Accu-Chek Inform II Training

Keryn Smith, Roche April 2012
Bernice Smith and Anne-Marie Heffernan HVDHB
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>DHB</th>
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<tbody>
<tr>
<td>Bernice Smith</td>
<td>POCC, HVDHB</td>
<td>HVDHB</td>
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<tr>
<td>Jennie Johnson</td>
<td>HVDHB Programme Manager, Information Services</td>
<td>HVDHB</td>
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<tr>
<td>Stewart Clark</td>
<td>Lab Manager, HVDHB</td>
<td>HVDHB</td>
</tr>
<tr>
<td>Willie Andrews</td>
<td>IS HVDHB</td>
<td>HVDHB</td>
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<tr>
<td>Bela Jones</td>
<td>HVDHB Procurement</td>
<td>HVDHB</td>
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<tr>
<td>Clare Murphy</td>
<td>Quality Co-ordinator and POCC, CCDHB</td>
<td>CCDHB</td>
</tr>
<tr>
<td>Lindsay McTavish</td>
<td>Nursing Team Leader, EDRC, CCDHB</td>
<td>CCDHB</td>
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<tr>
<td>Simone Krauel</td>
<td>CCDHB Procurement</td>
<td>CCDHB</td>
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<tr>
<td>Will Humphrey</td>
<td>IT, CCDHB</td>
<td>CCDHB</td>
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<tr>
<td>Justin Southam</td>
<td>IT, CCDHB</td>
<td>CCDHB</td>
</tr>
<tr>
<td>Jason Makatea</td>
<td>IT, CCDHB</td>
<td>CCDHB</td>
</tr>
<tr>
<td>Sharon Clark</td>
<td>Pharmacy Purchasing</td>
<td>CCDHB</td>
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<tr>
<td>Russell Cooke</td>
<td>CCDHB Lab Manager</td>
<td>CCDHB</td>
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Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System
Cobas IT 1000 Software

Bi directional transfer

Operators, IDs and certification status.

New strips lots & QC lots

Patient Details for positive patient ID

I

B

A

QC results
(control 1 and 2)
Patient ID and results, time, date of test and operator ID
NHI Query
Blood Glucose Monitoring using Point of Care testing at HVDHB

Patient results
Blood Glucose Monitoring using Point of Care testing at HVDHB

Connectivity
Quality Assurance

a) POCT has the same level of quality assurance as is provided for all testing performed within the HVDHB Laboratory.
b) All POCT complies with the quality system requirements of the Laboratory, including Continuous Improvement strategies.
c) An appropriate QC programme is agreed and documented for all POCT. The QC programme for each POCT is outlined in the relevant POCT protocol.
d) Internal QC is performed at suitable intervals determined by the Laboratory staff.
e) Clinical staff using POCT are responsible for performing, recording, reviewing and actioning QC results.
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Aim of the policy

- To ensure quality and reliability of glucose results measured with the blood glucose meters
- To ensure that the result is used within the current HVDHB guidelines for monitoring and treatment
- To ensure that all Infection Control procedures are observed
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Related documents

Point of Care Testing
Management of High Blood Glucose for people with Type II Diabetes
Management of Diabetic Ketoacidosis (DKA)
Hypoglycemia Management for Adults on Insulin or Sulphonylureas
Waste Management
Health & Safety
Blood and Body Fluid Exposure
Standard Precautions
Sharps Policy
Transmission-Based Precautions
Equipment Cleaning, Disinfection and Sterilisation
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Quality Control

• Control 1 and 2 solutions run daily
• For each operator (at training and at 12 months recertification)
• For each new batch strips (lab does)

Lockout if not done.
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Calibration

• The process of testing and adjusting values obtained from an instrument or other measuring device to provide a known relationship between the response measurement and the value of the glucose measured by the procedure.

Strips are calibrated in the factory and the calibration is lot specific.
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Calibration Verification

Keep strips in the original vial

Always replace lid tightly after removing a strip
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Training and certification

- Operator ID information is stored centrally on cobas IT 1000 so operators can use any Accu-Chek Inform II meter within the hospital.
- Computer Login can be bar-coded onto all hospital ID card, so all that is required is to scan your barcode to log on to the Accu-Chek Inform II.
- Manual entry will require an F to be placed before the 7 digits i.e. F0101722.
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Training and certification

• Only trained operators will have a operator ID
• Operators should only use their own operator ID
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Training and certification

Information is imported into cobas IT 1000 from our old PCx system into the test/training system
Blood Glucose Monitoring using Point of Care testing at HVDHB
The Accu-Chek Inform II System

During this period we are using a test environment. Please use XXX1234 as Patient ID. Do not test/record or act on any results until we “go live”.
Blood Glucose Monitoring using Point of Care testing at HVDHB

Enter the complete NHl as patient ID
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Training and certification

• Training period is for 3 weeks
• Those staff who have done Control 1 and 2 and completed Survey Monkey

Will be certified in the LIVE system

All PCx will be removed. Monday 30th April
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Training and certification

Training Period till 30th April
• Trainer (you) trains staff in ward.
• Operators then use their own login and run Control 1 and 2
• Staff complete Survey Monkey on the intranet under Learning Tab

After 30th April
• Trainer (you) trains staff in ward.
• Staff complete Survey Monkey Learning module
• Laboratory staff manually enter login in Cobas IT 1000 and certify
• Operators then use their own login and run Control 1 and 2
Welcome to The Learning Centre

The Learning Centre is the home for our clinical and non-clinical training and education information. If you have any queries please contact the Learning Centre on extension 8603 or email learning_centre@huttvalleydhb.org.nz
Blood Glucose Monitoring using the Accu-Chek Inform II

Welcome to the new training resource for the new Blood Glucose Monitoring System - Accu-Chek Inform II.

Once you have completed your "hands on training" with your certified Accu-Chek Inform II trainer, please complete the short review test on Survey Monkey.

http://www.surveymonkey.com/s/MS9RPF2

This MUST be completed in order for you to certified to use the Accu-Chek Inform II glucose meter.
Blood Glucose Monitoring using Point of Care testing at HVDHB

Your role as

Accu-Chek Inform II trainer

• Train staff in the use of the Accu-Chek Inform II in accordance to the policy

Accu-Chek Inform II operator

• Responsible for quality of the glucose tests you perform
• Responsible for using of your unique operator ID when performing a glucose test and protecting your ID from use by others.
• Correctly entering patient NHI number
• Understand what glucose results mean and when action is required.
Blood Glucose Monitoring using Point of Care testing at HVDHB

HELP

The Laboratory keeps back-up meters 24/7. The same swap out procedure will be in place.

• Bernice Smith
  • POCT Co-Ordinator
  • Ext 8660 Wed and Fri or email
• Roche Diagnostics NZ Ltd
  • Techline: 0800 363 622
The Accu-Chek Inform II System

Overview

• First wireless hospital glucose meter

• Robust design, seamless casing able to withstand aggressive cleaners

• Touch screen with user friendly interface

• Long battery life
The Accu-Chek Inform II System
Overview

1. **Test strip port**
   Insert the test strip here.

2. **Touchscreen**
   (touch-sensitive display)
   This screen allows you to perform patient tests, perform controls tests, and review results. To select any of these functions, simply touch the button on the screen.

3. **On/Off button**
   Press this button to turn the meter on or off.
The Accu-Chek Inform II System

Overview

4. Barcode scanner (laser)
The integrated barcode scanner can be used to read operator and patient IDs.

5. RF card label
This label displays registration numbers that are specific to the RF card used in the meter.

6. Battery Pack
Powers the device.

7. Reset button
Use this button to reset the device. Reset will not alter configuration.

8. Charging contacts
These contacts are used to charge the batteries when the meter is in the base unit.

9. Infrared interface
Facilitates data communication with code key reader and base unit.

10. Cover for RF card
RF card for the wireless network (WLAN) is located behind this cover.
The Accu-Chek Inform II Base Unit/Base Unit Light

Overview

Both versions of the base unit have the following elements:

14. Charging contacts

15. Infrared window for communication with the meter

16. Status LED (lights up when power is connected):
   - Lights up red: Power supply is connected, application is starting up (Accu-Chek Inform II Base Unit only)
   - Lights up green: Ready
   - Flashes red: Error
   - Lights up blue: Configuration mode (Accu-Chek Inform II Base Unit only)

17. Jack for the power supply unit provided

18. Removable mount for wall installation

The Accu-Chek Inform II Base Unit has the following additional elements:

19. Network connection

20. USB connection
The Accu-Chek Inform II System

Data Transfer - Wireless

- Results transferred as soon as a measurement has been completed
- Every 10 minutes when meter is idle, even if the meter is switched off (e.g., to receive new information)
- After docking and then every 10 minutes after that

Remember to dock your meter for charging
The Accu-Chek Inform II System

*Data Transfer - Wired*

- Data communicated as soon as the meter is docked
- Every 10 minutes after that

It is important to dock the meter frequently to ensure data transfer of both results to the HIS and patient information to the meter.
The Accu-Chek Inform II Test Strip

Overview

- Same test strip used by 80% of people with Diabetes in the community (Performa)
- End dosing for easier testing
- 5 second test time using only 0.6µL of blood
- Six gold electrodes allow the system to perform a number of quality checks ensuring an accurate result every time

ALWAYS REPLACE THE LID TIGHTLY AFTER REMOVING A STRIP. KEEP STRIPS IN THE ORIGINAL VIAL.
The Accu-Chek Inform II Test Strip

Limitations

- If Peripheral circulation is impaired, collection of capillary blood from the approved sample sites is not advised as the results might not be a true reflection of the physiological blood glucose level.

- Blood concentrations of galactose $>0.83 \text{ mmol/L}$ will cause overestimation of blood glucose results. (Normal Range 0 – 3.33)

- Lipaemic samples (triglycerides) $>20.3 \text{ mmol/L}$ may produce elevated results. (Normal Range 0.34 – 3.7)

- Intravenous administration of ascorbic acid which results in blood concentrations of ascorbic acid $0.17 \text{ mmol/L}$ will cause overestimation of results. (Normal Range 0.023 – 0.114)

Haematocrit should be between 10-65%

If unsure of your result or any interferences, send a sample to the laboratory
The Accu-Chek Inform II System

**Powering Up**

1. Remove the meter from the base unit and press the Power button.

2. After performing self-checks, the Power Up screen appears.

3. Touch the button to manually proceed to the Operator ID screen, or wait 5 seconds and the meter will automatically proceed to the Operator ID screen.

In the Power Up screen you change the Contrast, activate/deactivate RF card and check the meter battery life.
Quality Control Testing with the Accu-Chek Inform II

Why test the Performa Quality Control Solution?

To be confident that I know my Accu-Chek Inform II device and my technique is working well and giving Blood Glucose results that are of appropriate analytical quality for patient care.
Quality Control Testing with the Accu-Chek Inform II Performa Quality Control Solution

• Has defined (known) values
  ➢ Level 1 (L1): Lo (low values in test results)
  ➢ Level 2 (L2): Hi (high values in test results)
• results for these solutions must first fall within a certain acceptable range in order to allow valid patient testing
• Three month stability once opened

Write the date on the side of each vial when first opened
Quality Control Testing with the Accu-Chek Inform II

QC Lockout

- QC Lockout is activated after 24 hours
- A QC result must be performed successfully before the operator can move to any other function on the machine (eg patient testing)
- When a glucose control test is run successfully, the counter is reset.
Testing with the Accu-Chek Inform II
Performing a Quality Control Test

1. Power up the meter by pressing the power button

2. Touch the ▶ or wait 5 seconds to proceed to the Operator ID Screen

3. Scan your barcode on your ID card holding the barcode scanner at least 10cm from your barcode or enter your ID Manually (eg F0108787)

4. Touch Control Test
Testing with the Accu-Chek Inform II
Performing a Quality Control Test

5. Scan in the barcode on the Control vial for desired level

6. Scan the strip lot. The meter will then perform the code key checks

7. When prompted, remove a test strip from the container and insert it into the test strip port as far as it will go.

8. Wait for the flashing drop to appear

ALWAYS CLOSE CONTAINER TIGHTLY AFTER REMOVING A STRIP
Testing with the Accu-Chek Inform II
Performing a Quality Control Test

9. Apply a drop of glucose control solution to the front edge of the test strip.

10. Control solution is pulled into the test strip by capillary action. The meter beeps and an hourglass appears while the meter completes the test.

11. Result is displayed as a PASS or FAIL. Your system will disallow further testing until all the required glucose control levels are successfully performed.
Testing with the Accu-Chek Inform II

Quality Control Testing

Should the result be outside the specified target range, proceed as follows:

- Suspend all further testing
- Check the date on the side of the QC vials to ensure it’s within 90 days
- Repeat the QC test

If the test continues to be outside the target range return the meter for assessment and retrieve a back up meter
Testing with the Accu-Chek Inform II

Preparing to Test

1. Operator to wash hands.
2. Identify patient.
3. Select, prepare and organise equipment.
4. Put on gloves.
5. Select site for skin puncture.
6. Clean and dry the site.
   • It needs to be clean and dry otherwise it interferes with the accuracy of the result. Also to avoid contamination by food, dilution with water, alcohol and to reduce risk of infection.
Testing with the Accu-Chek Inform II
Preparing to Test

7. Hold finger firmly

8. Position the lancet on the site and depress the plunger to make puncture and remove, discard Lancet in puncture resistant needle disposal unit.

9. Apply gentle pressure toward the site to create a drop of blood at the puncture site.

10. Wipe the first drop of blood from the puncture site, using gauze. Apply the second drop of blood to the test strip

11. Run test (see below).

When complete

12. Remove gloves and wash hands.
Testing with the Accu-Chek Inform II
Performing a Blood Glucose Test

1. Power up the meter by pressing the power button

2. Touch the ► or wait 5 seconds to proceed to the Operator ID Screen

3. Scan your barcode on your ID card holding the barcode scanner at least 10cm from your barcode or enter your ID Manually (eg F0108787)

4. Touch Patient Test to display the patient ID screen
Testing with the Accu-Chek Inform II
Performing a Blood Glucose Test

5. Enter the patients NHI Number using the keypad and touch the key. Verify the patient details.

6. Scan the strip lot. The meter will then perform the code key checks.

7. When prompted, remove a test strip from the container and insert it into the test strip port as far as it will go.

8. When flashing drop appears, clean the lancing site with a damp cloth/paper, alcohol gel or wipe.

ALWAYS CLOSE CONTAINER TIGHTLY AFTER REMOVING A STRIP

CLEANING AND DRYING THE FINGER AVOIDS CONTAMINATION FROM FOOD, DILUTION BY WATER AND ALSO HELPS PREVENT INFECTION
Testing with the Accu-Chek Inform II

Performing a Blood Glucose Test

9. Apply slight pressure to form a small drop of blood. Wipe away first drop and apply the SECOND drop of blood to the FRONT EDGE (yellow dosing area) of the strip.

10. Blood is pulled into the test strip by capillary action. The meter beeps and an hourglass appears while the meter completes the test.

11. The meter will beep on completion of the test and the result will be displayed. You can enter comments by touching.

12. The meter will alert you to results out of the programmed Normal, Critical and Reportable Ranges.
The Accu-Chek Inform II System

Memory

Meter stores **2000** patient, test results and maintenance logs results alongside:

- Patient ID, glucose control, or sample ID
- The lot numbers of the reagents used for glucose control and linearity tests
- Date and time of the test
- Comments entered at the time the test was performed
The Accu-Chek Inform II System

Accessing the Memory

1. Touch Review Results

2. Results are in sequential order and grouped by day. Touch ▼ or ▲ to scroll through the list.

3. Touch Patient and enter the patient ID to view results for that specific patient only

4. Touch QC, if you wish to display a list of glucose control tests
The Accu-Chek Inform II System

Maintenance and Care

Storage and Handling

- Handle the meter and its system components carefully. Avoid dropping it or banging it.
- Protect the base unit from dripping liquid.
- Do not immerse the meter or base unit in any liquid.
- Do not expose the meter to sources of excessive heat for prolonged periods of time when performing a test. Such as:
  - Leaving the meter under a bilirubin light or photo therapy light
  - Leaving the meter on a bed warmer
  - Leaving the meter in an incubator
Cleaning and Disinfection

- Use only HVDHB approved cleaning product only to clean and disinfect the meter, base unit and accessory box.

- Remove the meter from the base unit prior to cleaning and disinfection.

- Unplug the base unit prior to cleaning and disinfection.

- Wipe the surfaces with a soft cloth slightly dampened (not wet).

- Place the meter on a level surface while wiping over the test strip port area, making sure that no liquid enters the strip port.

- Dry the meter thoroughly after cleaning. Visually verify that no solution is seen anywhere on the meter at the completion of cleaning or disinfection.

PAY SPECIAL ATTENTION WHEN CLEANING AND DISINFECTING AROUND THE TEST STRIP PORT. AVOID GETTING MOISTURE IN TEST STRIP PORT.
Blood Glucose Monitoring using Point of Care testing at HVDHB

Infection prevention and control

- **10.4 Procedure for use and cleaning of equipment used on patients in Transmission-Based Precaution isolation rooms**
  - Trolley to be left outside the room
  - Perform hand hygiene and don appropriate PPE before going into the room
  - Follow: *Procedure for using the Accu-Chek Inform II for testing a patient blood glucose* upto step 8.2.10.
  - Enter the room. Follow: *Procedure for collecting a capillary sample* 8.1.5 to 8.1.10. Then continue with steps 8.2.11 to 8.2.18 from: *Procedure for using the Accu-Chek Inform II for testing a patient’s blood glucose*.
  - See Transmission-Based Precautions policy for guidance on best practice for where to remove PPE once patient care episode is complete (inside or outside room dependent on transmission route).
  - Perform hand hygiene.
  - Leave isolation room.
  - Perform hand hygiene.
  - Wipe down any equipment taken into the room with hospital approved disinfectant wipes.
  - Perform hand hygiene.
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

**Damaged meters**
Under warranty unless Abused; where the ward / clinic/ unit, will need to replace

- Test port no water blood or moisture of any sort
- Screen No pens or finger nails
Key points to remember with patterns of monitoring

• A recent HBA1c is useful

• Blood glucose testing frequency should be charted

• Appropriate monitoring strategy
Recommended NICE guidelines for self-monitoring

- **Type 1 diabetes**
  The majority of people with Type 1 diabetes in hospital need to monitor their blood glucose levels 4 – 6 times a day (pre and post meals), before bed and occasionally overnight. More frequent monitoring during illness or changes in treatment may be required. *e.g. hourly if on an insulin infusion*

- **Type 1 diabetes on insulin infusion pump**
  Those using an insulin pump are advised monitor their blood glucose at least 6 times a day. More frequent during illness or changes in treatment.

- **Pre-pregnancy and pregnancy with diabetes**
  Monitoring is recommended 6 times a day (pre and 2 hr post meals), to manage and achieve optimal diabetes control to avoid complications pre-conception and during pregnancy.

- **Type 2 diabetes – on insulin**
  People with Type 2 diabetes on multiple daily insulin injections are advised to monitor as those with Type 1 diabetes. Those with Type 2 on twice daily insulin should be supported to provide a profile varying the times between fasting, pre-meal and post-meal to identify trends. Fasting blood glucose should be monitored daily during basal insulin dose titrations.

- **Type 2 diabetes – on oral hypoglycaemic agents**
  Monitoring is needed to reveal if hyperglycaemia or hypoglycaemia is being experienced and if medication needs altering for those using sulphonylureas or combination therapy. Those with Type 2 on twice daily insulin should be monitored to provide a profile varying the times between fasting, pre-meal and post-meal and bedtime to identify trends and inform treatment plans.

- **Type 2 diabetes – Healthy eating and physical activity with or without Metformin**
  Monitoring would be required to assess stress related hyperglycaemia. *A HbA1c is useful here to guide future treatment.*
intensive monitoring and maintenance monitoring patterns

• The usual aim is to obtain a profile of glucose levels across the day. The number of tests will vary between individuals and in relation to their condition, and also their capacity and tolerance for self-testing. Typically there will be a mix of pre and post-prandial tests, especially if using rapid acting / meal time insulin’s:
  • Aspart (Novo Rapid)
  • Lispro (Humalog)
  • HumalogMix (25 or 50)
  • Glulisine (Apidra)

• There is no need for over testing!
Factors altering target range for individual patients

- Child under 6 years
- Elderly
- Illness
- Infection
- Stress
- Psychological problems
- Occupational risk
- Hypoglycaemic unawareness
- Palliative care
- Renal/Hepatic disease
- Steroid medications
- Fasting in relation to surgery
- Receiving TPN or Enteral feeds
Critical Action Points

• The ‘critical’ action points that will be displayed on the Accu-Chek Inform II meter are set for below 4.0mmol/L and above 20mmol/L.

• The Nurse MUST take action when “critical’ is displayed on screen

• If a patient’s blood glucose level is regularly outside the target range (as a guide, greater than 20%), the patient’s management should be reviewed
Key points to remember with patterns of monitoring

- A recent HBA1c is useful
- Blood glucose testing frequency should be charted
- Appropriate monitoring strategy
- No need for over testing
- Intensive vs Maintenance testing
- Occasionally overnight testing is advised
- Target ranges 6.0 – 11mmol/L (ADA, 2011)
- Action points – ‘critical’
- If a patient is using their own equipment
Patients who manage their own blood glucose monitoring

Eg Patient attending Outpatient’s clinic, physiotherapy etc

Is the exclusion – to this Policy
Blood Glucose Monitoring using Point of Care testing at HVDHB

The Accu-Chek Inform II System

Training and certification

- Trainer (you) trains staff in ward.
- Operators then use their own login and run Control 1 and 2
- Staff complete Survey Monkey on intranet

- Training period is for 1 month
  Completed 30th April 2012

- All PCx will be removed.
Thank you for your attention.

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6343 Rotkreuz
Switzerland

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