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**Table 39-3.** Plasma pH, HCO<sub>3</sub><sup>-</sup>, and Pco<sub>2</sub> values in various typical disturbances of acid-base balance.<sup>a</sup>

Condition	Arterial Plasma			Cause
	pH	HCO <sub>3</sub> <sup>-</sup> (meq/L)	Pco <sub>2</sub> (mm Hg)	
NORMAL	7.40	24.1	40	
Metabolic acidosis	7.28	18.1	40	NH <sub>4</sub> Cl ingestion
	6.96	5.0	23	Diabetic acidosis
Metabolic alkalosis	7.50	30.1	40	NaHCO <sub>3</sub> ingestion
	7.56	49.8	58	Prolonged vomiting
Respiratory acidosis	7.34	25.0	48	Breathing 7% CO <sub>2</sub>
	7.34	33.5	64	Emphysema
Respiratory alkalosis	7.53	22.0	27	Voluntary hyperventilation
	7.48	18.7	26	Three-week residence at 4000-m altitude

<sup>a</sup>In the diabetic acidosis and prolonged vomiting examples, respiratory compensation for primary metabolic acidosis and alkalosis has occurred, and the Pco<sub>2</sub> has shifted from 40 mm Hg. In the emphysema and high-altitude examples, renal compensation for primary respiratory acidosis and alkalosis has occurred and has made the deviations from normal of the plasma HCO<sub>3</sub><sup>-</sup> larger than they would otherwise be.

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**Analisis Gas Darah pada Kucing yang Mengalami Laparohisterotomi dengan Anestesi Xylazin-Ketamin dan Xylazin-Propofol**

(BLOOD GAS ANALYSIS OF XYLAZIN, KETAMIN AND XYLAZIN-PROPOFOL FOR ANESTHESIA TO LAPARO-HISTEROTOMY SURGERY IN CAT)

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**ABSTRAK**

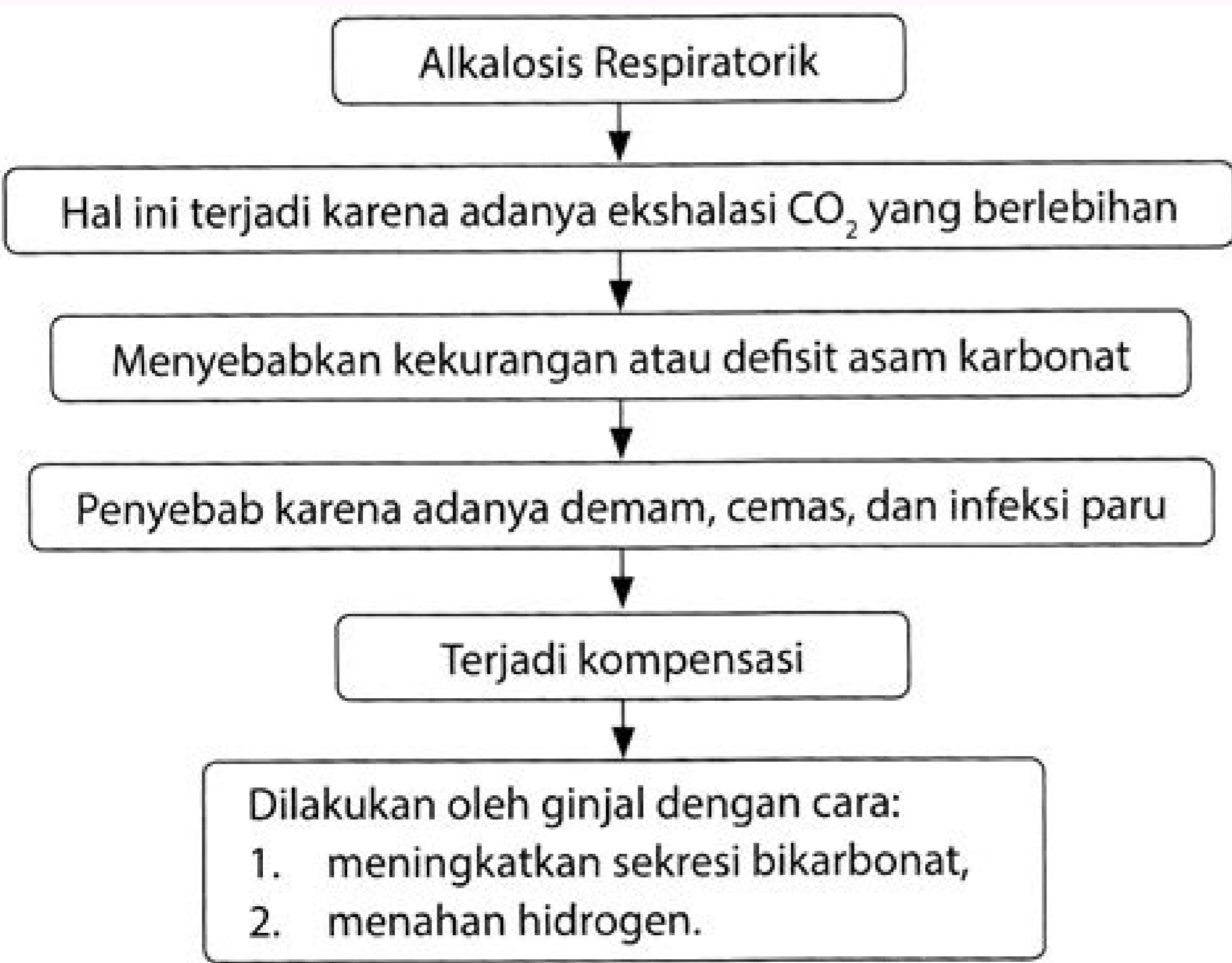
Penelitian ini bertujuan untuk mengukur kadar gas dalam darah pada penggunaan kombinasi xylazin-ketamin dan xylazin-propofol dengan dosis berulang sebagai anestesi pada bedah laparo-histerotomi kucing sehingga dapat diketahui berapa komposisinya. Penelitian ini menggunakan 10 ekor kucing betina umur 12-18 bulan, selanjutnya kucing dibagi menjadi 2 kelompok, yaitu P1: atropin 0,04 mg/kg BB subkutan + xylazin 2 mg/kg BB intramuskuler + ketamin 20 mg/kg BB intramuskuler dan P2: atropin 0,04 mg/kg BB subkutan + xylazin 2 mg/kg BB intramuskuler + propofol 20 mg/kg BB intravena. Masing-masing kelompok diambil darahnya pada vena femoralis pada menit ke-0 (sebelum perlakuan), 15, 30, 45, dan 60 untuk pengukuran gas darah yaitu pH, pCO<sub>2</sub> dan HCO<sub>3</sub><sup>-</sup>. Selanjutnya setelah kucing teranestesi, maka dilakukan operasi laparo-histerotomi. Hasil analisis gas darah dianalisis dengan menggunakan rumus-rumus asam-basa. Hasil penelitian menunjukkan bahwa kedua kombinasi xylazin-ketamin dan xylazin-propofol merupakan tidak ada perbedaan yang nyata (p>0,05) terhadap hasil analisis gas darah yaitu pH, pCO<sub>2</sub> dan HCO<sub>3</sub><sup>-</sup> selain itu kedua kombinasi obat anestesi menyebabkan asidosis metabolik dengan kompensasi alkalosis respiratorik yang cukup sempurna, sehingga cukup aman digunakan sebagai anestesi untuk jenis operasi yang membutuhkan waktu yang cukup lama seperti laparo-histerotomi.

Kata kunci : Xylazin, ketamin, propofol, asidosis metabolik, alkalosis respiratorik

**ABSTRACT**

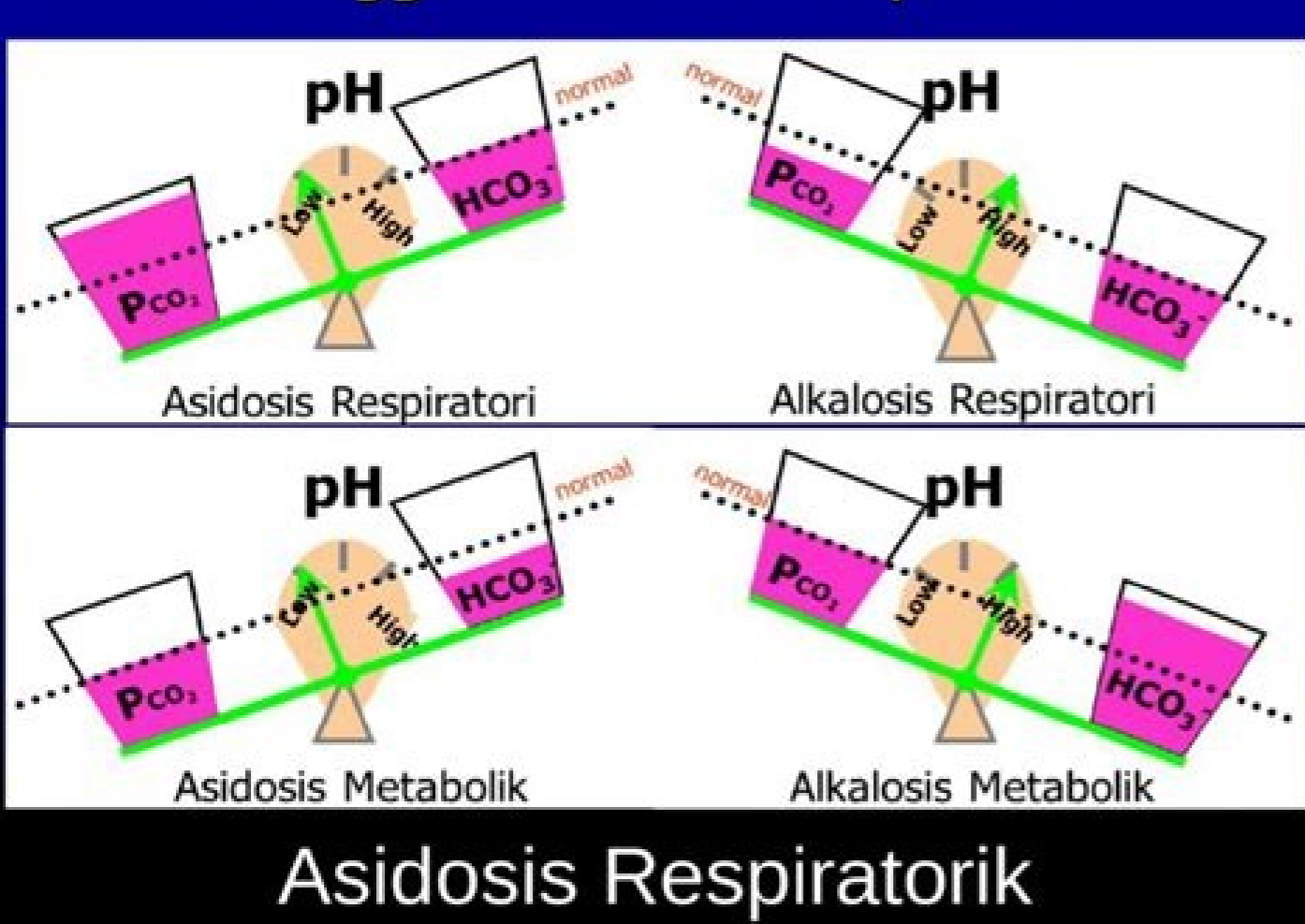
The aim of this research was to study the safety application of xylazine-ketamine and xylazine-propofol recurrent dosage combination as anaesthesia for laparo-histerotomy surgery in cat. This research used 10 female cats, 12-18 months of age, followed randomly divided into two groups. P1: atropine 0.04 mg/kg BW SC + xylazine 2 mg/kg BW IM + ketamine 20 mg/kg BW IM, P2: atropine 0.04 mg/kg BW SC + xylazine 2 mg/kg BW IM + Propofol 20 mg/kg BW IV. The blood of the all groups was taken from vena femoralis at 0 minute before treatment, 15, 30, 45 and 60 minutes during anaesthesia for measurement of blood gas value pH, pCO<sub>2</sub> and HCO<sub>3</sub><sup>-</sup>. After all animals were anaesthetized, the animals were treated laparo-histerotomy surgery. The data were analysed by using Randomized Complete Block Design (RCBD). The result showed both of groups were not significantly different (p>0.05) to blood gas values for pH, pCO<sub>2</sub> and HCO<sub>3</sub><sup>-</sup>. Besides, both groups anaesthetic agent perfectly caused metabolic acidosis with respiratory alkalosis compensation perfectly, therefore it is relatively safe to use as anaesthetic agent for surgery that needs long time procedure, as laparo-histerotomy.

Key word : Xylazine, ketamine, propofol, metabolic acidosis, respiratory alkalosis



**Gambar 18.7** Patofisiologi Alkalosis Respiratorik

**Gangguan asam-basa primer**



Prinsip utama penatalaksanaan asidosis respiratorik adalah.

In fact, often the symptoms are not felt by the owner. Thank you for reading. Treatment of chronic acidosis In chronic forms, the goal of treatment is on the management of the underlying condition. The aim is to improve the function of the airways. What causes respiratory acidosis? Living a smoke-free lifestyle can also help. How helpful is this information to you? (1 Not helpful / 5 Very helpful) Thanks for the advice and feedback! We will improve the quality of our services to make them more useful. Excess CO2 also causes the pH of blood and other body fluids to decrease so that it becomes too acidic. There are several treatments for respiratory acidosis, including: Treating acute acidosis Treating acute acidosis usually means addressing the underlying cause as soon as possible. Respiratory acidosis is the increase in acid levels in the body due to the fact that the lungs are not able to secrete enough carbon dioxide (CO2) produced by the body. Advertisement by HonestDocs Free Ongkir All Indonesia & Can COD & FREE Pharmacist Consultation & Some tests that can help doctors diagnose respiratory acidosis include: Blood Gas Analysis Blood gas is a series of tests used to measure oxygen and CO2 in the blood. In acute form, self-respirators should be administered, e.g. positive pressure ventilation with a facial mask. Use sedatives carefully and do not exceed the dose that has been set as it may cause side effects in the form of respiratory disturbances. Some strategies include: antibiotics (to treat infections) diuretics (to reduce excess fluid affecting the heart and lungs) bronchodilators (to expand the airways) corticosteroids (to reduce inflammation) mechanical ventilation (in severe cases) What are the dangers of complications of respiratory acidosis that can arise? As regards it concerns dan dan gejala awal asidosis respiratorik akut meliputi sakit kepala, gelisah, penglihatan kabur, dan bingung. Sedangkan asidosis respiratorik kronis berkembang secara lambat dan relatif ringan. Iklan dari HonestDocs Gratis Ongkir Seluruh Indonesia & Can COD & FREE Bisa COD & GRATIS Konsultasi Apoteker & Pada asidosis respiratorik kronis, gejalanya tidak terlihat nyata. Iklan dari HonestDocs Gratis Ongkir Seluruh Indonesia & Can COD & GRATIS Konsultasi Apoteker & Asidosis respiratorik bukanlah penyakit yang berdiri sendiri, melainkan dampak dari penyakit atau kondisi yang berhubungan dengan masalah pernafasan. Satu atau lebih dari elektrolit akan meningkat atau menurun pada orang dengan gangguan asam basa. Ini termasuk keadaan darurat yang apabila tidak segera ditangani, gejalanya akan semakin memburuk dan bisa mengancam jiwa. Jaga berat badan. Mencampur obat penenang dengan alkohol juga bisa berakibat fatal. Penanganan asidosis respiratorik sebagian besar dilakukan di layanan kesehatan karena menyangkut penanganan dari penyakit yang mendasarinya. Tujuan dari tes diagnostik pada keadaan ini adalah untuk mencari ketidakseimbangan pH dan menentukan tingkat keparahannya, serta untuk menentukan kondisi yang menyebabkan ketidakseimbangan tersebut. Bagaimana mencegah Asidosis Respiratorik? X-ray dada X-ray dapat membantu dokter melihat cedera atau masalah lain yang mungkin menyebabkan asidosis respiratorik. Cara terbaik untuk mencegah asidosis respiratorik adalah dengan menghindari penyebab penyakit yang mendasarinya. Laboran akan mengambil sampel darah dari arteri. Hati-hati dengan obat What are the characteristics and symptoms of respiratory acidosis? Other tests also include anti-drug tests, a complete emochyotometric examination and urine analysis. What are the treatments and drugs of respiratory acidosis in the health service? For example, producing more bicarbonate to balance blood pH. High CO2 levels can indicate acidosis. Another artificial ventilation can also be needed. Many people with respiratory acidosis experience a decrease in pulmonary function. Normally, the body is able to balance ions that control acidity. The electrolytic exam is a test group that measure the levels of Na + (sodium), K + (potassium), cl- (chloride) and bicarbonate. It is not a renal disease as in the case of metabolic acidosis. Sedative drugs can suppress the central nervous system. Without good treatment, other serious symptoms can appear, such as drowsiness or fatigue, lethargy, delirium or confusion, lack of breath and coma. Another condition, known as melipolic acidosis, can cause similar symptoms and doctors need to perform tests to make sure the problem is only respiratory. Avoid cigarette smoke. To ensure the diagnosis of respiratory acidosis, a support exam is required. Smoking can make pulmonary function worse and increase the risk of respiratory diseases and can negatively affect the general quality of life. Based on the above tests, the doctor can also perform other tests to help diagnose the basic condition that causes respiratory acidosis. Patients with respiratory acidosis have the potential to experiment with complications unless treated early, for example in the form of renal failure until death. However, it should always be cautious, because some diseases and circumstances can cause chronic respiratory acidosis to change esuaC esuaC. atuca airotaripser isodica eratevid e oiggep Chronic replacors include: regarding acute respiratory acidosis is generally caused by lung disorders (COPD, emphysema, asthma, pneumonia), diseases that influence the respiratory frequency, muscle weakness that affects breathing or when they take deep breaths, Blocked airways (due to suffocation or other causes), sedative overdoses and heart failure. The lungs secrete acid by removing CO2 and the kidneys expel acid through urine. Acute respiratory acidosis quickly and instantly clearly. The kidneys also adjust the

bicarbonate concentration (bases) in the blood. How to treat respiratory acidosis at home? Because, the body can adapt to the acidity that increases slowly. The lungs and kidneys are the main organs that help regulate the pH of blood. This balance is measured on a pH scale from 0 to 14. Maintaining a healthy weight can reduce the risk of this condition. These tests measure the quantity of acid in the body, which can be caused by renal failure, diabetes or other conditions, and include glucose, lactate and ketones. Acidosis occurs when the blood pH drops below 7.35 (normal blood pH is between 7.35 and 7.45). Smokers are at the highest risk of chronic respiratory acidosis. There are two forms of respiratory acidosis: acute and chronic. chronic.

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