

Comparison of blood glucose testing meters and strips

October 2018

This table shows some of the key features of the available blood glucose testing meters and the comparative cost of their associated blood glucose testing strips, to assist healthcare professionals in the selection of appropriate devices for patients who self-monitor their blood glucose levels.

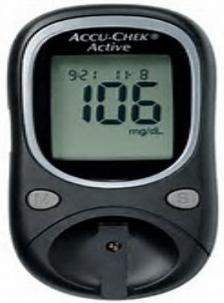
Those with a cost of £9.00/50 strips or less are considered cost-effective choices.

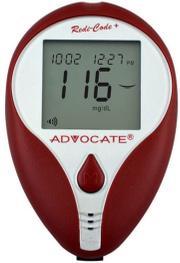
The need for a meter for newly diagnosed diabetics should be assessed by a healthcare professional and, if required, a suitable meter supplied to the patient. These meters will be provided free of charge from GP surgeries or diabetic clinics. Patients should be dissuaded from buying their own meter or doing so without consulting their specialist first. **Prescribing of strips and lancets for meters purchased by patients should not be supported.**

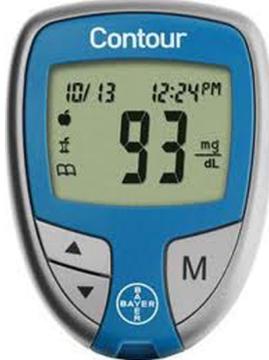
Patients, who purchase a meter where a strip that is not considered cost-effective is used, should expect to purchase the strips as well. Community pharmacists should not sell blood glucose meters to patients with diabetes who fit the criteria to test, without prior discussion and approval from the patient's diabetes healthcare professional. Practices should dispose of, or not accept, free samples of meters without cost-effective testing strips from drug companies.

There is currently limited evidence to support the use of FreeStyle Libre® and consequently, it is not considered to be cost-effective in all patients. NHS England announced on 14th November 2018 that from April 2019, patients with type 1 diabetes will be able to receive FreeStyle Libre® on prescription if they qualify for it in line with NHS clinical guidelines. The NHS Clinical guidelines are yet to be specified.

<https://www.england.nhs.uk/2018/11/nhs-to-provide-life-changing-glucose-monitors-for-type-1-diabetes-patients/>

| Name of meter | Accu-Chek Active | Accu-Chek Aviva | Accu-Chek Aviva expert | Accu-Chek Aviva Nano | Accu-Chek Compact Plus | Accu-Chek Mobile |
|----------------------------|--|---|--|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | Active test strips | Aviva test strips | Aviva test strips | Aviva test strips | Compact Plus test strips (Drums) | Mobile test cassette |
| Cost of 50 test strips | £10.03 | £16.21 | £16.21 | £16.21 | £16.65 (3 x drums of 17 strips) | £9.99 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 500 results (date & time) | 500 results + 20 control results (date & time) | 1,000 results | 500 results (date & time) | 500 results | 2000 results |
| Ketone testing | x | x | x | x | x | x |
| Measurement range (mmol/L) | 0.6 - 33 mmol/L | 0.6 - 33 mmol/L | 0.6 - 33 mmol/L | 0.6-33 mmol/L | 0.6 - 33.3 mmol/L | 0.6 – 33.3 mmol/L |
| Haematocrit range* (%) | Unknown | 10 - 65% | 10 - 65% | 10 - 65% | 25% - 65% | 25 - 55% |
| Sample volume | 1 - 2 microlitres | 0.6 microlitres | 0.6 microlitres | 0.6 microlitres | 1.5 microlitres | 0.3 microlitres (min) - 5.0 microlitres (max) |

| Name of meter | Accu-Chek Performa Nano | Advocate Redi-Code+ | Autosense, Autosense Voice | Betachek G5 | BGStar | Breeze2 |
|----------------------------|--|---|---|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | Performa test strips | Advocate Redi-Code+ test strips | Autosense test strips | Betachek G5 test strips | BGStar test strips | Breeze2 test strips |
| Cost of 50 test strips | £9.95 | £9.95 | £9.00 | £14.19 | £14.73 | £15.00 (5 discs of 10 strips each) |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 500 results (date & time) | Over 500 results | 500 results | Unlimited memory | 1,865 results | 420 results |
| Ketone testing | x | x | x | x | x | x |
| Measurement range (mmol/L) | 0.6 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 0.5 – 27.7 mmol/L | 1.1 - 33.3 mmol/L | 0.6 – 33.3 mmol/L |
| Haematocrit range* (%) | 10-65% | Unknown | Unknown | Unknown | 20 – 60% | Unknown |
| Sample volume | 0.6 microlitres | 1 microlitre | 0.5 microlitres | 1-2 microlitres | 0.5 microlitres | 0.1 microlitres |

| Name of meter | CareSens Dual | CareSens N | CareSens N Pop | CareSens N Voice | Contour | Contour Next USB |
|----------------------------|--|---|---|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | CareSens Pro test strips & KetoSens | CareSens N test strips | CareSens N test strips | CareSens N test strips | Contour test strips | Contour Next test strips |
| Cost of 50 test strips | £9.95 (& £9.95 for 10 ketone strips) | £12.75 | £12.75 | £12.75 | £9.95 | £15.04 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 1,000 results | 1,000 results | 1,000 results | 1,000 results | 480 results | 2,000 entries |
| Ketone testing | ✓ | x | x | x | x | x |
| Measurement range (mmol/L) | 1.11 - 33.3 mmol/L | 1.11 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 0.6 – 33.3 mmol/L | 1.1 – 33.3 mmol/L |
| Haematocrit range* (%) | 15 - 65% | 15 - 65% | 15 - 65% | 15 - 65% | 34 - 49% | 34 - 49% |
| Sample volume | 0.4 microlitres | 0.5 microlitres | 0.5 microlitres | 0.5 microlitres | 0.6 microlitres | 0.6 microlitres |

| Name of meter | Contour TS | Contour XT | Dario Smart | Element | Finetest Lite | Freestyle freedom insulin X |
|----------------------------|--|---|--|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | Contour TS test strips | Contour Next test strips | Dario test strips | Element test strips | Finetest lite test strips | Freestyle Lite test strips |
| Cost of 50 test strips | £9.50 | £15.04 | £14.95 | £9.89 | £5.95 | £16.10 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 250 results | 480 results | Memory is limited to smart mobile device memory | 500 results | 500 results | Up to 165 days - assuming average of 3 tests and 3 insulin logs per day |
| Ketone testing | x | x | x | x | x | x |
| Measurement range (mmol/L) | 0.6 - 33.3 mmol/L | 0.6 - 33.3 mmol/L | 0.6 - 33.3 mmol/L | 0.55 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 27.8 mmol/L (20 to 500 mg/dL) |
| Haematocrit range* (%) | 0 - 75% | 34 - 49% | 20 - 60% | 20 - 60% | 20 - 65% | 15 - 65% |
| Sample volume | 0.6 microlitres | 0.6 microlitres | 0.3 microlitres | 0.3 microlitres | 0.5 microlitres | 0.3 microlitres |

| Name of meter | Freestyle Freedom Lite | Freestyle Optium NEO | GlucoDock | GlucoLab | GlucoMen Areo | GlucoMen GM |
|----------------------------|--|---|--|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | Freestyle Lite test strips | Freestyle Optium test strips & Ketone test strips | GlucoDock Glucose test strips | Glucolab test strips | GlucoMen Areo sensor test strips | GlucoMen Sensors GM test strips |
| Cost of 50 test strips | £16.10 | £16.00 (& £21.53 for 10 ketone strips) | £14.90 | £9.89 | £9.95 | £9.95 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 400 results | Up to 1000 results, including blood glucose, blood ketone, and control solution | According to connected Apple device | 500 results | 730 results | 250 results |
| Ketone testing | x | ✓ | x | x | x | x |
| Measurement range (mmol/L) | 1.1 - 27.8 mmol/L | Glucose 1.1 - 27.8 mmol/L Ketone 0.0 - 8.0 mmol/L | 20 - 600 mg/dL (1.1 – 33.3 mmol/L) | 0.5 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 0.6 - 33.3 mmol/L |
| Haematocrit range* (%) | 15 - 65% | Unknown | 30 – 55 % | 20 - 60% | 10 - 70% | Unknown |
| Sample volume | 0.3 microlitres | 0.6 microlitres | 0.6 microlitres | 1 microlitre | 0.5 microlitres | 0.3 microlitres |

| Name of meter | GlucoMen LX | GlucoMen Lx Plus | GlucoRx GO | GlucoRx HCT & Ketone | GlucoRx Q |
|----------------------------|--|--|---|---|---|
| Product photo |  |  |  |  |  |
| Compatible test strips | GlucoMen Sensor LX test strips | GlucoMen LX sensors & GlucoMen LX β -Ketone sensors test strips | GlucoRx Nexus test strips | GlucoRx HCT Glucose & Ketone Test Strips | GlucoRx Q Test Strips |
| Cost of 50 test strips | £15.76 | £15.76 (and £21.06 for 10 ketone strips) | £9.95 | £9.95 (and £9.95 for 10 ketone strips) | £5.45 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | |
| Memory | 400 results | 1000 results | Stores 999 non-deletable results | 1000 non-deletable results | 450 non-deletable results with date and time |
| Ketone testing | x | ✓ | x | ✓ | x |
| Measurement range (mmol/L) | 1.1 - 33.3 mmol/L | Glucose 1.1 - 33.3 mmol/L Ketone 0.1 – 8.0 mmol/L | 1.1 – 33.3 mmol/L | Glucose 0.5 - 35 mmol/L Ketone 0.1 - 8.0 mmol/L | 1.1 – 33.3 mmol/L |
| Haematocrit range* (%) | Unknown | 25 - 60% | 30 - 60% | Glucose 0 – 70% Ketone 10 – 70% | 30 - 55% |
| Sample volume | 0.3 microlitres | Glucose 0.3 microlitres Ketone 0.8 microlitres | 0.5 microlitres | 1 microlitre | 0.7 microlitre |

| Name of meter | GlucoRx Nexus | GlucoRx Nexus mini ultra | GlucoRx Nexus voice | GlucoRx HCT Connect | GlucoZen.auto | GluNeo |
|----------------------------|--|---|---|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | GlucoRx Nexus test strips | GlucoRx Nexus test strips | GlucoRx Nexus test strips | GlucoRx HCT Glucose & Ketone Test Strips | GlucoZen auto test strips | GluNeo test strips |
| Cost of 50 test strips | £9.95 | £9.95 | £9.95 | £9.95 each | £7.64 | £9.89 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 1,000 results | 1,000 results | Stores 450 non-deletable results | Unlimited results | 500 results/ 5 user memory | 500 results |
| Ketone testing | x | x | x | ✓ | x | x |
| Measurement range (mmol/L) | 1.1 – 33.3 mmol/L | 1.1 – 33.3 mmol/L | 1.1 – 33.3 mmol/L | Glucose 0.5 - 35 mmol/L Ketone 0.1 - 8.0 mmol/L | Unknown | 0.6 - 33.3 mmol/L |
| Haematocrit range* (%) | 30 - 60% | 30 - 60% | 30 - 60% | Glucose 0 – 70% Ketone 10 – 70% | Unknown | 20 - 60% |
| Sample volume | 0.5 microlitres | 0.5 microlitres | 0.5 microlitres | 0.7 microlitres | Unknown | 0.5 microlitres |

| Name of meter | iBGStar | iHealth | IME-DC | KEYA Smart | MediTouch2 | Mendor Discreet |
|----------------------------|--|---|--|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | BGStar test strips | ihealth test strips | IME-DC test strips | KEYA Smart test strips (one strip for both glucose and ketones) | MediTouch2 test strips | Mendor Discreet test strips |
| Cost of 50 test strips | £14.73 | £9.49 | £14.10 | £15.86 | £12.49 | £14.75 Biosensor Discs |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 300 results | Unlimited | 100 results | 1200 results each | 480 results | 250 results |
| Ketone testing | x | x | x | ✓ | x | x |
| Measurement range (mmol/L) | 1.1 - 33.3 mmol/L | 20 mg/dL - 600 mg/dL (1.1 - 33.3 mmol/L) | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | Unknown | 1.1 - 33.3 mmol/L |
| Haematocrit range* (%) | 20 – 60% | Unknown | Unknown | 20 - 60% | Unknown | 20 - 60% |
| Sample volume | 0.5 microlitres | 0.7 microlitres | 2 microlitres | 0.5 microlitres | 0.6 microlitres | 0.5 microlitres |

| Name of meter | Microdot+ | Myglucohealth | Mylife pura | Mylife Unio | Mystar Extra |
|----------------------------|--|---|---|---|---|
| Product photo |  |  |  |  |  |
| Compatible test strips | Microdot+ test strips | Myglucohealth test strips | My life pura test strips | My life Unio test strips | BG star test strips |
| Cost of 50 test strips | £9.49 | £15.50 | £9.50 | £9.50 | £14.73 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | |
| Memory | 500 results | 180 results | 600 results | 1000 results | 1,865 results |
| Ketone testing | x | x | x | x | x |
| Measurement range (mmol/L) | 1.1 – 29.2 mmol/L | 0.6 - 33.3 mmol/L | 0.6 – 33.3 mmol/L | 0.6 – 33.3 mmol/L | 1.1 – 33.3 mmol/L |
| Haematocrit range* (%) | Unknown | Unknown | 30 – 60% | Unknown | 20 - 60% |
| Sample volume | 0.6 microlitres | 0.3 microlitres | 1.0 microlitres | 0.7 microlitres | 0.5 microlitres |

| Name of meter | On-Call Advanced | Omnitest 3 | Omnitest 5 | OneTouch Select plus | OneTouch Verio | OneTouch Verio IQ |
|---------------------------|--|--|--|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | On-Call Advanced test strips | Omnitest 3 test strips | Omnitest 5 test strips | OneTouch Select plus test strip | OneTouch Verio test strips | OneTouch Verio test strips |
| Cost of 50 test strips | £13.65 | £9.89 | £9.89 | £9.99 | £15.12 | £15.12 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | Unknown | 500 test results with date and time | 500 results | 500 results | 750 results | 500 results |
| Ketone testing | x | x | x | x | x | x |
| Measurement range(mmol/l) | 1.1 - 33.3 mmol/L | 0.6 - 33.3 mmol/L | 0.6 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L |
| Haematocrit range* (%) | Unknown | 20 – 60% within 10 – 150 mg/dL (0.6 – 8.3 mmol/L) 30 – 55% within 150 – 600 mg/dL (8.3 – 33.3 mmol/L) | 20 - 60% | 20 - 60% | 20 - 60% | 20 - 60% |
| Sample volume | 0.8 microlitre | 0.3 microlitre | 0.5 microlitre | 0.4 microlitre | 0.4 microlitre | 0.4 microlitre |

| Name of meter | OnTouch Select Verio flex | Palmdoc iCare Advanced | SD Codefree | SensoCard Plus | SURESIGN Resure | TEE2 |
|----------------------------|--|---|--|---|---|---|
| Product photo |  |  |  |  |  |  |
| Compatible test strips | OneTouch Verio test strips | Palmdoc iCare Advanced test strips | SD Codefree test strips | Sensocard test strips | SURESIGN Resure test strips | TEE2 test strips |
| Cost of 50 test strips | £15.12 | £9.70 | £6.99 | £16.30 | £8.49 | £7.75 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | |
| Memory | 500 results | 450 results | ~500 results | 500 results | 480 results | 500 results |
| Ketone testing | x | x | x | x | x | x |
| Measurement range (mmol/L) | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 0.6 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 35.0 mmol/L | 1.1 - 33.3 mmol/L |
| Haematocrit range* (%) | 20 - 60% | 20 - 60% | 20 – 60% | Unknown | Unknown | 30 - 55% |
| Sample volume | 0.4 microlitre | 0.7 microlitre | 0.9 microlitre | 0.5 microlitre | 0.6 microlitre | 0.5 microlitre |

| Name of meter | TEE2+ | TrueResult | TrueResult Twist | TRUEtrack | TRUEyou mini | VivaChek Ino | WaveSense Jazz |
|----------------------------|--|---|--|---|---|---|---|
| Product photo |  |  |  |  |  |  |  |
| Compatible test strips | TEE2 | Trueresult test strips | Trueresult test strips | Truetrack system test strips | Trueyou test strips | VivaChek Ino test strips | WaveSense Jazz test strips |
| Cost of 50 test strips | £7.75 | £14.99 | £14.99 | £14.99 | £9.92 | £8.99 | £8.74 |
| Lancets | Prescribe the most cost-effective lancets – these are not necessarily the ones supplied with the meter | | | | | | |
| Memory | 1000 results | 500 results | 99 results | 365 blood glucose results, 1 control test result | 500 results with time and date | 900 results | 1,865 results |
| Ketone testing | x | x | x | x | x | x | x |
| Measurement range (mmol/L) | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 1.1 - 33.3 mmol/L | 0.6 - 33.3 mmol/L | 1.1 - 33.3 mmol/L |
| Haematocrit range* (%) | 15 - 65% | 20 - 60% | 20 - 60% | 30 - 55% | 30 - 55% | 20 - 70% | 20 - 60% |
| Sample volume | 0.5 microlitre | 0.5 microlitre | 0.5 microlitre | 1 microlitre | 0.5 microlitre | 0.5 microlitre | 0.5 microlitre |