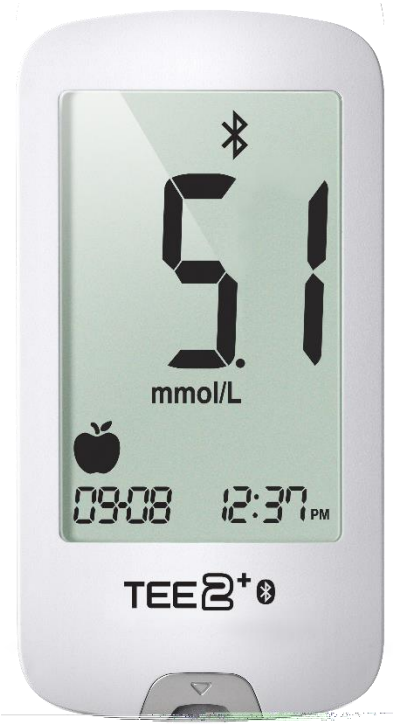
TEE2+ Blood Glucose Meter: Training for Healthcare Professionals



Item number: HEA/3008/OCT19
Date of preparation: 26/10/2019

SPIRIT HEALTHCARE

Introduction

What will be covered in these slides

- Training on blood glucose meter for Healthcare professionals
- Overview of meter
- Correct Testing Procedures
- Error messages
- Internal Quality Control and External Quality Assurance

Then

- Assessment
- Certificate of attendance

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Packaging

- TEE2+ blood glucose meter
- 10 TEE2 blood glucose strips
- Quick / QC guide
- User manual & strip insert

Ensure using only TEE2 strips with the TEE2+ Meter

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Over 90% of inaccuracies result from incorrect use of blood glucose meters

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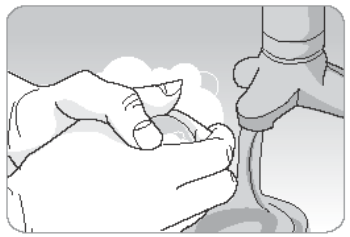
Storage

- Store strips at room temperature (4-30 ℃)
  - DO NOT freeze or store in fridge.
- Store strips in original container with lid closed.
  - Close vial tightly after taking out test strip and
  - use strip immediately.
- Do not expose meter or strips to direct sunlight, heat or humidity
- Keep the meter cool and in a well ventilated place

Precautions

- Do not drop meter – if you do, order a new one
- Handle strips on edges only with clean & dry hands
- Do not let dirt, dust, blood or water enter the meter strip port
- Avoid contamination – wash & dry hands before handling
- Keep away from sources of electromagnetic radiation especially when measuring
  - e.g. microwave, MRI, Mobile Phone
- Do not force strip into meter. Gentle push or use new strip.
- Do not expose meter or strips to direct sunlight, heat or humidity



Cleaning

- Clean daily and after each use (Blood or control solution)
- Use a soft cloth or tissue to wipe meter exterior
  - Alcohol may be used if required with caution not to let liquid enter the strip port
- Do not let dirt, dust, blood or water enter the meter strip port
  - If you think it may have order a new meter

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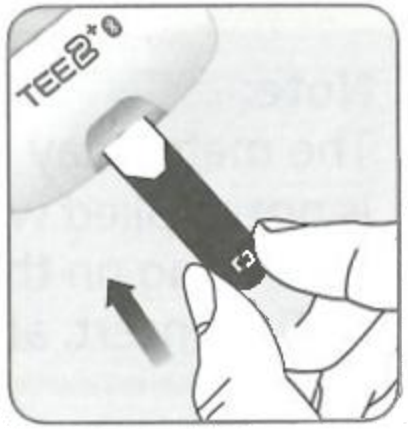
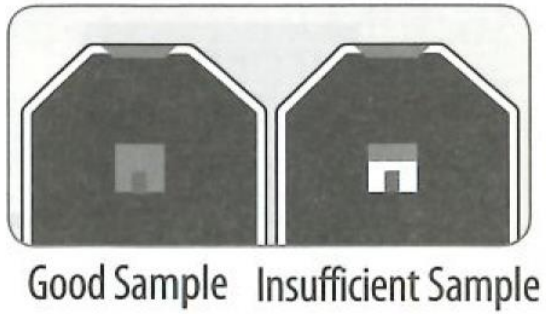
Patient Testing (…1)

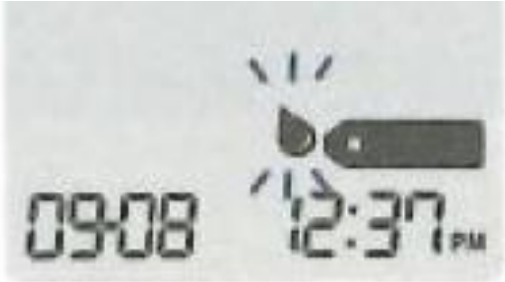
- Get Prepared
  - Blood glucose meter, safety lancet, gloves
- Ensure:
  - Meter / Strips have had time to get to room temperature
  - Testing at room temperature (ideal 18-28 ^{o}C)
  - Strips are taken from original container and used immediately
  - Strips are within expiry date on box
- Wash/dry your hands & sample site with soap and warm water
- Put on clean gloves
- Push test strip into meter gently until beeps. Do not bend strip.
  - Square end in, contact bars facing upwards



Patient Testing (…2)

- Press unused safety lancet into side of finger and press button
  - sample needs to be at least 0.4µl
- With blood insertion flashing symbol on screen,
  - Hold meter vertically, and
  - Touch sample to pointed end of strip,
  - Continue touching until beeps.
- Only apply sample once
- Ensure blood sample fills window – if not use new strip
- Test result appears in less than 5 seconds when countdown finishes
- Remove used strip from port
- Meter will turn off after 3 seconds



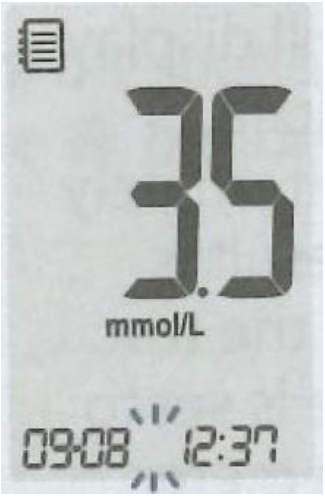


Patient Testing (…3)

- Record result as required

- Hi indicates reading more than 33.3mmol/l,
- Lo indicates reading less than 1.1mmol/l

- Discuss results with patient as appropriate



- Dispose of test strip, gloves etc. into clinical waste
- Dispose of used lancet in clinical sharps bin
- Clean device after use

Error Messages

Er 1	A used test strip was inserted. > Repeat the test with a new test strip.	Er5	This error message may appear when the wrong blood glucose test strip is used instead of TEE2 blood glucose test strip. > Repeat the test with a TEE2 test strip.
Er2	The blood or control solution sample was applied before the symbol appeared. > Repeat the test with a new test strip and wait until the symbol appears before applying the blood or control solution sample.	Er6	There is a problem with the meter. > Do not use the meter. Contact the Spirit Healthcare 24/7 Freephone Support Line at 0800 881 5423 or go to www.spirit-healthcare.co.uk.
Er3	The temperature during the test was above or below the operating range. > Move to an area where the temperature is within the operating range (5–50°C) and repeat the test after the meter and test strips have reached a temperature within the operating range.	Er7	There is a problem with Bluetooth communication > Contact the Spirit Healthcare 24/7 Freephone Support Line at 0800 881 5423 or go to www.spirit-healthcare.co.uk.
Er4	The blood sample has abnormally high viscosity or insufficient volume. > Repeat the test after inserting a new test strip.	Er8	An electronic error occurred during the test. > Repeat the test with a new test strip. If the error message persists, contact the Spirit Healthcare 24/7 Freephone Support Line at 0800 881 5423 or go to www.spirit-healthcare.co.uk.

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Internal Quality Control (IQC)

IQC

- Compare the result obtained with a control solution test to the range on the pack of strips.
- TEE2+ machines test using only TEE2 control solution
- Control solution must be supplied by Spirit Healthcare

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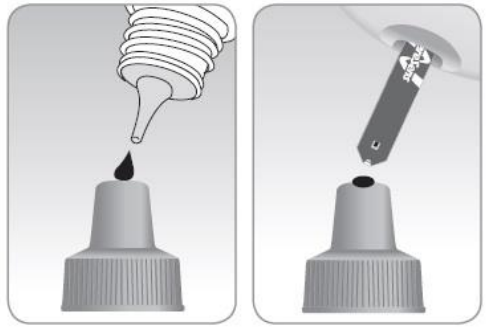
Internal Quality Control (…1)

- Test your device **Daily** with control solution
- Follow patient testing procedure except use control solution rather then blood
- Wipe vial top clean with a cloth then ensure dry
- Make sure strips, meters and control solution are at room temperature (20-25 ℃) before testing
- Ensure control solution is within date (expiry on box)
  - Discard once expired
- Shake control solution bottle well, discard first few drops, wipe bottle tip clean and then dry.
- Close control solution bottle tightly; store at room temp (8-30 ℃)



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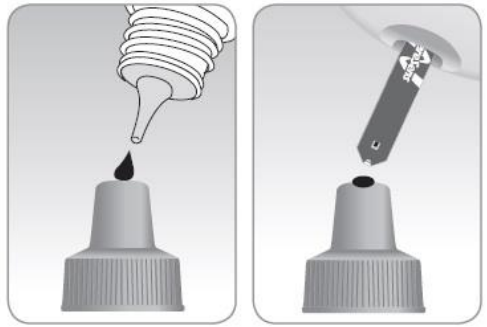
Internal Quality Control (…2)

- Squeeze 2-3 drops of control solution on vial top
- Hold meter/strip to this sample for testing
- Ensure meter shows test result – if not retest.



- Compare reading against ranges on the current strip pot
- Use TEE2 control solution for TEE2 strips with TEE2+ meter

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QPoint External Quality Assurance (EQA)

EQA

- Testing using a sample supplied by an independent third party.
- EQA material is tested the same as a patient sample.
- Unlike QC the user does not know the expected result.
- All participants return results to QPoint who collate data and report findings.

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External Quality Assurance – QPoint

Registration

- All meters must be registered with QPoint prior to first use
- Following training and receipt of new TEE2+ meter:
  - Advise Spirit Healthcare on CS@spirit-healthcare.co.uk of
    - New TEE2+ meter serial number,
    - Your workplace full address and
    - Your workplace contact details and;
    - If appropriate previous meter serial number.
  - Spirit Healthcare will register your new meter with QPoint

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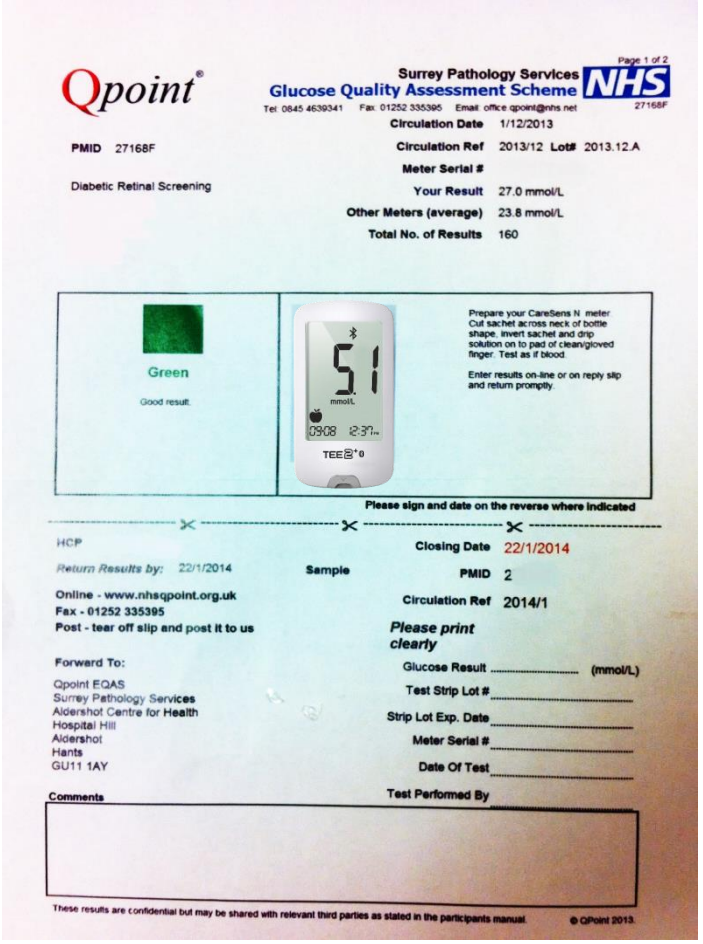
QPoint External Quality Assurance

Example QPoint letter & sample packs



Qpoint®

Surrey Pathology Services
Glucose Quality Assessment Scheme
NHS
Page 1 of 2
Tel: 0845 4639341 Fax: 01252 335395 Email: office.qpoint@nhs.net
27168F

Circulation Date 1/12/2013
PMID 27168F
Circulation Ref 2013/12 Lot# 2013.12.A
Meter Serial #
Diabetic Retinal Screening
Your Result 27.0 mmol/L
Other Meters (average) 23.8 mmol/L
Total No. of Results 160

Green
Good result.

Prepare your CareSens N meter. Cut sachet across neck of bottle shape, invert sachet and drip solution on to pad of clean/gloved finger. Test as if blood.

Enter results on-line or on reply slip and return promptly.

Please sign and date on the reverse where indicated

HCP
Return Results by: 22/1/2014
Online - www.nhsqpoint.org.uk
Fax - 01252 335395
Post - tear off slip and post it to us

Forward To:
Qpoint EQAS
Surrey Pathology Services
Aldershot Centre for Health
Hospital Hill
Aldershot
Hants
GU11 1AY

Sample
Closing Date 22/1/2014
PMID 2
Circulation Ref 2014/1
Please print clearly
Glucose Result ..... (mmol/L)
Test Strip Lot # .....
Strip Lot Exp. Date .....
Meter Serial # .....
Date Of Test .....
Test Performed By .....

Comments

These results are confidential but may be shared with relevant third parties as stated in the participants manual.
© QPoint 2013.

- Return QPoint sample results via:
  - www.nhsqpoint.org.uk
- For help call QPoint direct on:
  - 01252 335396
- Spirit are not able to assist with this part of the process

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QPoint External Quality Assurance (…1)

- A monthly sample will be sent by QPoint to registered meter holder
- When arrives complete test immediately
- If sample is damaged or does not arrive within first week of month please contact QPoint
- Ensure result is for correct distribution
- Ensure result entered into QPoint system is correct
- Return result to QPoint – online at www.nhsqpoint.org.uk
- Results provided back to meter holder

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QPoint External Quality Assurance (…2)

- Check strip is within expiry dates
- Remove sachet from report sheet
- Mix the small amount by squeezing the outside of the sachet so that the sample can be felt moving about inside
- Make sure strips, meters and control solution are at room temperature (20-25 ℃) before testing
- Clean meter prior to use as per daily checks
- Wash hands and prepare as if about to test a blood sample but use QPoint solution rather than blood

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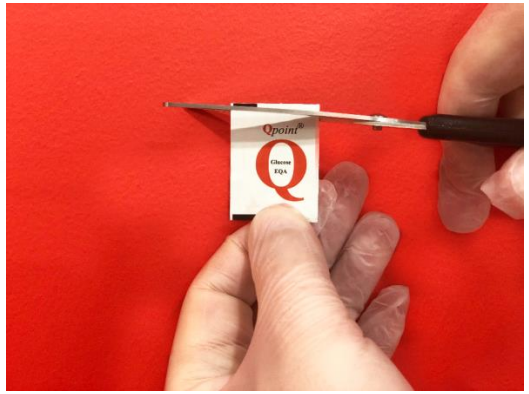
QPoint External Quality Assurance (…3)

- Hold sachet so Q appears correct way up & cut across top to make an opening half way down the neck of the bottle shape
- Invert sachet and hold above clean & dry top of test strip vial
- Gently squeeze sachet to deposit a drop of test solution onto the vial top
- Then apply tip of strip to sample (as if it were blood in normal procedure) bringing strip to sample vertically
- Avoid contamination of small sample volume.
  - Avoid dirty scissors, use clean and dry gloves
- Make a note of sample result on tear off slip
- Check correct distribution and submit to QPoint



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QPoint EQA Results Explained

Red

- Test meter with TEE2 control solution and compare results against ranges on the relevant pot of TEE2 strips
- If results in range continue use. If not, contact Spirit for a replacement

- Yellow
  - Test with control solution as above for Red.
- Green
  - Safe to continue using

- Spirit will replace meters after 3 x Red Alerts or if meter reads out of range on strip vial when tested with Internal Quality Control Solution

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Health & Safety

- Allow service user to sit for 2-3 minutes before taking a blood sample
- Ensure hand is steady and that finger is held firmly before puncturing
- Use safety Lancet (e.g. Sterilance II)
- All blood samples must be treated as bio-hazardous
  - Gloves must be worn at all times when carrying out tests
- Dispose of sharps and contaminated materials appropriately
  - Sharps – e.g. safety lancets - disposed in sharps bins
  - Gloves, swabs, used cotton wool, waste container and tests to go into orange clinical waste

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Points of Contact

NHS Contacts

- **Pharmacy Team: (**to be inserted**)**
  - **to order test strips**
  - *PIP Code required for TEE2 strip order is 386 3792.*

Spirit Healthcare Ltd

- **Customer Services:**
  - **0800 881 5423, cs@spirit-healthcare.co.uk**
  - For advice or to order Control Solution

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Conclusion

- 90% of inaccuracies result from incorrect use of meters
- Use in accordance with local policies
- Refresh yourself with this training at least annually
  - Full details in instructions for use - user manual, strip insert
- Daily Internal Quality Control
- Monthly External Quality assurance by QPoint

Link to online TEE2+ User Manual: http://www.spirit-health.co.uk/wp-content/uploads/2019/08/TEe2-PLUS-Manual-1.pdf
Link to TEE2 Test Strip information: http://www.spirit-health.co.uk/wp-content/uploads/2019/10/TEE2-N-ISO-Strip-Insert-CE-EN-Spirit_170726.pdf

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Questions?

SPIR!T HEALTHCARE