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| Protocol: Carbon Monoxide (CO) Monitoring. ABL Health - Wirral |
| Date: 1st April 2016 – 31st March 2017 |
| Review date: 1st March 2017 |
| Version: 1 |
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| Purpose |
| To ensure robust service delivery and data quality.  To ensure correct use of CO monitors and comply with infection control. |
| Background |
| Carbon Monoxide (CO) is a toxic gas which is inhaled by smokers from cigarettes. It binds to carboxyhaemoglobin (COhb) leading to arterial walls becoming more permeable, increasing the formation of plaque. In pregnancy, CO inhibits the release of oxygen into foetal tissue. Due to its` short half-life the elimination of CO from the body becomes slower as smoking decreases, and is usually undetectable after 24 hours after the last cigarette is smoked.  CO monitoring is an evidenced based, non-invasive, cost effective, highly motivating tool for smokers trying to quit. The test provides a digital result, parts per million, (ppm). It is also an alternative measure of success in a harm reduction approach where clients are cutting down the number cigarettes prior to quitting or temporary abstinence.  Heavy smoking or mode of smoking, for example, Shisha / Water pipes, or alternative products such as Cannabis, can result in higher levels of CO. Lactose intolerance can also result in raised expired CO levels. Abnormally high expired CO levels (70 + ppm) could also be due to the exposure of faulty gas appliances. In these circumstances the client should be given advice about CO poisoning, if necessary advised to attend Accident and Emergency and encouraged to contact the Health and Safety Executive, tel. 0800 300 363.  The effects of chronic exposure to CO include headache, fatigue and poor concentration.  CO verification rates are an essential marker of data quality as self-reporting can be unreliable, therefore CO verification rates are one of the most important markers of data quality. 85% of 4 week quitters must be CO validated. |
| CO testing |
| CO testing should be carried out on all smokers to provide a marker of smoking status at every consultation.  Clients should be asked to hold their breath for 15 seconds (10 seconds minimum) before blowing into the monitor. Clients with physical inability to hold their breath for 15 seconds, for example those with COPD, may need to practice holding their breath, to enable them to complete the test. In certain circumstances this will not be possible. |
| Infection control |
| Hand sanitizer gel should be used before and after using the machine.  Cardboard tubes or straws are single use only and must be changed for every client. The client should be asked to insert and remove the tube or straw from the monitor. They must be discarded into a waste bag and disposed of safely. In circumstances where there is a possibility of higher infection risk the waste should be double bagged and the bag disposed safely.  Where applicable, an adapter should be used which has a one- way valve that prevents inhalation from the monitor. Changing adapters must comply with the manufactures guidelines. Monitors must be wiped down after every session with non-alcohol wipes.  The necessary frequency of changing T pieces are as follows:- Usage guidance  Micro-medical – the adapter must be discarded and replaced every 6 months  Bedfont – the T pieces must be replaced monthly  BNC 2000 - the adapters must be replaced quarterly  All monitors must be calibrated according to manufactures instructions and checked regularly. This must be dated and electronically logged by the core Nicotine and Smoking Cessation service. |