SECTION 12.5

BLOOD GLUCOSE MONITORING DEVICES AND INSULIN MANAGEMENT

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Introduction
Monitoring of blood glucose levels involves the taking of a sample of capillary blood with a finger prick lancing device and testing it with a glucometer/blood glucose monitor (BGM).

Risk of Infection
Outbreaks of Hepatitis B in long-term care and assisted living facilities have been associated with blood glucose monitoring. The outbreaks have attributed to confusion between different types of lancing devices, the inappropriate and incorrect use of lancing devices, and to poor infection prevention and control practices e.g., in adequate cleaning of glucometers, vials or surfaces and inadequate hand hygiene.

Measures to Reduce the Risk of Infection
It is imperative that the risks of Blood Borne Virus (BBV) transmission are minimised by:
- avoiding unnecessary blood glucose monitoring
- HCW’s having Hepatitis B vaccination and knowing their immune status
- educating HCW’s and residents/clients on the risk of infection associated with blood glucose monitoring, in particular the risk of transmission of BBVs
- managing BGM devices and equipment correctly
- implementing Standard Precautions for all residents/clients at all times. The elements of Standard Precautions that apply to blood glucose monitoring are:
  - Hand hygiene
  - Personal protective equipment
  - Safe injection practices
  - Safe disposal of sharps
- Regularly auditing this procedure to ensure compliance with Standard Precautions

Hepatitis B Vaccination
Hepatitis B vaccination is recommended for at-risk groups in accordance with the national immunisation guidelines. At risk groups include healthcare workers, residents/clients with chronic kidney and liver diseases.

Education of Healthcare Workers and Residents/Clients
Healthcare workers and residents/clients involved in blood glucose monitoring and administration of insulin should be educated on the risks of infection associated with these processes and the link with BBV’s. It is also recommended that all staff receive education and training on Standard Precautions.

Management of Blood Glucose Monitoring (BGM) Devices
In long-term care facilities, it is recommended:
- to allocate an individual BGM device to each resident requiring one.
- that BGM devices must be marked with residents/clients details and stored clean either in a clean area or at the bedside where appropriate.

Where devices are not individually allocated, they must be appropriately cleaned and disinfected after each use according to manufacturers’ instructions. A copy of these instructions must be retained for reference.
Clean trays with only the required amount of equipment should be brought to the residents/clients bedside or other communal area.

Used items such as glucose monitoring strips, lancets etc must not be returned to a clean area or placed into a glucometer tray that holds supplies for clean items.

Having carried out blood glucose monitoring the tray should be emptied of all items cleaned and if required disinfected. Clean trays should be stored in the clean area of the treatment/clinical room.

In long term care facilities it is recommended that individual's glucometers/insulin pen are disposed of when no longer required or given to the resident on discharge/transfer.

In day care settings if clients require blood glucose monitoring request that client brings their own BGM and supplies.

**Standard Precautions**

Implementation of the following key elements of Standard Precaution is imperative in reducing the risk of transmission of BBV’s associated with blood glucose monitoring.

**Safe Injection Practices**

- Healthcare workers undertaking blood glucose monitoring must use disposable single use safety lancets where the firing mechanism and the lancet are both discarded as one single unit.

- Insulin pens are single resident/client use only and must never be used for multiple residents/clients. All pens must be labelled with the residents/clients name, date opened and location.

- Needles used with insulin pens must either be removed by the resident/client themselves or by the healthcare worker using a safety device to prevent needle stick injuries e.g. uniguard. If a safety device is not available insulin pens should not be used until the resident/client is able to self care.

- Multi-dose vials e.g. actrapid should be allocated where possible for single resident/client use – labelled as per the insulin pen. Prepare medication in the clean area.

**Hand Hygiene**

- Hands should be decontaminated with an alcohol hand rub if hands are visibly clean or a plain liquid soap prior to and after carrying out blood glucose monitoring.

**Personal Protective Equipment**

- Non- sterile disposable nitrile or latex gloves should be worn when carrying out blood glucose monitoring.

- Remove gloves and decontaminate hands after handling potentially blood contaminated objects such as the blood glucose monitoring device and before handling clean items such as residents record cards or insulin pen.
Disposal of Sharps
- A clean tray with integral sharps bin should be brought to the area where the procedure is to be carried out.
- Dispose of sharps as a single unit immediately after use into an approved sharps container.

Self Caring Residents/ Clients
Where residents/clients wish to use their own blood glucose monitoring equipment and insulin pens this equipment must be appropriately and safely stored.

In the healthcare setting lancet devices must be single use items with the exception of self caring residents/clients

Lancets used in a reusable pen style device must be removed by the resident/client themselves.

References and Bibliography


Kiss, P.; De Meester, M. and Braeckman, L. (2008) Needlestick injuries in Nursing Homes: The Prominent Role of Insulin Pens Infection Control and Hospital Epidemiology Vol 29; No 12 1192-1194