GREENLIGHT CLINICAL GUIDELINES

Respiratory Rate

September 2018

Respiration Rate Monitoring Guidelines

Introduction

'Respiration rate' (RR) is a clinical observation that measures how many breaths a person takes per minute. A single respiration is counted as a breath in and out. This document will explain how to use a heart rate monitor and count a RR, it will give basic information on how the machine works and how to interpret the given results.

What is a Respiration Rate Range?

A healthy respiration rate (RR) is widely considered to vary between 12-16 breaths per minutes. This range itself can vary with age, fitness levels and activity level.

Tachypnoea: >17 breaths per minute.

Bradypnoea: < 12 breaths per minute.

Hyperventilation: Overbreathing – often seen as rapid deep breaths.

Outside of the healthy range a patient is at risk of respiratory dysfunction, potentially leading ultimately to a Respiratory Arrest.

If you obtain a high or low reading encourage the patient to relax and retake the respiration rate again. If the respiration rate remains out of range, consider a Doctors review.

If a patient has any signs of significant difficulty in breathing, please do not hesitate to call an ambulance.

Common Causes for Abnormal Respiration Rates

There are many different causes for an abnormal respiration rate:

-COPD
-Asthma
-Infection in the lungs
-Allergic reaction
-Pulmonary embolism
-Aspiration

Common Medications to Treat and Regulate Respiratory Conditions

-Salbutamol (Pump)
-Budesonide (Pump)
-Beclomethasone (Pump)
-Tiotropium (Pump)
-Atrovent (Pump)
-Carbocysteine
-Aminophylline
-Prednisolone

How to take a Respiration Rate

Take a respiration rate is a different in that this is the only procedure that you do not directly obtain consent from the patient prior to doing it, as evidence shows that by doing this will alter a person's resting rate.

Step 1: Include monitoring a RR into the checking of other vital signs. E.g after checking the rhythm and rate of the heart rate.
Step 2: Whilst keeping your hand on the patient's wrist count how many breaths (one breath is considered one inspiration and one expiration) for one minute.
Step 3: Document the Respiration rate and Heart rate.
Step 4: Wash and dry your hands thoroughly.

References:

Dougherty. L, Lister. S & West-Oram (2015) *The Royal Marsden Manual of Clinical Nursing Procedures, 9th edn.* Wiley, London.

Mariab. N (2006) *Essentials of Human Anatomy & Physiology, 8th edn,* Pearson, San Francisco.

National Institute for Health and Care Excellence (2010) . *Chronic obstructive pulmonary disease in over 16s: diagnosis and management.* Available at: https://www.nice.org.uk/guidance/CG101/chapter/1-Guidance#managing-stable-copd [Accessed 21 September 2018]

National Institute for Health and Care Excellence (2017). *Asthma: diagnosis, monitoring and chronic asthma management* Available at: https://www.nice.org.uk/guidance/ng80/chapter/Recommendations#initial-clinical-assessment [Accessed 21 September 2018]

Mechanical: Using Pulse Oximeter (POx)

Step 1: Wash and dry your hands thoroughly.
Step 2: Obtain consent and explain procedure.
Step 3: Find the site on which you will place the POx. Check the capillary refill (≤4), that the area is warm and that the finger is clear of dirt, nail varnish and false nails.
Step 4: Place the POx on the finger, making sure that it is not too tight restricting blood flow to the area.
Step 5: Turn on the POx and document the HR (Be mindful that the Blood Saturations may also be shown on the screen).
Step 6: Remove the POx and clean.
Step 7: Wash and dry your hands thoroughly.

NB All Greenlight Clinical Guidelines are based upon approved existing guidelines adapted for the specific use and demographic of service users seen on the medical van in the community.