Continuous Positive Airway Pressure Therapy on Serum Vitamin D Concentrations in Postmenopausal Women Affected by Obstructive Sleep Apnea.](#4ef76bc2-3cbd-99d8-bd1c-ee268fa25505-19)

[20. Nutritional Risk Screening 2002 as a Predictor of Outcome During General Ward-Based Noninvasive Ventilation in Chronic Obstructive Pulmonary Disease with Respiratory Failure.](#b918f2b2-2d68-2029-3e87-5cbc4f64b6d3-20)

[21. Safety of enteral nutrition in patients with noninvasive ventilation for acute respiratory failure](#bfc100f4-8187-4f58-24b2-4a9d2a8d36d9-21)

[22. Eight Hours of Nightly Continuous Positive Airway Pressure Treatment of Obstructive Sleep Apnea Improves Glucose Metabolism in Patients with Prediabetes. A Randomized Controlled Trial.](#6a488434-4c9e-23c3-ff2b-0622996f70a5-22)

[23. Continuous Positive Airway Pressure Treatment Increases Serum Vitamin D Levels in Male Patients with Obstructive Sleep Apnea.](#da5ad8cb-d1a3-2e38-6e9b-f9792dfa2b78-23)

[24. High-flowoxygen via nasal continuous positive airway pressure (HFO2-NCPAP) has no effect on oral feeding in neonatal & adult/geriatric populations](#acf17b0e-b5f8-15cc-0733-d527ddccbc85-24)

[25. Energy and protein intakes of hospitalised patients with acute respiratory failure receiving non-invasive ventilation.](#30cb79cf-0937-b7a7-7860-135ac9ed0c52-25)

[26. PP232-MON NUTRITIONAL STATUS OF PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME TREATED BY POSITIVE AIRWAY PRESSURE.](#afa62e6d-0f9a-23f0-26d2-b86f13166b09-26)

[27. Meta-analysis: continuous positive airway pressure improves insulin resistance in patients with sleep apnea without diabetes.](#931a80ad-cd38-63fc-b64f-5fa3792ecc23-27)

[28. Effects of continuous positive airway pressure on glycemic control and insulin resistance in patients with obstructive sleep apnea: a meta-analysis.](#3f2c56e6-40c8-7c3a-752f-fbf295edffaf-28)

[29. Modest changes in cerebral glucose metabolism in patients with sleep apnea syndrome after continuous positive airway pressure treatment.](#fa3c8c48-4625-cf28-78d4-c6fd642ce8e0-29)

[30. Effects of CPAP-respiration on markers of glucose metabolism in patients with obstructive sleep apnoea syndrome: a systematic review and meta-analysis.](#48a9a35e-11f6-84a6-b181-40ad4f493143-30)

[31. Is Non-Invasive Ventilation associated with increased risk of weight loss for patients hospitalised with acute COPD exacerbations?](#2b7fae6c-5eed-41e6-7ed5-71a2c7ee6e34-31)

[32. CPAP therapy of obstructive sleep apnea in type 2 diabetics improves glycemic control during sleep.](#294fad3c-2a2a-a148-faad-3adfa161993a-32)

[33. Aerophagia and gastroesophageal reflux disease in patients using continuous positive airway pressure: A preliminary observation](#32e581b4-41f2-2ea0-96b4-44e97d3ee8af-33)

[34. The effect of continuous positive airway pressure on glucose control in diabetic patients with severe obstructive sleep apnea.](#277baaf1-212c-7a62-486d-ed1d277aebea-34)

[Full strategy](#historyanchor)

Results Saved Results

**34** of **34 saved results**

**1. Early nutritional supplementation in non-critically ill patients hospitalized for the 2019 novel coronavirus disease (COVID-19): Rationale and feasibility of a shared pragmatic protocol.**

**Author(s):** Caccialanza, Riccardo; Laviano, Alessandro; Lobascio, Federica; Montagna, Elisabetta; Bruno, Raffaele; Ludovisi, Serena; Corsico, Angelo Guido; Di Sabatino, Antonio; Belliato, Mirko; Calvi, Monica; Iacona, Isabella; Grugnetti, Giuseppina; Bonadeo, Elisa; Muzzi, Alba; Cereda, Emanuele

**Source:** Nutrition (Burbank, Los Angeles County, Calif.); Apr 2020 ; p. 110835

**Publication Date:** Apr 2020

**Publication Type(s):** Journal Article

**PubMedID:** 32280058

Available at [Nutrition (Burbank, Los Angeles County, Calif.)](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Nutrition (Burbank, Los Angeles County, Calif.)](https://doi.org/10.1016/j.nut.2020.110835) - from Unpaywall

**Abstract:**OBJECTIVESBeginning in December 2019, the 2019 novel coronavirus disease (COVID-19) has caused a pneumonia epidemic that began in Wuhan, China, and is rapidly spreading throughout the whole world. Italy is the hardest hit country after China. Considering the deleterious consequences of malnutrition, which certainly can affect patients with COVID-19, the aim of this article is to present a pragmatic protocol for early nutritional supplementation of non-critically ill patients hospitalized for COVID-19 disease. It is based on the observation that most patients present at admission with severe inflammation and anorexia leading to a drastic reduction of food intake, and that a substantial percentage develops respiratory failure requiring non-invasive ventilation or even continuous positive airway pressure.METHODSHigh-calorie dense diets in a variety of different consistencies with highly digestible foods and snacks are available for all patients. Oral supplementation of whey proteins as well as intravenous infusion of multivitamin, multimineral trace elements solutions are implemented at admission. In the presence of 25-hydroxyvitamin D deficit, cholecalciferol is promptly supplied. If nutritional risk is detected, two to three bottles of protein-calorie oral nutritional supplements (ONS) are provided. If <2 bottles/d of ONS are consumed for 2 consecutive days and/or respiratory conditions are worsening, supplemental/total parenteral nutrition is prescribed.CONCLUSIONWe are aware that our straight approach may be debatable. However, to cope with the current emergency crisis, its aim is to promptly and pragmatically implement nutritional care in patients with COVID-19, which might be overlooked despite being potentially beneficial to clinical outcomes and effective in preventing the consequences of malnutrition in this patient population.

**Database:** Medline

**2. Enteral nutrition during non-invasive ventilation for children with acute bronchiolitis admitted to the pediatric intensive care unit is well tolerated and associated with reduced respiratory rate**

**Author(s):** Bartlett J.L.; Nakagawa T.; Sochet A.A.; Smith M.; Barrie E.K.

**Source:** Pediatrics; Aug 2019; vol. 144 (no. 2)

**Publication Date:** Aug 2019

**Publication Type(s):** Conference Abstract

Available at [Pediatrics](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [Pediatrics](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Purpose: Recently published data from our group suggest nutrition during non-invasive ventilation (NIV) is well tolerated without incidence of aspiration-related respiratory failure. Yet, potential therapeutic benefits of enteral nutrition during NIV have not been determined. We sought to assess for differences in respiratory rate and clinical outcomes in children receiving enteral nutrition during NIV. Method(s): We performed a prospective, observational cohort study in children 1 month - 2 years of age admitted to the pediatric intensive care unit (PICU) for acute bronchiolitis in a free-standing, tertiary pediatric referral center from 11/01/2017 - 03/01/2018. We defined NIV as high flow nasal cannula (HFNC), nasal continuous positive airway pressure (nCPAP), Ramanathan cannula (RAM), and bilevel positive airway pressure (BiPAP). We excluded children with unrepaired congenital heart disease, existing tracheostomy, and those on NIV only post-extubation. Demographics, anthropometrics, diagnoses, NIV data, Pediatric Index of Mortality 3 Risk of Mortality (PIM-3 ROM), Pediatric Logistic Organ Dysfunction-2 Predicted Death Rate (PELOD-2 PDR), nutrition data, lengths of stay, modality failure, and mortality were recorded for cohort analyses. The primary outcome was mean respiratory rate two hours before and after initiation of bolus or continuous nutrition during NIV. Paired comparative and descriptive statistics were completed in Stata v15.1. Result(s): Forty-two children met study criteria of which 29 (69%) were permitted enteral nutrition. Nutrition route was delivered orally in 76% or via nasoenteric tube in 24%. Nutrition was started at a median of 11.7 hours post NIV initiation. Non-invasive modality during concurrent nutrition were HFNC in 83% and RAM in 17%. None were fed on nCPAP or BiPAP. Paired respiratory rates before and after nutrition reduced by a median of 14% from 47 +/- 12 to 39 +/- 11 breaths per min (p<0.01). Children provided enteral nutrition were younger (8.2 +/- 5.3 vs 13.4 +/- 5.3 months of age) and weighed less (7.5 +/- 2.3 vs 9.5 +/- 2.3 kilograms) than those not permitted nutrition (both p<0.05). Both groups had similar median PIM-3 ROM (1% vs. 1%, p=0.46), median PELOD-2 PDR (3% vs 3%, p=0.11), mean peak-HFNC flow rates (1.2 +/- 0.4 vs 1.3 +/- 0.4, p=0.46), and rate of NIV modality failure (17% vs 23%, p=0.68). No interruptions of nutrition, aspiration-related respiratory failure, or mortality were noted. There were no differences in hospital (3.8 [IQR:2.6-6.9] vs 3.8 [IQR:2.7-5.8] days, p=0.64) or PICU (1.8 [IQR:1.2-2.6] vs 2.7 [IQR:1.8-3.8] days, p=0.2) lengths of stay. Conclusion(s): Oral and nasoenteric tube nutrition during NIV for children with acute bronchiolitis was well tolerated without interruptions, aspiration-related respiratory failure, or altered lengths of stay. A post-prandial reduction in respiratory rate of 14% was observed. These data suggest enteral nutrition may be of therapeutic value and may allow faster weaning from respiratory support.

**Database:** EMBASE

**3. Effect of continuous positive airway pressure on glucose metabolism in adults with type 2 diabetes: a systematic review and meta-analysis of randomized controlled trials.**

**Author(s):** Zhu, Bingqian; Ma, Chao; Chaiard, Jindarat; Shi, Changgui

**Source:** Sleep & breathing = Schlaf & Atmung; May 2018; vol. 22 (no. 2); p. 287-295

**Publication Date:** May 2018

**Publication Type(s):** Meta-analysis Journal Article Systematic Review

**PubMedID:** 28812180

Available at [Sleep & breathing = Schlaf & Atmung](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=28812180) - from EBSCO (MEDLINE Complete)

Available at [Sleep & breathing = Schlaf & Atmung](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1520-9512&volume=22&issue=2&spage=287) - from ProQuest (Health Research Premium) - NHS Version

Available at [Sleep & breathing = Schlaf & Atmung](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Obstructive sleep apnea (OSA) has many serious consequences, and one of these may be the exacerbation of type 2 diabetes mellitus (T2DM). Reports on the effect of continuous positive airway pressure (CPAP) on glucose metabolism in people with T2DM and OSA are conflicting. Therefore, the purpose of this review was to examine the effect of CPAP treatment on glucose metabolism by synthesizing findings from randomized controlled trials. The PRISMA review protocol was developed and registered in PROSPERO. A systematic search of PubMed, CINAHL, Embase, Web of Science, PsycInfo, and Cochrane was conducted from inception to March 2017. The Cochrane risk of bias tool was used to assess the study quality. Review Manager (v5.2) was used for the meta-analyses, and the standardized mean difference was calculated. Six studies consisting of 496 participants were included in this review. The meta-analyses indicated that CPAP treatment did not have significant impact on glucose metabolism measured by A1C (mean difference = 0.05, 95% CI - 0.14 to 0.24, P = 0.61), fasting insulin level (mean difference = - 2.34, 95% CI - 8.19 to 3.51, P = 0.43), and fasting glucose (mean difference = - 0.05, 95% CI - 0.52 to 0.42, P = 0.84). As expected, CPAP treatment can improve daytime sleepiness (mean difference = - 2.68, 95% CI - 3.91 to - 1.54, P < 0.001). Findings of this meta-analysis do not substantiate a positive effect of CPAP on glucose metabolism in people with T2DM and coexisting OSA. Future large-scale clinical trials with a longer treatment duration and better CPAP compliance are warranted.

**Database:** Medline

**4. To eat or to breathe? The answer is both! Nutritional management during noninvasive ventilation.**

**Author(s):** Singer, Pierre; Rattanachaiwong, Sornwichate

**Source:** Critical care (London, England); Feb 2018; vol. 22 (no. 1); p. 27

**Publication Date:** Feb 2018

**Publication Type(s):** Editorial

**PubMedID:** 29409542

Available at [Critical care (London, England)](https://ccforum.biomedcentral.com/articles/10.1186/s13054-018-1947-7) - from BioMed Central

Available at [Critical care (London, England)](http://europepmc.org/search?query=(DOI:10.1186/s13054-018-1947-7)) - from Europe PubMed Central - Open Access

Available at [Critical care (London, England)](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=29409542) - from EBSCO (MEDLINE Complete)

Available at [Critical care (London, England)](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1364-8535&volume=22&issue=1&spage=27) - from ProQuest (Health Research Premium) - NHS Version

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Available at [Critical care (London, England)](https://ccforum.biomedcentral.com/track/pdf/10.1186/s13054-018-1947-7) - from Unpaywall

**Abstract:**Treating respiratory distress is a priority when managing critically ill patients. Non-invasive ventilation (NIV) is increasingly used as a tool to prevent endotracheal intubation. Providing oral or enteral nutritional support during NIV may be perceived as unsafe because of the possible risk of aspiration so that these patients are frequently denied adequate caloric and protein intake. Newly available therapies, such as high-flow nasal oxygen (HFNO) may allow for more appropriate oral feeding.

**Database:** Medline

**5. Effect of gastric gases discharge on gastrointestinal complications in ICU patients on mechanical ventilation with nasogastric feeding tube**

**Author(s):** Soltani H.; Sajjadi M.; Mohammadpour A.

**Source:** Journal of Mazandaran University of Medical Sciences; 2017; vol. 26 (no. 145); p. 387-392

**Publication Date:** 2017

**Publication Type(s):** Article

Available at [Journal of Mazandaran University of Medical Sciences](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Background and purpose: Gastrointestinal complications in mechanically ventilated patients with feeding tube is common and causes feeding intolerance. Discharge of gastric gases is believed to reduce these complications. This study aimed at assessing the effect of gastric gases discharge on gastrointestinal complications in ICU patients on mechanical ventilation with feeding tube. Material(s) and Method(s): A single-blind randomized controlled clinical trial was performed in 64 patients undergoing mechanical ventilation with CPAP mode in Shahid Kamyab Hospital, Mashhad, Iran in 2015. In experimental group gastric gases were discharged through a nasogastric tube but the control group did not receive any intervention. Gastrointestinal complications including abdominal distention, diarrhea, and vomiting were compared between the two groups before and after the intervention. Result(s): There was no significant difference between the two groups in incidence of diarrhea (P=0.23) and vomiting (P=1.00) but the groups significantly differed in distention (P=0.004). Conclusion(s): Discharge of gastric gases in patients on mechanical ventilation decreases gastric distention. Therefore, this method could be used in such cases but further studies are suggested to clarify its application.Copyright © 2017, Mazandaran University of Medical Sciences. All rights reserved.

**Database:** EMCARE

**6. Enteral Nutrition Practices in Critically Ill Children Requiring Noninvasive Positive Pressure Ventilation.**

**Author(s):** Leroue, Matthew K; Good, Ryan J; Skillman, Heather E; Czaja, Angela S

**Source:** Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies; Dec 2017; vol. 18 (no. 12); p. 1093-1098

**Publication Date:** Dec 2017

**Publication Type(s):** Journal Article

**PubMedID:** 28816919

Available at [Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**OBJECTIVESEvaluate the practice of providing enteral nutrition in critically ill children requiring noninvasive positive pressure ventilation.DESIGNRetrospective cohort study.SETTINGPICU within a quaternary care children's hospital.PATIENTSPICU patients older than 30 days requiring noninvasive positive pressure ventilation for greater than or equal to 24 hours from August 2014 to June 2015. Invasive mechanical ventilation prior to noninvasive positive pressure ventilation and inability to receive enteral nutrition at baseline were additional exclusionary criteria.INTERVENTIONSNone.MEASUREMENTS AND MAIN RESULTSThe primary outcome was enteral nutrition initiation within 24 hours of admission. Secondary outcomes included time to goal enteral nutrition rate, adequacy of nutrition, adverse events (pneumonia not present at admission, intubation after enteral nutrition initiation, feeding tube misplacement), and lengths of noninvasive positive pressure ventilation and PICU stay. Among those included (n = 562), the median age was 2 years (interquartile range, 39 d to 6.8 yr), 54% had at least one chronic condition, and 43% had malnutrition at baseline. The most common primary diagnosis was bronchiolitis/viral pneumonia. The median length of time on noninvasive positive pressure ventilation was 2 days (interquartile range, 2.0-4.0). Most (83%) required continuous positive airway pressure or bi-level support during their PICU course. Sixty-four percent started enteral nutrition within 24 hours, with 72% achieving goal enteral nutrition rate within 72 hours. Forty-nine percent and 44% received an adequate cumulative calorie and protein intake, respectively, during their PICU admission. Oral feeding was the most common delivery method. On multivariable analysis, use of bi-level noninvasive positive pressure ventilation (odds ratio, 0.40; 95% CI, 0.25-0.63) and continuous dexmedetomidine (odds ratio, 0.59; 95% CI, 0.35-0.97) were independently associated with decreased likelihood of early enteral nutrition. Twelve percent of patients had at least one adverse event.CONCLUSIONSA majority of patients requiring noninvasive positive pressure ventilation received enteral nutrition within 24 hours. However, less than half achieved caloric and protein goals during their PICU admission. Further investigation is warranted to determine the safety and effectiveness of early enteral nutrition in this population.

**Database:** Medline

**7. Initial nutritional management during noninvasive ventilation and outcomes: a retrospective cohort study.**

**Author(s):** Terzi, Nicolas; Darmon, Michael; Reignier, Jean; Ruckly, Stéphane; Garrouste-Orgeas, Maïté; Lautrette, Alexandre; Azoulay, Elie; Mourvillier, Bruno; Argaud, Laurent; Papazian, Laurent; Gainnier, Marc; Goldgran-Toledano, Dan; Jamali, Samir; Dumenil, Anne-Sylvie; Schwebel, Carole; Timsit, Jean-François; OUTCOMEREA study group

**Source:** Critical care (London, England); Nov 2017; vol. 21 (no. 1); p. 293

**Publication Date:** Nov 2017

**Publication Type(s):** Journal Article Observational Study

**PubMedID:** 29187261

Available at [Critical care (London, England)](https://ccforum.biomedcentral.com/articles/10.1186/s13054-017-1867-y) - from BioMed Central

Available at [Critical care (London, England)](http://europepmc.org/search?query=(DOI:10.1186/s13054-017-1867-y)) - from Europe PubMed Central - Open Access

Available at [Critical care (London, England)](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=29187261) - from EBSCO (MEDLINE Complete)

Available at [Critical care (London, England)](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1364-8535&volume=21&issue=1&spage=293) - from ProQuest (Health Research Premium) - NHS Version

Available at [Critical care (London, England)](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Critical care (London, England)](https://ccforum.biomedcentral.com/track/pdf/10.1186/s13054-017-1867-y) - from Unpaywall

**Abstract:**BACKGROUNDPatients starting noninvasive ventilation (NIV) to treat acute respiratory failure are often unable to eat and therefore remain in the fasting state or receive nutritional support. Maintaining a good nutritional status has been reported to improve patient outcomes. In the present study, our primary objective was to describe the nutritional management of patients starting first-line NIV, and our secondary objectives were to assess potential associations between nutritional management and outcomes.METHODSObservational retrospective cohort study of a prospective database fed by 20 French intensive care units. Adult medical patients receiving NIV for more than 2 consecutive days were included and divided into four groups on the basis of nutritional support received during the first 2 days of NIV: no nutrition, enteral nutrition, parenteral nutrition only, and oral nutrition only.RESULTSOf the 16,594 patients admitted during the study period, 1075 met the inclusion criteria; of these, 622 (57.9%) received no nutrition, 28 (2.6%) received enteral nutrition, 74 (6.9%) received parenteral nutrition only, and 351 (32.7%) received oral nutrition only. After adjustment for confounders, enteral nutrition (vs. no nutrition) was associated with higher 28-day mortality (adjusted HR, 2.3; 95% CI, 1.2-4.4) and invasive mechanical ventilation needs (adjusted HR, 2.1; 95% CI, 1.1-4.2), as well as with fewer ventilator-free days by day 28 (adjusted relative risk, 0.7; 95% CI, 0.5-0.9).CONCLUSIONSNearly three-fifths of patients receiving NIV fasted for the first 2 days. Lack of feeding or underfeeding was not associated with mortality. The optimal route of nutrition for these patients needs to be investigated.

**Database:** Medline

**8. Efficacy of noninvasive positive pressure ventilation for improving the respiratory function, use of accessory respiratory muscles, quality of sleep and nutrition of cystic fibrosis patients**

**Author(s):** Hassanzad M.; Tashayoie Nejad S.; Kharabian Masouleh S.; Karimzadeh S.; Velayati A.A.

**Source:** Iranian Journal of Pediatrics; Aug 2017; vol. 27 (no. 4)

**Publication Date:** Aug 2017

**Publication Type(s):** Article

Available at [Iranian Journal of Pediatrics](http://europepmc.org/search?query=(DOI:10.5812/ijp.14597)) - from Europe PubMed Central - Open Access

Available at [Iranian Journal of Pediatrics](http://ijp.neoscriber.org/cdn/dl/56b0be54-adf4-11e7-8193-5733cfcf3c9d) - from Unpaywall

**Abstract:**Background: Respiratory failure secondary to recurrent respiratory infections is the mostcommoncause of death in Cystic fibrosis (CF). Objective(s): To assess the efficacy of noninvasive positive pressure ventilation (NIPPV)onrespiratory function, use of accessory respiratory muscles, ease of physiotherapy for respiratory clearance, quality of sleepandnutritional status in CF patients with respiratory failure. Method(s): All CF patients admitted to the pediatric department of Masih Daneshvari hospital, Tehran from March 2015 to January 2016 were studied. The inclusion criteria were clinical evidence of respiratory distress and signs of respiratory acidosis. The exclusion criteria were nausea and vomiting, not tolerating NIPPV, need for intubation, pneumothorax, presence of giant bullous emphysema or decreased level of consciousness. Baseline spirometry and venous blood gas (VBG) was obtained before and after NIPPV. A simple questionnaire was filled out for the nutritional status, sleep quality, ease of physiotherapy for airway clearance and the volume of secretions after NIPPV compared to baseline. Paired samples t-test and Wilcoxon Signed Rank test in SPSS version 16 were used for the before and after comparison of numerical and ordinal variables, respectively. Result(s): Out of a total of 53 CF hospitalized patients 17 met the inclusion criteria. There were 10 (58.8%) males and 7 (41.1%) females with ameanage of 11+/-4.57 (10 - 25) years, meanweight of 31.85+/-10.11 (13 - 48) kg andmeanBMI of 14.16+/-2.71 (5.9 - 18). The mean Saturation of peripheral oxygen (SPO2), respiratory rate (RR) and mean partial pressure of CO2 (PCO2) of patients before the intervention were 75+/-13.25% (52 - 90%), 32+/-11.17 (22 - 55) mmHg and 55.20+/-17.62 (30.3 - 108), mmHg respectively. A significant difference was noted after the intervention in SPO2, venous PCO2 and RR compared to baseline (P < 0.05). The change in sleep quality (P = 0.001), nutritional status (P = 0.001) and ease of physiotherapy for respiratory clearance (P = 0.008) after NIPPV was statistically significant while the change in use of accessory respiratory muscles (P = 0.785) and the volume of secretions (P = 0.1) was not significant. Conclusion(s): NIPPV in CF patients with respiratory failure can improve the respiratory function, sleep qualityandnutritional status of patients. Also, NIPPV enhances airway clearance during respiratory physiotherapy.Copyright © 2017, Iranian Journal of Pediatrics.

**Database:** EMBASE

**9. Enteral Nutrition During Noninvasive Ventilation: We Should Go Deeper in the Investigation-Reply.**

**Author(s):** Kogo, Mariko; Nagata, Kazuma; Morimoto, Takeshi; Ito, Jiro; Sato, Yuki; Teraoka, Shunsuke; Fujimoto, Daichi; Nakagawa, Atsushi; Otsuka, Kojiro; Tomii, Keisuke

**Source:** Respiratory care; Aug 2017; vol. 62 (no. 8); p. 1119-1120

**Publication Date:** Aug 2017

**Publication Type(s):** Letter Comment

**PubMedID:** 28733319

Available at [Respiratory care](http://rc.rcjournal.com/lookup/doi/10.4187/respcare.05684) - from HighWire - Free Full Text

Available at [Respiratory care](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Respiratory care](http://rc.rcjournal.com/content/respcare/62/8/1119.full.pdf) - from Unpaywall

**Database:** Medline

**10. Enteral Nutrition During Noninvasive Ventilation: We Should Go Deeper in the Investigation.**

**Author(s):** Bambi, Stefano; Mati, Enrica; De Felippis, Christian; Lucchini, Alberto

**Source:** Respiratory care; Aug 2017; vol. 62 (no. 8); p. 1118-1119

**Publication Date:** Aug 2017

**Publication Type(s):** Letter Comment

**PubMedID:** 28733318

Available at [Respiratory care](http://rc.rcjournal.com/lookup/doi/10.4187/respcare.05509) - from HighWire - Free Full Text

Available at [Respiratory care](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Respiratory care](http://rc.rcjournal.com/content/respcare/62/8/1118.full.pdf) - from Unpaywall

**Database:** Medline

**11. Enteral Nutrition Is a Risk Factor for Airway Complications in Subjects Undergoing Noninvasive Ventilation for Acute Respiratory Failure.**

**Author(s):** Kogo, Mariko; Nagata, Kazuma; Morimoto, Takeshi; Ito, Jiro; Sato, Yuki; Teraoka, Shunsuke; Fujimoto, Daichi; Nakagawa, Atsushi; Otsuka, Kojiro; Tomii, Keisuke

**Source:** Respiratory care; Apr 2017; vol. 62 (no. 4); p. 459-467

**Publication Date:** Apr 2017

**Publication Type(s):** Evaluation Study Journal Article

**PubMedID:** 27923936

Available at [Respiratory care](http://rc.rcjournal.com/lookup/doi/10.4187/respcare.05003) - from HighWire - Free Full Text

Available at [Respiratory care](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Respiratory care](http://rc.rcjournal.com/content/respcare/62/4/459.full.pdf) - from Unpaywall

**Abstract:**BACKGROUNDEarly enteral nutrition is recommended for mechanically ventilated patients in several studies and guidelines. In contrast, the effects of early enteral nutrition on noninvasive ventilation (NIV) have not been investigated extensively. The lack of an established method of airway protection suggests that enteral nutrition administration to these patients could increase airway complications and worsen outcomes.METHODSBetween January 2007 and January 2015, 150 patients were admitted to our respiratory department for acute respiratory failure and received NIV for >48 h. Of these, 107 subjects incapable of oral intake were retrospectively analyzed. Clinical background and complications were compared in subjects who did and did not receive enteral nutrition.RESULTSSixty of the 107 subjects (56%) incapable of oral intake who received NIV also received enteral nutrition. Serum albumin concentration was significantly lower in subjects who received enteral nutrition than in those who did not (mean 2.7 ± 0.68 mg/dL vs 3.0 ± 0.75 mg/dL, P = .048). The rate of airway complications was significantly higher (53% [32/60] vs 32% [15/47], P = .03), and median NIV duration was significantly longer (16 [interquartile range 7-43] d vs 8 [5-20] d, P = .02) in subjects who received enteral nutrition than in those who did not. Multivariate analysis showed that enteral nutrition was unrelated to in-hospital mortality.CONCLUSIONSAmong subjects receiving NIV, enteral nutrition was associated with increased risk of airway complications but did not affect mortality. Enteral nutrition should be carefully considered in these patients.

**Database:** Medline

**12. VAMONOS (Veterans Affairs' Metabolism, Obstructed and Non-Obstructed Sleep) Study: Effects of CPAP Therapy on Glucose Metabolism in Patients with Obstructive Sleep Apnea.**

**Author(s):** Ioachimescu, Octavian C; Anthony, Jeremy; Constantin, Tina; Ciavatta, Mary-Margaret; McCarver, Kandace; Sweeney, Mary Ellen

**Source:** Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine; Mar 2017; vol. 13 (no. 3); p. 455-466

**Publication Date:** Mar 2017

**Publication Type(s):** Journal Article

**PubMedID:** 28095965

Available at [Journal of Clinical Sleep Medicine](http://europepmc.org/search?query=(DOI:10.5664/jcsm.6502)) - from Europe PubMed Central - Open Access

Available at [Journal of Clinical Sleep Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Journal of Clinical Sleep Medicine](https://jcsm.aasm.org/doi/pdf/10.5664/jcsm.6502) - from Unpaywall

**Abstract:**STUDY OBJECTIVESObstructive sleep apnea (OSA) and type 2 diabetes mellitus (T2DM) are prevalent disorders that pose increased risk of cardiovascular disease and death. The objective of this study was to clarify if continuous positive airway pressure (CPAP) therapy for OSA affects T2DM control and emergence.METHODSPoint-of-care, comparative effectiveness study; cross-sectional and longitudinal analyses.RESULTSOur cohort included 928 consecutive patients; 13% were women; 36% were Caucasians and 61% African-Americans. OSA was diagnosed in approximately 738 patients and CPAP was initiated in 718 patients; median duration of therapy was 5 mo (25% to 75% interquartile range [IQR] 3-14). Patients with OSA used CPAP therapy for a median duration of 4.8 h, 34.5% of the nights. Adherence to CPAP was prespecified as follows: good (≥ 70% nights and ≥ 4 h/night), excellent (≥ 80% nights and ≥ 6 h/night) or outstanding (≥ 90% of nights and 8 h/night). Based on objective data, good, excellent, and outstanding compliance were found in only 30%, 20%, and 6%, respectively. Three percent of subjects without CPAP follow-up and less than 4% of those nonadherent to CPAP therapy (based on the established criteria) developed incident T2DM. Incident T2DM developed in only 0.8% of those with good compliance and in none (0%) of those in the excellent and outstanding groups. During follow-up, median weight change was +0.3 kg (IQR -1.8 to 2.7).CONCLUSIONSWe found that an outstanding compliance to CPAP reduced fasting blood glucose in patients with OSA. Longitudinally, higher levels of therapeutic adherence may affect the rate of incident impaired fasting glucose, prediabetes, and T2DM, despite the observed weight gains.COMMENTARYA commentary on this article appears in this issue on page 365.

**Database:** Medline

**13. Effect of continuous positive airway pressure (CPAP) on glycemic control and variability in type 2 diabetes.**

**Author(s):** Morariu, Elena M; Chasens, Eileen R; Strollo, Patrick J; Korytkowski, Mary

**Source:** Sleep & breathing = Schlaf & Atmung; Mar 2017; vol. 21 (no. 1); p. 145-147

**Publication Date:** Mar 2017

**Publication Type(s):** Randomized Controlled Trial Letter

**PubMedID:** 27480096

Available at [Sleep & breathing = Schlaf & Atmung](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=27480096) - from EBSCO (MEDLINE Complete)

Available at [Sleep & breathing = Schlaf & Atmung](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1520-9512&volume=21&issue=1&spage=145) - from ProQuest (Health Research Premium) - NHS Version

Available at [Sleep & breathing = Schlaf & Atmung](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Sleep & breathing = Schlaf & Atmung](http://europepmc.org/articles/pmc5290216?pdf=render) - from Unpaywall

**Database:** Medline

**14. Effect of one week of CPAP treatment of obstructive sleep apnoea on 24-hour profiles of glucose, insulin and counter-regulatory hormones in type 2 diabetes.**

**Author(s):** Mokhlesi, Babak; Grimaldi, Daniela; Beccuti, Guglielmo; Van Cauter, Eve

**Source:** Diabetes, obesity & metabolism; Mar 2017; vol. 19 (no. 3); p. 452-456

**Publication Date:** Mar 2017

**Publication Type(s):** Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Journal Article

**PubMedID:** 27860160

Available at [Diabetes, obesity & metabolism](https://go.openathens.net/redirector/nhs?url=https%3A%2F%2Fonlinelibrary.wiley.com%2Fdoi%2Ffull%2F10.1111%2Fdom.12823) - from Wiley Online Library Medicine and Nursing Collection 2019 - NHS

Available at [Diabetes, obesity & metabolism](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection

Available at [Diabetes, obesity & metabolism](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Studies examining the impact of CPAP treatment on glycaemic control have yielded conflicting results, partly because of insufficient nightly CPAP use. We examined the 24-hour profiles of glucose, insulin and counter-regulatory hormones in 12 subjects with type 2 diabetes and OSA before and after 1 week of effective in-laboratory CPAP therapy over an entire 8-hour night thus ensuring optimal CPAP compliance. Blood samples were collected every 15 to 30 minutes for 24 hours under controlled conditions. The 24-hour mean glucose decreased from 153.2 ± 33.0 to 139.7 ± 24.2 mg/dL with CPAP (-13.5 ± 13.5 mg/dL; P = .005) without change in insulin levels. Morning fasting glucose levels decreased by 14.6 ± 3 mg/dL (P = .001) and the dawn phenomenon decreased by 7.8 ± 9.8 mg/dL (P = .019). CPAP treatment decreased norepinephrine levels while the 24-hour profiles of growth hormone and cortisol remained unchanged. In conclusion, 1 week of effective treatment of OSA over an entire 8-hour night results in a clinically significant improvement in glycaemic control via an amelioration of evening fasting glucose metabolism and a reduction in the dawn phenomenon, a late-night glucose increase that is not adequately treated by oral medications. Clinical Trials Information: ClinicalTrials.gov Identifier: NCT01136785.

**Database:** Medline

**15. Enteral feeding in critically ill children requiring noninvasive positive pressure ventilation**

**Author(s):** Leroue M.; Good R.; Skillman H.; Czaja A.

**Source:** Critical Care Medicine; Dec 2016; vol. 44 (no. 12); p. 191

**Publication Date:** Dec 2016

**Publication Type(s):** Conference Abstract

Available at [Critical Care Medicine](http://ovidsp.ovid.com/athens/ovidweb.cgi?T=JS&PAGE=fulltext&D=ovft&CSC=Y&NEWS=N&SEARCH=0090-3493.is+and+%2244%22.vo+and+%2212%22.ip+and+%22191%22.pg+or+%2210.1097/01.ccm.0000509136.71374.66%22.di) - from Ovid (Journals @ Ovid) - Remote Access

Available at [Critical Care Medicine](https://go.openathens.net/redirector/nhs?url=http%3A%2F%2Fovidsp.ovid.com%2Fovidweb.cgi%3FT%3DJS%26PAGE%3Dfulltext%26D%3Dovft%26CSC%3DY%26NEWS%3DN%26SEARCH%3D0090-3493.is%2Band%2B%2244%22.vo%2Band%2B%2212%22.ip%2Band%2B%22191%22.pg%2Bor%2B%2210.1097%2F01.ccm.0000509136.71374.66%22.di) - from Ovid (LWW High Impact Collection) - 2019

Available at [Critical Care Medicine](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [Critical Care Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Learning Objectives: Enteral nutrition (EN) improves outcomes for critically ill children but initiation may be delayed in those on non-invasive positive pressure ventilation (NIPPV) due to safety concerns. We examined enteral feeding practices for children needing NIPPV in the pediatric intensive care unit (PICU). Method(s): This retrospective cohort included children admitted to our PICU between 8/1/2014 to 6/30/2015 requiring NIPPV [high flow cannula (HHF), continuous (CPAP) or bi-level positive airway pressure (BiPAP or average volume assured pressure)]. Exclusion criteria were NIPPV use <24h, intubation prior to NIPPV, or parenteral nutrition dependence. Logistic regression analyses were performed to measure the independent association between clinical factors and EN initiation in <24h. Result(s): Among subjects meeting inclusion criteria (n=562), the median age was 2y (IQR 39d-7y), 43% were under/overweight, and 54% had prior chronic conditions (CC). Bronchiolitis/pneumonia and asthma were the most common diagnoses. Initial NIPPV mode was bi-level (33%), CPAP (26%), & HHF (41%). The NIPPV mode at EN initiation was bi-level (32%), CPAP (13%), HHF (42%), & none (13%). 64% started EN in <24h. Route of EN was via oral route (54%), new transpyloric (30%) or nasogastric (30%) tube, or permanent tubes (8%). Children initiating EN in <24h were more likely to receive goal calories and protein (p<0.001) but only 49% of the cohort achieved these goals. 12% experienced >=1 complication. On univariate analysis, age, abnormal weight, presence of >=1 CC, higher severity of illness, initial and max NIPPV mode, & need for continuous sedation had decreased association with initiating EN in <24h. On multivariate analysis, only use of bi-level (OR 0.40; 95%CI 0.25-0.63) and need for continuous sedation (OR 0.59; 95%CI 0.35- 0.97) remained significant. Conclusion(s): Critically ill children on NIPPV are at risk for receiving inadequate nutrition, especially those on higher NIPPV support or continuous sedation. Although complication rate was low, further study to determine the relative benefits and risks of EN in this population is warranted.

**Database:** EMBASE

**16. Effect of Continuous Positive Airway Pressure on Glycemic Control in Patients with Obstructive Sleep Apnea and Type 2 Diabetes. A Randomized Clinical Trial.**

**Author(s):** Martínez-Cerón, Elisabet; Barquiel, Beatriz; Bezos, Ana-Maria; Casitas, Raquel; Galera, Raúl; García-Benito, Cristina; Hernanz, Angel; Alonso-Fernández, Alberto; Garcia-Rio, Francisco

**Source:** American journal of respiratory and critical care medicine; Aug 2016; vol. 194 (no. 4); p. 476-485

**Publication Date:** Aug 2016

**Publication Type(s):** Research Support, Non-u.s. Gov't Randomized Controlled Trial Journal Article

**PubMedID:** 26910598

Available at [American Journal of Respiratory and Critical Care Medicine](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1073-449X&volume=194&issue=4&spage=476) - from ProQuest (Health Research Premium) - NHS Version

Available at [American Journal of Respiratory and Critical Care Medicine](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [American Journal of Respiratory and Critical Care Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**RATIONALEObstructive sleep apnea (OSA) is a risk factor for type 2 diabetes that adversely impacts glycemic control. However, there is little evidence about the effect of continuous positive airway pressure (CPAP) on glycemic control in patients with diabetes.OBJECTIVESTo assess the effect of CPAP on glycated hemoglobin (HbA1c) levels in patients with suboptimally controlled type 2 diabetes and OSA, and to identify its determinants.METHODSIn a 6-month, open-label, parallel, and randomized clinical trial, 50 patients with OSA and type 2 diabetes and two HbA1c levels equal to or exceeding 6.5% were randomized to CPAP (n = 26) or no CPAP (control; n = 24), while their usual medication for diabetes remained unchanged.MEASUREMENTS AND MAIN RESULTSHbA1c levels, Homeostasis Model Assessment and Qualitative Insulin Sensitivity Check Index scores, systemic biomarkers, and health-related quality of life were measured at 3 and 6 months. After 6 months, the CPAP group achieved a greater decrease in HbA1c levels compared with the control group. Insulin resistance and sensitivity measurements (in noninsulin users) and serum levels of IL-1β, IL-6, and adiponectin also improved in the CPAP group compared with the control group after 6 months. In patients treated with CPAP, mean nocturnal oxygen saturation and baseline IL-1β were independently related to the 6-month change in HbA1c levels (r(2) = 0.510, P = 0.002).CONCLUSIONSAmong patients with suboptimally controlled type 2 diabetes and OSA, CPAP treatment for 6 months resulted in improved glycemic control and insulin resistance compared with results for a control group. Clinical trial registered with www.clinicaltrials.gov (NCT01801150).

**Database:** Medline

**17. The Effect of Treatment of Obstructive Sleep Apnea on Glycemic Control in Type 2 Diabetes.**

**Author(s):** Shaw, Jonathan E; Punjabi, Naresh M; Naughton, Matthew T; Willes, Leslee; Bergenstal, Richard M; Cistulli, Peter A; Fulcher, Greg R; Richards, Glenn N; Zimmet, Paul Z

**Source:** American journal of respiratory and critical care medicine; Aug 2016; vol. 194 (no. 4); p. 486-492

**Publication Date:** Aug 2016

**Publication Type(s):** Research Support, Non-u.s. Gov't Randomized Controlled Trial Multicenter Study Journal Article

**PubMedID:** 26926656

Available at [American journal of respiratory and critical care medicine](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1073-449X&volume=194&issue=4&spage=486) - from ProQuest (Health Research Premium) - NHS Version

Available at [American journal of respiratory and critical care medicine](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [American journal of respiratory and critical care medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**RATIONALEThere is uncertainty about the effects of treating obstructive sleep apnea on glycemic control in patients with type 2 diabetes.OBJECTIVESTo determine whether treatment of obstructive sleep apnea in patients with type 2 diabetes improves glycemic control.METHODSIn this trial, we randomized patients with type 2 diabetes and no previous diagnosis of obstructive sleep apnea, with a glycated hemoglobin level of 6.5-8.5%, and an oxygen desaturation index of 15 or more events per hour to positive airway pressure therapy or to usual care.MEASUREMENTS AND MAIN RESULTSA total of 416 patients met the entry criteria as determined by each site and were randomized. Of the 298 participants who met centrally adjudicated entry criteria, no differences between the study groups were seen for change in glycated hemoglobin. Furthermore, there were no between-group differences when analyses were restricted to those with poorer baseline glycemic control, those with more severe sleep apnea, or those who were adherent to therapy. A greater fall in diastolic blood pressure occurred in the positive airway pressure group than in the usual care group (-3.5 mm Hg vs. -1.5 mm Hg; P = 0.07). This difference was significant in those who were adherent to positive airway pressure therapy (-4.4 mm Hg vs. -1.6 mm Hg; P = 0.02). There was a significant reduction in sleepiness in the positive airway pressure therapy group (P < 0.0001). Quality of life assessment revealed improvements in vitality, mental health, and mental component summary scores in the positive airway pressure therapy group.CONCLUSIONSThis trial showed no effect of positive airway pressure therapy on glycemic control in patients with relatively well-controlled type 2 diabetes and obstructive sleep apnea. Clinical trial registered with www.clinicaltrials.gov (NCT00509223).

**Database:** Medline

**18. Changes in Vitamin D Status after Nasal Continuous Positive Airway Pressure: Could Alterations in Systemic Inflammatory Markers Explain These Observations?**

**Author(s):** Eng, Kristen J; Quraishi, Sadeq A

**Source:** Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine; Dec 2015; vol. 11 (no. 12); p. 1471

**Publication Date:** Dec 2015

**Publication Type(s):** Letter Comment

**PubMedID:** 26414982

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://europepmc.org/search?query=(DOI:10.5664/jcsm.5294)) - from Europe PubMed Central - Open Access

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](https://jcsm.aasm.org/doi/pdf/10.5664/jcsm.5294) - from Unpaywall

**Database:** Medline

**19. Estrogen Deficiency Hampers the Beneficial Effect of Continuous Positive Airway Pressure Therapy on Serum Vitamin D Concentrations in Postmenopausal Women Affected by Obstructive Sleep Apnea.**

**Author(s):** Liguori, Claudio; Romigi, Andrea; Izzi, Francesca; Mercuri, Nicola Biagio; Marciani, Maria Grazia; Placidi, Fabio

**Source:** Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine; Dec 2015; vol. 11 (no. 12); p. 1473-1474

**Publication Date:** Dec 2015

**Publication Type(s):** Letter Comment

**PubMedID:** 26446250

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://europepmc.org/search?query=(DOI:10.5664/jcsm.5296)) - from Europe PubMed Central - Open Access

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](https://jcsm.aasm.org/doi/pdf/10.5664/jcsm.5296) - from Unpaywall

**Database:** Medline

**20. Nutritional Risk Screening 2002 as a Predictor of Outcome During General Ward-Based Noninvasive Ventilation in Chronic Obstructive Pulmonary Disease with Respiratory Failure.**

**Author(s):** Cui, Jinbo; Wan, Qunfang; Wu, Xiaoling; Zeng, Yihua; Jiang, Li; Ao, Dongmei; Wang, Feng; Chen, Ting; Li, Yanli

**Source:** Medical science monitor : international medical journal of experimental and clinical research; Sep 2015; vol. 21 ; p. 2786-2793

**Publication Date:** Sep 2015

**Publication Type(s):** Research Support, Non-u.s. Gov't Journal Article Observational Study

**PubMedID:** 26386778

Available at [Medical science monitor : international medical journal of experimental and clinical research](http://europepmc.org/search?query=(DOI:10.12659/MSM.894191)) - from Europe PubMed Central - Open Access

Available at [Medical science monitor : international medical journal of experimental and clinical research](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Medical science monitor : international medical journal of experimental and clinical research](http://europepmc.org/articles/pmc4581684?pdf=render) - from Unpaywall

**Abstract:**BACKGROUND Noninvasive ventilation (NIV) may reduce the need for intubation and mortality associated with chronic obstructive pulmonary disease (COPD) with type II respiratory failure. Early and simple predictors of NIV outcome could improve clinical management. This study aimed to assess whether nutritional risk screening 2002 (NRS2002) is a useful outcome predictor in COPD patients with type II respiratory failure treated by noninvasive positive pressure ventilation (NIPPV). MATERIAL AND METHODS This prospective observational study enrolled COPD patients with type II respiratory failure who accepted NIPPV. Patients were submitted to NRS2002 evaluation upon admission. Biochemical tests were performed the next day and blood gas analysis was carried out prior to NIPPV treatment and 4 hours thereafter. Patients were divided into NRS2002 score ≥3 and NRS2002 score <3 groups and NIV failure rates were compared between both groups. RESULTS Of the 233 patients, 71 (30.5%) were not successfully treated by NIPPV. The failure rate was significantly higher in the NRS2002 score ≥3 group (35.23%) in comparison with patients with NRS2002 score <3 (15.79%) (p<0.05). Multivariate analysis indicated that PaCO2 (OR 1.25, 95%CI 1.172-1.671, p<0.05) prior to NIPPV treatment and NRS2002 score ≥3 (OR 1.76, 95%CI 1.303-2.374, p<0.05) were independent predictive factors for NIPPV treatment failure. CONCLUSIONS NRS2002 score ≥3 and PaCO2 values at admission may predict unsuccessful NIPPV treatment of COPD patients with type II respiratory failure and help to adjust therapeutic strategies. NRS2002 is a noninvasive and simple method for predicting NIPPV treatment outcome.

**Database:** Medline

**21. Safety of enteral nutrition in patients with noninvasive ventilation for acute respiratory failure**

**Author(s):** Kogo M.; Nagata K.; Ito J.; Sato Y.; Teraoka S.; Kato R.; Shimizu R.; Otoshi T.; Fujimoto D.; Nakagawa A.; Otsuka K.; Tomii K.

**Source:** European Respiratory Journal; Sep 2015; vol. 46

**Publication Date:** Sep 2015

**Publication Type(s):** Conference Abstract

Available at [European Respiratory Journal](http://erj.ersjournals.com/lookup/doi/10.1183/13993003.congress-2015.PA2182) - from HighWire - Free Full Text

Available at [European Respiratory Journal](http://www.uhl-library.nhs.uk/directpages/gh.html) - from Glenfield Hospital Library Local Print Collection [location] : Glenfield Library.

Available at [European Respiratory Journal](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [European Respiratory Journal](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Background: Early nutrition appears to be effective for acute respiratory failure; however, airway problems such as mucus plug and vomiting could be serious complications of noninvasive ventilation (NIV). The safety of early enteral nutrition among patients receiving noninvasive ventilation is not well known. Method(s): Of 85 patients who admitted in our respiratory department for acute respiratory failure and received NIV more than 48 hours, data on 70 who were incapable of eating themselves were retrospectively examined. Comparing the patients with and without enteral nutrition, we investigated their clinical background and complications. Result(s): 49 (70%) of the 70 patients incapable of eating themselves who received NIV had enteral nutrition. Patients with normal PaCO2 level, low albumin level tend to receive enteral nutrition (p=0.049,<0.01 respectively).The patients with enteral nutrition had a significant higher rate of airway problems and longer NIV days (p=0.046, 0.049 respectively). There was no relationship between enteral nutrition and in-hospital mortality. Conclusion(s): Among patients receiving NIV, enteral nutrition didn't improve in-hospital mortality, but was associated with an increased risk of airway problems and longer duration of NIV. This result could call attention to enteral nutrition in patients on NIV for acute respiratory failure.

**Database:** EMBASE

**22. Eight Hours of Nightly Continuous Positive Airway Pressure Treatment of Obstructive Sleep Apnea Improves Glucose Metabolism in Patients with Prediabetes. A Randomized Controlled Trial.**

**Author(s):** Pamidi, Sushmita; Wroblewski, Kristen; Stepien, Magdalena; Sharif-Sidi, Khalid; Kilkus, Jennifer; Whitmore, Harry; Tasali, Esra

**Source:** American journal of respiratory and critical care medicine; Jul 2015; vol. 192 (no. 1); p. 96-105

**Publication Date:** Jul 2015

**Publication Type(s):** Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Randomized Controlled Trial Journal Article

**PubMedID:** 25897569

Available at [American journal of respiratory and critical care medicine](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1073-449X&volume=192&issue=1&spage=96) - from ProQuest (Health Research Premium) - NHS Version

Available at [American journal of respiratory and critical care medicine](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [American journal of respiratory and critical care medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [American journal of respiratory and critical care medicine](http://europepmc.org/articles/pmc4511421?pdf=render) - from Unpaywall

**Abstract:**RATIONALEAlthough obstructive sleep apnea (OSA) is associated with impaired glucose tolerance and diabetes, it remains unclear whether OSA treatment with continuous positive airway pressure (CPAP) has metabolic benefits.OBJECTIVESTo determine the effect of 8-hour nightly CPAP treatment on glucose metabolism in individuals with prediabetes and OSA.METHODSIn a randomized controlled parallel group study, 39 participants were randomly assigned to receive either 8-hour nightly CPAP (n = 26) or oral placebo (n = 13). Sleep was polysomnographically recorded in the laboratory on each night. CPAP adherence was ensured by continuous supervision. Participants continued their daily routine activities outside the laboratory. Glucose metabolism was assessed at baseline and after 2 weeks of assigned treatment using both the oral and intravenous glucose tolerance tests. The primary outcome was the overall glucose response as quantified by the area under the curve for glucose during 2-hour oral glucose tolerance testing. Secondary outcomes included fasting and 2-hour glucose and insulin, the area under the curves for insulin and insulin secretion, norepinephrine, insulin sensitivity, acute insulin response to glucose, and 24-hour blood pressure.MEASUREMENTS AND MAIN RESULTSThe overall glucose response was reduced (treatment difference: -1,276.9 [mg/dl] · min [95% confidence interval, -2,392.4 to -161.5]; P = 0.03) and insulin sensitivity was improved (treatment difference: 0.77 [mU/L](-1) · min(-1) [95% confidence interval, 0.03-1.52]; P = 0.04) with CPAP as compared with placebo. Additionally, norepinephrine levels and 24-hour blood pressure were reduced with CPAP as compared with placebo.CONCLUSIONSIn patients with prediabetes, 8-hour nightly CPAP treatment for 2 weeks improves glucose metabolism compared with placebo. Thus, CPAP treatment may be beneficial for metabolic risk reduction. Clinical trial registered with www.clinicaltrials.gov (NCT 01156116).

**Database:** Medline

**23. Continuous Positive Airway Pressure Treatment Increases Serum Vitamin D Levels in Male Patients with Obstructive Sleep Apnea.**

**Author(s):** Liguori, Claudio; Romigi, Andrea; Izzi, Francesca; Mercuri, Nicola Biagio; Cordella, Alberto; Tarquini, Enza; Giambrone, Maria Pia; Marciani, Maria Grazia; Placidi, Fabio

**Source:** Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine; Jun 2015; vol. 11 (no. 6); p. 603-607

**Publication Date:** Jun 2015

**Publication Type(s):** Journal Article

**PubMedID:** 25766695

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://europepmc.org/search?query=(DOI:10.5664/jcsm.4766)) - from Europe PubMed Central - Open Access

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://europepmc.org/articles/pmc4442220?pdf=render) - from Unpaywall

**Abstract:**STUDY OBJECTIVERecent studies report a link between obstructive sleep apnea (OSA) syndrome, low vitamin D levels, and high parathyroid hormone (PTH) concentrations. The aim of the current study is to evaluate the effect of 7-night continuous positive airway pressure (CPAP) therapy on serum vitamin D, PTH, and calcium levels in patients with severe OSA syndrome.METHODSPatients with severe OSA were enrolled into the study and compared to control subjects. Patients with OSA underwent CPAP therapy for 7 nights and were consequently divided into responders (OSA-R, mean residual AHI 5/h). Serum vitamin D, PTH, and calcium levels were measured at baseline in patients with severe OSA (apnea-hypopnea index > 30/h) and control subjects. Patients with OSA underwent a final morning blood sample after 7-night CPAP therapy.RESULTSWe enrolled 90 patients with OSA into the study (65 OSA-R and 25 OSA-nR) compared to 32 control subjects. At baseline, lower vitamin D and higher PTH levels were detected in the OSA group compared to controls. After 7-night CPAP therapy, male OSA-R patients showed a significant increase in vitamin D levels. Conversely, female OSA-R patients did not show the same increase in vitamin D levels. It was also observed that OSA-nR subjects did not show modifications of serum markers after nCPAP-therapy.CONCLUSIONSThe study demonstrates that short-term nCPAP treatment is able to promote the recovery of vitamin D homeostasis in male patients with OSA. The mediation of sexual hormones in regulating vitamin D is a possible explanation of the lack of recovery of vitamin D homeostasis in female patients with OSA as it often affects postmenopausal women.

**Database:** Medline

**24. High-flowoxygen via nasal continuous positive airway pressure (HFO2-NCPAP) has no effect on oral feeding in neonatal & adult/geriatric populations**

**Author(s):** Leder S.B.; Siner J.M.; Bizzarro M.J..; Lefton-Greif M.A.

**Source:** Dysphagia; Dec 2014; vol. 29 (no. 6); p. 800

**Publication Date:** Dec 2014

**Publication Type(s):** Conference Abstract

Available at [Dysphagia](http://openurl.ebscohost.com/linksvc/linking.aspx?genre=article&issn=1432-0460&volume=29&issue=6&spage=737&title=Dysphagia) - from EBSCO (MEDLINE Complete)

Available at [Dysphagia](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=0179-051X&volume=29&issue=6&spage=737) - from ProQuest (Health Research Premium) - NHS Version Full text from Jan 1997 to Dec 1999, then Jan 2002 to present.

Available at [Dysphagia](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [Dysphagia](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Purpose: HFO2-NCPAP is increasingly common in intensive care units. Despite the critical interface between respiration & swallowing the impact of HFO2-NCPAP on deglutition is unknown. It was hypothesized that HFO2-NCPAP would not impede successful oral feeding in neonatal & adult/geriatric populations. Method(s): Age, sex, O2 flow rates/min, O2 requirements, O2 saturation levels (Sp02), & feeding status (see Table 1) were recorded from 100 consecutive patients (50 neonatal & 50 adult/geriatric) requiring HFO2-NCPAP. Feeding status was determined by institutional protocol: neonates & adults/geriatrics deemed safe to feed by their physicians or adults/geriatrics after passing FEES. Result(s): As shown in the table: \*All 18 neonates deemed appropriate by the neonatologist for oral alimentation tolerated oral feedings. \* \*All 39 adults/geriatrics deemed appropriate by the intensivist for oral alimentation or who passed FEES tolerated oral feedings. Conclusions (including clinical relevance): HFO2-NCPAP did not affect successful feeding in neonatal or adult/geriatric populations. Patients requiring HFO2-NCPAP should be referred for swallowing evaluations using the same criteria as patients who do not require HFO2-NCPAP. It is not the use of HFO2-NCPAP but rather population specific determinates of feeding readiness & the underlying medical conditions that impact oral feeding status. (Figure Presented).

**Database:** EMBASE

**25. Energy and protein intakes of hospitalised patients with acute respiratory failure receiving non-invasive ventilation.**

**Author(s):** Reeves, Anneli; White, Hayden; Sosnowski, Kellie; Tran, Khoa; Jones, Mark; Palmer, Michelle

**Source:** Clinical nutrition (Edinburgh, Scotland); Dec 2014; vol. 33 (no. 6); p. 1068-1073

**Publication Date:** Dec 2014

**Publication Type(s):** Journal Article Observational Study

**PubMedID:** 24321188

Available at [Clinical nutrition (Edinburgh, Scotland)](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [Clinical nutrition (Edinburgh, Scotland)](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**BACKGROUND & AIMNutritional intake of patients in acute respiratory failure receiving non-invasive ventilation has not previously been described, and no protocols have been developed to guide practice to optimise nutritional status. We aimed to measure energy and protein intakes of patients in acute respiratory failure requiring non-invasive ventilation receiving standard hospital nutritional care.METHODSFood and fluid intake forms were completed by nursing staff for all meals and mid meals for patients admitted with respiratory failure commencing on non-invasive ventilation. Intake was converted from quartiles of food consumed into energy and protein to enable comparison with estimated daily requirements using descriptive statistics. Multinomial stepwise regression analysis was used to determine factors associated with inadequate protein and energy intake.RESULTSOver 283 total days of intake, 36 participants (67% female, aged 65 ± 9 years) achieved on average 1434 ± 627 kcal and 63 ± 29 g protein daily. Overall, 28 patients (78%, 95% CI: 61-90%) met less than 80% of estimated energy requirements and 27 patients (75%, 95% CI: 58-88%) met less than 80% of estimated protein requirements. Being fed orally, longer time on non-invasive ventilation and higher BMI were associated with poorer intakes. Better nutritional status on admission and measuring intake closer to hospital discharge was associated with improved intakes.CONCLUSIONPatients with acute respiratory failure requiring non-invasive ventilation often had inadequate oral intake, particularly with increasing time on non-invasive ventilation, and earlier during their hospital admission. Development of protocols to optimise nutritional intake for these patients may improve outcomes and reduce regular readmission rates.

**Database:** Medline

**26. PP232-MON NUTRITIONAL STATUS OF PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME TREATED BY POSITIVE AIRWAY PRESSURE.**

**Author(s):** Jesus, P.; Arnold, V.; Fayemendy, P.; Samptiaux, P.; Melloni, B.; Desport, J.C.

**Source:** Clinical Nutrition; Sep 2013; vol. 32

**Publication Date:** Sep 2013

**Publication Type(s):** Academic Journal

Available at [Clinical Nutrition](http://www.uhl-library.nhs.uk/directpages/uhlarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).

Available at [Clinical Nutrition](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Database:** CINAHL

**27. Meta-analysis: continuous positive airway pressure improves insulin resistance in patients with sleep apnea without diabetes.**

**Author(s):** Iftikhar, Imran H; Khan, Meena F; Das, Aneesa; Magalang, Ulysses J

**Source:** Annals of the American Thoracic Society; Apr 2013; vol. 10 (no. 2); p. 115-120

**Publication Date:** Apr 2013

**Publication Type(s):** Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Meta-analysis Journal Article Review

**PubMedID:** 23607839

Available at [Annals of the American Thoracic Society](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=2329-6933&volume=10&issue=2&spage=115) - from ProQuest (Health Research Premium) - NHS Version

Available at [Annals of the American Thoracic Society](http://europepmc.org/articles/pmc3960898?pdf=render) - from Unpaywall

**Abstract:**RATIONALEObstructive sleep apnea (OSA) is an independent risk factor for the development of insulin resistance (IR). Treatment with continuous positive airway pressure (CPAP) for OSA has shown conflicting results on IR.OBJECTIVESTo conduct a meta-analysis of randomized controlled trials (RCTs) that have evaluated the effect of CPAP on a validated index of IR, the homeostasis model assessment of insulin resistance (HOMA-IR).METHODSPubMed and Embase were searched through August 10, 2012. Two independent reviewers screened citations to identify trials of the effect of CPAP on HOMA-IR. Data were extracted for postintervention HOMA-IR values.MEASUREMENTS AND MAIN RESULTSA total of five studies that enrolled 244 subjects (83% male) met the inclusion criteria. None of the subjects in the included studies had diabetes. The pooled estimate of the difference in means in HOMA-IR between the CPAP and sham CPAP/control groups was -0.44 (95% confidence interval, -0.82 to -0.06; P = 0.02). The funnel plot does not suggest the presence of any publication bias. The I-squared index for the data on difference in means in HOMA-IR between the CPAP and sham CPAP/control groups was 0.00 (P = 0.61).CONCLUSIONSThe pooled estimate of RCTs shows a favorable effect of CPAP on insulin resistance as measured by HOMA-IR in patients with OSA without diabetes. The effect size on HOMA-IR is modest, but not insignificant, when compared with the effects of thiazolidinedione in nondiabetic patients with metabolic syndrome. Further research and RCTs are warranted involving a larger number of patients and longer treatment periods to determine the beneficial effects of CPAP on IR.

**Database:** Medline

**28. Effects of continuous positive airway pressure on glycemic control and insulin resistance in patients with obstructive sleep apnea: a meta-analysis.**

**Author(s):** Yang, Dan; Liu, Zhihong; Yang, Haixing; Luo, Qin

**Source:** Sleep & breathing = Schlaf & Atmung; Mar 2013; vol. 17 (no. 1); p. 33-38

**Publication Date:** Mar 2013

**Publication Type(s):** Meta-analysis Journal Article

**PubMedID:** 22411171

Available at [Sleep & breathing = Schlaf & Atmung](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=22411171) - from EBSCO (MEDLINE Complete)

Available at [Sleep & breathing = Schlaf & Atmung](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1520-9512&volume=17&issue=1&spage=33) - from ProQuest (Health Research Premium) - NHS Version

Available at [Sleep & breathing = Schlaf & Atmung](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**BACKGROUNDPrevious studies addressing the question of whether continuous positive airway pressure (CPAP) could improve the insulin resistance and glucose control in patients with obstructive sleep apnea (OSA) have led to conflicting results. Therefore, we conducted the meta-analysis to evaluate the effects of CPAP on glycemic control and insulin resistance in OSA patients.METHODSWe searched PubMed, HighWire Press, Ovid Medline (R), Cochrane library, and EMBASE before December 2011 on original English language studies. The meta-analysis was conducted using Review Manager Version 5.RESULTSThe summary estimate for mean difference of homeostasis model assessment insulin resistance (HOMA) from 12 non-diabetic studies was -0.55 (95 % CI, -0.91 to -0.20; P = 0.002). When compared with fasting blood glucose at baseline, 3 to 24 weeks of CPAP treatment did not improve glycemic control in non-diabetic subjects (-0.12; 95 % CI, -0.3 to 0.06; P = 0.20), as well as in diabetic subjects (-0.71; 95 % CI, -2.24 to 0.83; P = 0.37). There were no intervention-related changes in body mass index.CONCLUSIONSOur analysis showed that CPAP significantly improved insulin resistance in non-diabetic patients with moderate to severe OSA, while no significant change in body mass index was detected. Compared with fasting blood glucose at baseline, there was no change in glycemic control with CPAP. Further large-scale, randomized, and controlled studies are needed to evaluate the longer treatment and its possible effects on weight loss and glycemic homeostasis.

**Database:** Medline

**29. Modest changes in cerebral glucose metabolism in patients with sleep apnea syndrome after continuous positive airway pressure treatment.**

**Author(s):** Ju, Gawon; Yoon, In-Young; Lee, Sang Don; Kim, Yu Kyeong; Yoon, Eunjin; Kim, Jeong-Whun

**Source:** Respiration; international review of thoracic diseases; 2012; vol. 84 (no. 3); p. 212-218

**Publication Date:** 2012

**Publication Type(s):** Research Support, Non-u.s. Gov't Comparative Study Journal Article

**PubMedID:** 22678052

Available at [Respiration; international review of thoracic diseases](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=22678052) - from EBSCO (MEDLINE Complete)

Available at [Respiration; international review of thoracic diseases](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=0025-7931&volume=84&issue=3&spage=212) - from ProQuest (Health Research Premium) - NHS Version

Available at [Respiration; international review of thoracic diseases](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**BACKGROUNDDecreased cerebral glucose metabolism has been reported in patients with sleep apnea syndrome (SAS), but it has yet to be decided whether cerebral glucose metabolism in SAS can be altered by continuous positive airway pressure (CPAP) treatment.OBJECTIVEThe aim of this study was to evaluate cerebral glucose metabolism changes in patients with SAS after CPAP treatment.METHODSThirteen middle-aged male patients with severe SAS [mean age 49.3 ± 7.2 years, mean apnea-hypopnea index (AHI) 60.4 ± 21.2] and 13 male controls (mean age 46.0 ± 9.4 years, mean AHI 4.1 ± 3.7) participated in the study. All 26 study subjects underwent fluorodeoxyglucose-positron emission tomography (FDG-PET), but SAS patients underwent FDG-PET twice, namely before and 3 months after acceptable CPAP usage.RESULTSSignificant hypometabolism was observed in the bilateral prefrontal areas, left cuneus and left cingulate cortex of SAS patients before CPAP, and after CPAP, significant increases in cortical glucose metabolism were observed in the bilateral precentral gyri and left anterior cingulate cortex. However, these improvements in hypometabolism in both areas were insufficient to reach control levels, and hypometabolism in other regions persisted after CPAP treatment.CONCLUSIONSReduced cerebral glucose metabolism in the precentral gyrus and the cingulate cortex in patients with SAS was modestly improved by acceptable CPAP treatment. The findings of this study suggest that acceptable CPAP usage cannot completely reverse reduced cerebral glucose metabolism in SAS patients. Further studies are required to evaluate the long-term effects of CPAP treatment with total compliance.

**Database:** Medline

**30. Effects of CPAP-respiration on markers of glucose metabolism in patients with obstructive sleep apnoea syndrome: a systematic review and meta-analysis.**

**Author(s):** Hecht, Lars; Möhler, Ralph; Meyer, Gabriele

**Source:** German medical science : GMS e-journal; 2011; vol. 9 ; p. Doc20

**Publication Date:** 2011

**Publication Type(s):** Meta-analysis Journal Article Review Systematic Review

**PubMedID:** 21863134

Available at [German medical science : GMS e-journal](http://europepmc.org/search?query=(DOI:10.3205/000143)) - from Europe PubMed Central - Open Access

**Abstract:**BACKGROUNDObstructive Sleep Apnoea Syndrome (OSAS) is a condition of obstruction, apneas and arousals while sleeping. It has been suggested that OSAS independently influences glucose metabolism. The main treatment for OSAS is continuous positive airways pressure (CPAP).OBJECTIVESTo assess the effects of CPAP on insulin resistance and glucose metabolism.SEARCH STRATEGYWe searched Medline, Embase and the Cochrane Controlled Trial Register (January 2010).SELECTION CRITERIAWe included randomised and non-randomised trials comparing CPAP with inactive control or placebo CPAP in adults with OSAS.DATA COLLECTION AND ANALYSISTwo authors independently assessed trial quality and extracted data. Parallel and crossover group trials were analysed separately. A meta-analysis was carried out.RESULTSThree parallel group and two cross-over randomised trials and one controlled trial were included investigating 296 participants. Sample sizes ranged from n=13 to n=102 participants, age was 18 to 75 years, mean body mass index (BMI) 27.2 kg/m² to 37.1 kg/m², mean apnoe hypopnoe index (AHI) 29.7 to 39.7 events per hour, mean dips >4% in arterial oxygen saturation per hour of sleep 1 to 42.7 events. The studies' methodological quality varied. Follow-up ranged from 4 to 12 weeks. Various endpoints were investigated. CPAP did neither influence plasma insulin levels nor HOMA-index, adiponectin levels or HbA1c value. One study reported a significant positive effect on the insulin sensitivity index (1.68%/min, 95% CI 0.3 to 3.06).CONCLUSIONThis systematic review does not support the hypothesis that OSAS independently influences glucose metabolism. Sufficiently powered, long-term randomised controlled trials defining changes of insulin resistance as primary endpoint are needed.

**Database:** Medline

**31. Is Non-Invasive Ventilation associated with increased risk of weight loss for patients hospitalised with acute COPD exacerbations?**

**Author(s):** Østerås, Haldis; Aasbjørg, Monika; Gustad, Lise Tuset

**Source:** Norwegian Journal of Clinical Nursing / Sykepleien Forskning; Jun 2011 (no. 2); p. 124-132

**Publication Date:** Jun 2011

**Publication Type(s):** Academic Journal

Available at [Sykepleien Forskning](https://static.sykepleien.no/sites/default/files/documents/forsknings/674729.pdf?c=1410453150) - from Unpaywall

**Abstract:**Background: People with Chronic Obstructive Pulmonary Disease (COPD) have increased risk of nutritional depletion. Exacerbations often lead to respiratory failure and are the main reason for acute hospitalisation with COPD. The sickest get acute treatment with Non-Invasive Ventilation (NIV). Little research regarding nutritional status and weight loss has been found for those patients admitted to hospital with exacerbations and severe COPD and those that need acute NIV treatment. Objectives: To map nutritional status for COPD patients admitted to hospital with acute exacerbation. Record weight development during hospitalisation including patients with severe COPD and the need for acute NIV. Method: A one-year descriptive study including all consenting COPD patients admitted with exacerbations. Outcome measures include prospective data collection regarding number of meals in the home, body mass index (BMI), weight at admission and discharge. Results: Of 93 admissions during the study year, 50 (54%) participated. 13 patients were exluded because of the missing data on weight. In the study population (n=50), 28 (56%) have nutritional risk at admission and 19 (38%) are underweight. Nutritional depletion at admission is related to severe COPD (p=0.03). Each day of a stay in the hospital increases the risk of weight loss >2% of admission weight with 80%. NIV treatment is a risk factor for weight loss during the first three days of treatment. If the treatment continues beyond three days, the risk of weight loss decreases.

**Database:** CINAHL

**32. CPAP therapy of obstructive sleep apnea in type 2 diabetics improves glycemic control during sleep.**

**Author(s):** Dawson, Arthur; Abel, Susan L; Loving, Richard T; Dailey, George; Shadan, Farhad F; Cronin, John W; Kripke, Daniel F; Kline, Lawrence E

**Source:** Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine; Dec 2008; vol. 4 (no. 6); p. 538-542

**Publication Date:** Dec 2008

**Publication Type(s):** Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Clinical Trial Journal Article

**PubMedID:** 19110882

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://europepmc.org/search?query=(DOI:10.5664/jcsm.27347)) - from Europe PubMed Central - Open Access

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](https://www.ncbi.nlm.nih.gov/pubmed/19110882) - from PubMed

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](https://doi.org/10.5664/jcsm.27347) - from doi.org

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2603530/) - from PubMed Central

Available at [Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine](https://jcsm.aasm.org/doi/pdf/10.5664/jcsm.27347) - from Unpaywall

**Abstract:**BACKGROUNDType 2 diabetes and obstructive sleep apnea (OSA) are frequently comorbid conditions. OSA is associated with increased insulin resistance, but studies of continuous positive airway pressure (CPAP) have shown inconsistent effects on glycemic control. However, endpoints such as hemoglobin A1c and insulin sensitivity might not reflect short-term changes in glycemic control during sleep.METHODSWe used a continuous glucose-monitoring system to measure interstitial glucose every 5 minutes during polysomnography in 20 patients with type 2 diabetes and newly diagnosed OSA. The measurements were repeated after an average of 41 days of CPAP (range 26-96 days). All patients were on a stable diet and medications. Each 30-second epoch of the polysomnogram was matched with a continuous glucose-monitoring system reading, and the sleeping glucose level was calculated as the average for all epochs scored as sleeping.RESULTSThe mean sleeping glucose decreased from untreated (122.0 +/- 61.7 mg/dL) to treated (102.9 +/- 39.4 mg/dL; p = 0.03 by Wilcoxon paired rank test). The sleeping glucose was more stable after treatment, with the median SD decreasing from 20.0 to 13.0 mg/dL (p = 0.005) and the mean difference between maximum and minimum values decreasing from 88 to 57 mg/dL (p= 0.003). The change in the mean hemoglobin A1c from 7.1% to 7.2% was not significant.CONCLUSIONSOur study is limited by the lack of a control group, but the results suggest that sleeping glucose levels decrease and are more stable after patients with type 2 diabetes and OSA are treated with CPAP.

**Database:** Medline

**33. Aerophagia and gastroesophageal reflux disease in patients using continuous positive airway pressure: A preliminary observation**

**Author(s):** Watson N.F.; Mystkowski S.K.

**Source:** Journal of Clinical Sleep Medicine; Oct 2008; vol. 4 (no. 5); p. 434-438

**Publication Date:** Oct 2008

**Publication Type(s):** Article

Available at [Journal of Clinical Sleep Medicine](http://europepmc.org/search?query=(DOI:10.5664/jcsm.27278)) - from Europe PubMed Central - Open Access

Available at [Journal of Clinical Sleep Medicine](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [Journal of Clinical Sleep Medicine](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2576329/) - from PubMed Central

Available at [Journal of Clinical Sleep Medicine](https://www.ncbi.nlm.nih.gov/pubmed/18853700) - from PubMed

Available at [Journal of Clinical Sleep Medicine](https://jcsm.aasm.org/doi/pdf/10.5664/jcsm.27278) - from Unpaywall

**Abstract:**Study Objectives: Aerophagia is a complication of continuous positive airway pressure (CPAP) therapy for sleep disordered breathing (SDB), whereupon air is forced into the stomach and bowel. Associated discomfort can result in CPAP discontinuation. We hypothesize that aerophagia is associated with gastroesophageal reflux disease (GERD) via mechanisms involving GERD related lower esophageal sphincter (LES) compromise. Method(s): Twenty-two subjects with aerophagia and 22 controls, matched for age, gender, and body mass index, who were being treated with CPAP for SDB were compared in regard to clinical aspects of GERD, GERD associated habits, SDB severity as measured by polysomnography, and mean CPAP pressure. Result(s): More subjects with aerophagia had symptoms of GERD (77.3% vs. 36.4%; p < 0.01) and were on GERD related medications (45.5% vs. 18.2%, p < 0.05) than controls. Regarding polysomnography, mean oxygen saturation percentages were lower in the aerophagia group than controls (95.0% vs. 96.5%, p < 0.05). No other differences were observed, including mean CPAP pressures. No one in the aerophagia group (vs. 27.3% of the control group) was a current tobacco user (p < 0.01). There was no difference in caffeine or alcohol use between the 2 groups. Conclusion(s): These results imply aerophagia is associated with GERD symptoms and GERD related medication use. This finding suggests a relationship between GERD related LES pathophysiology and the development of aerophagia in patients with SDB treated with CPAP.

**Database:** EMCARE

**34. The effect of continuous positive airway pressure on glucose control in diabetic patients with severe obstructive sleep apnea.**

**Author(s):** Hassaballa, Hesham A; Tulaimat, Aiman; Herdegen, James J; Mokhlesi, Babak

**Source:** Sleep & breathing = Schlaf & Atmung; Dec 2005; vol. 9 (no. 4); p. 176-180

**Publication Date:** Dec 2005

**Publication Type(s):** Journal Article

**PubMedID:** 16283228

Available at [Sleep & breathing = Schlaf & Atmung](http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=47856&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1520-9512&volume=9&issue=4&spage=176) - from ProQuest (Health Research Premium) - NHS Version

Available at [Sleep & breathing = Schlaf & Atmung](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**Obstructive sleep apnea (OSA) is independently associated with glucose intolerance and insulin resistance, and recent studies have shown that continuous positive airway pressure (CPAP) improves insulin sensitivity. The objective of this study was to describe the change in glycosylated hemoglobin (HbA1c) after treatment with CPAP in patients with type 2 diabetes mellitus and OSA. To test this hypothesis, we performed a retrospective analysis of 38 patients seen in the sleep clinic of an urban public teaching hospital. All patients had OSA and type 2 diabetes mellitus, and their diabetic medication regimen had remained unchanged during the period of CPAP therapy. Sixty-one percent were men, body mass index was 42+/-9.5 kg/m(2), and the Apnea-Hypopnea Index was 53+/-36 per hour. HbA1c before therapy with CPAP was 7.8+/-1.4% and decreased to 7.3+/-1.3% after 134+/-119 days of therapy (p<0.001). Treatment with CPAP leads to a clinically significant drop in HbA1c in patients with type 2 diabetes mellitus and severe OSA.

**Database:** Medline

Strategy 845360

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| **#** | **Database** | **Search term** | **Results** |
| 1 | Medline | (CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab | 13817 |
| 2 | Medline | ("continuous positive airway pressure").ti,ab | 9098 |
| 3 | Medline | (nCPAP).ti,ab | 1079 |
| 4 | Medline | "CONTINUOUS POSITIVE AIRWAY PRESSURE"/ | 6926 |
| 5 | Medline | (1 OR 2 OR 3 OR 4) | 19297 |
| 6 | Medline | (feed\*).ti | 89802 |
| 7 | Medline | (nutrition\*).ti | 100138 |
| 8 | Medline | (diet\*).ti | 175204 |
| 9 | Medline | exp "FEEDING METHODS"/ | 44041 |
| 10 | Medline | exp \*"DIET, FOOD, AND NUTRITION"/ | 1353176 |
| 11 | Medline | NUTRITIONISTS/ OR DIETETICS/ | 8329 |
| 12 | Medline | (6 OR 7 OR 8 OR 9 OR 10 OR 11) | 1520277 |
| 13 | Medline | (5 AND 12) | 346 |
| 14 | CINAHL | (CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab | 5611 |
| 15 | CINAHL | ("continuous positive airway pressure").ti,ab | 3480 |
| 16 | CINAHL | (nCPAP).ti,ab | 336 |
| 17 | CINAHL | "CONTINUOUS POSITIVE AIRWAY PRESSURE"/ | 5444 |
| 18 | CINAHL | (14 OR 15 OR 16 OR 17) | 9478 |
| 19 | CINAHL | (feed\*).ti | 21895 |
| 20 | CINAHL | (nutrition\*).ti,ab | 110191 |
| 21 | CINAHL | (diet\*).ti,ab | 133872 |
| 22 | CINAHL | exp "FEEDING METHODS"/ | 44941 |
| 23 | CINAHL | exp NUTRITION/ | 168690 |
| 24 | CINAHL | DIETITIANS/ | 5603 |
| 25 | CINAHL | DIETETICS/ | 2447 |
| 26 | CINAHL | (19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25) | 321825 |
| 27 | CINAHL | (18 AND 26) | 241 |
| 28 | EMCARE | (CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab | 5652 |
| 29 | EMCARE | ("continuous positive airway pressure").ti,ab | 3756 |
| 30 | EMCARE | (nCPAP).ti,ab | 421 |
| 31 | EMCARE | \*"POSITIVE END EXPIRATORY PRESSURE"/ | 4532 |
| 32 | EMCARE | (28 OR 29 OR 30 OR 31) | 9461 |
| 33 | EMCARE | (feed\*).ti | 20711 |
| 34 | EMCARE | (nutrition\*).ti,ab | 113502 |
| 35 | EMCARE | (diet\*).ti,ab | 152018 |
| 36 | EMCARE | "GERIATRIC NUTRITION"/ | 575 |
| 37 | EMCARE | exp DIET/ | 82489 |
| 38 | EMCARE | exp "DIETARY INTAKE"/ | 173924 |
| 39 | EMCARE | NUTRITION/ | 42660 |
| 40 | EMCARE | DIETETICS/ | 1997 |
| 41 | EMCARE | DIETITIAN/ | 5359 |
| 42 | EMCARE | (33 OR 34 OR 35 OR 36 OR 37 OR 38 OR 39 OR 40 OR 41) | 362690 |
| 43 | EMCARE | (32 AND 42) | 223 |
| 44 | EMBASE | (CPAP OR NIV OR "non-invasive ventilation" OR "noninvasive ventilation").ti,ab | 26641 |
| 45 | EMBASE | ("continuous positive airway pressure").ti,ab | 13322 |
| 46 | EMBASE | (nCPAP).ti,ab | 1549 |
| 47 | EMBASE | \*"POSITIVE END EXPIRATORY PRESSURE"/ | 15821 |
| 48 | EMBASE | (44 OR 45 OR 46 OR 47) | 38433 |
| 49 | EMBASE | (feed\*).ti | 94680 |
| 50 | EMBASE | (nutrition\*).ti | 116073 |
| 51 | EMBASE | (diet\*).ti | 207792 |
| 52 | EMBASE | "GERIATRIC NUTRITION"/ | 869 |
| 53 | EMBASE | exp \*DIET/ | 103021 |
| 54 | EMBASE | exp \*"DIETARY INTAKE"/ | 144176 |
| 55 | EMBASE | NUTRITION/ | 104509 |
| 56 | EMBASE | DIETETICS/ | 5374 |
| 57 | EMBASE | DIETITIAN/ | 11636 |
| 58 | EMBASE | (49 OR 50 OR 51 OR 52 OR 53 OR 54 OR 55 OR 56 OR 57) | 592047 |
| 59 | EMBASE | (48 AND 58) | 169 |