<table>
<thead>
<tr>
<th>Picture</th>
<th>Name</th>
<th>Brand</th>
<th>Features</th>
<th>Price (£)</th>
<th>Link website</th>
</tr>
</thead>
</table>
| ![Safety-Lancet](image1) | Safety-Lancet | Sarstedt | - Single use (but possible to re-cap)  
- Needle enclosed in protective casing before and after puncture  
- System primed, push button to lance the lancet  
- 5 different sizes, color coded: Width: 1.5 mm, 1.5 mm, 18G, 21G, 28G. Different penetration depths.  
- 200/box  
| ![Saf-T-Lance™ safety lancet](image2) | Saf-T-Lance™ safety lancet | Smiths Medical | - Single use  
- Automatic retracting (needle shielded before and after puncture)  
- Built-in needle depth control for consistent punctures  
| ![ACCU-CHEK® Safe-T-Pro Plus lancet](image3) | ACCU-CHEK® Safe-T-Pro Plus lancet | Roche | - Internal safety tabs to prevent re-use  
- Automatic retraction  
- 3 penetration depths with 1 lancet  
- Width: 23G  
| ![Haemolance®](image4) | Haemolance® | Arkray | - Automatic retraction  
- Permanent lock-out after use (no re-use possible)  
- Quick spring action  
- Tri-bevel needle  
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>![Image](114x93 to 178x164)</td>
<td>Safety Lancet</td>
<td>HemoCue</td>
<td>- Single use (not possible to re-cap)</td>
<td></td>
<td><a href="http://www.hemocue.com/international/Products/Accessories-1179.html">http://www.hemocue.com/international/Products/Accessories-1179.html</a></td>
</tr>
<tr>
<td>![Image](213x68 to 258x190)</td>
<td>Capiject® safety lancets</td>
<td>Terumo Medical Corporation</td>
<td>- Single use (re-use prevented) - Automatic retraction of the lancet - Top mounted activation button - Available in 5 sizes (color coded): Width: 1.5mm x 3, 23G, 28G. Different penetration depths. - 200/box</td>
<td></td>
<td><a href="http://www.terumotm.com/ProductDetails.aspx?categoryId=8&amp;productId=625">http://www.terumotm.com/ProductDetails.aspx?categoryId=8&amp;productId=625</a></td>
</tr>
<tr>
<td>![Image](381x95 to 434x162)</td>
<td>ACCU-CHEK® Safe-T-Pro Plus lancet</td>
<td>Roche</td>
<td>- Single-use - Automatic retraction of needle - 1 penetration depth - 28G - 200/box</td>
<td>19.29/box</td>
<td><a href="http://www.accu-chek.co.za/za/products/lancingdevices/safetrowno.html">http://www.accu-chek.co.za/za/products/lancingdevices/safetrowno.html</a></td>
</tr>
<tr>
<td><img src="103x115" alt="Image" /></td>
<td>Minicollect® safety lancets</td>
<td>Greiner</td>
<td>- Retractable lancet - Needle or blade - Available in 5 sizes, color coded: Width: blade: 1mm, 1.5mm, 2mm; needle: 23G, 28G. - 200/box</td>
<td>17.64/box</td>
<td><a href="http://www.gbo.com/en/index_2106.php">http://www.gbo.com/en/index_2106.php</a></td>
</tr>
<tr>
<td>Picture</td>
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<td><strong>Features</strong></td>
<td><strong>Price (€)</strong></td>
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</tbody>
</table>
| ![Unistik 2](image) | Unistik 2 | Owen Mumford | - Single use (possible to re-cap?)  
- Automatic retraction  
- Pre-loaded lancet  
| ![Unistik 3](image) | Unistik 3 | Owen Mumford | - Single use, automatic retraction  
- Visual “lockout feature”, re-capping is indicated  
- Pre-loaded lancet, protective cap  
- Patented “comfort zone” reduces the pain message to the brain  
| ![Safety blood lancets](image) | Safety blood lancets | VWR | - 5 different sizes, color coded: Width: 1.2mm, 1.8mm, 1.8mm, 2.4mm, 2.8mm.  
| ![OneTouch® SureSoft® lancing devices](image) | OneTouch® SureSoft® lancing devices | Lifescan hospital products | - Re-loading, re-using prevented by distinctive wing design  
- 3 different sizes, color coded: 18G, 21G, 28G.  
- 100-200/box | - 100-200/box | [http://www.lifescan.com/professionals/testing/lancingdevices/](http://www.lifescan.com/professionals/testing/lancingdevices/) |
| ![Bullseye safety lancet™](image) | Bullseye safety lancet™ | SMS (Speciality Medical Supplies) | - One of a kind color indication (patent pending): disappears after the lancet has been used  
- Retractable lancet  
- Individually wrapped (maximum sterility)  
- Locking safety cap for safe disposal  
- Tri-beveled needle  
- Remove cap and fire  
<table>
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</table>
| ![SurgiLance® Safety Lancet](image1.png) | SurgiLance® Safety Lancet | MediPurpose | - Single-use (not possible to re-cap)  
- Available with needle or blade  
- Concealed before and after puncture  
- No arming required  
Different penetration depths.  
- 50 – 100/box | 15 USD/box (11.2 euro) | [http://www.medipurpose.com/surgilance](http://www.medipurpose.com/surgilance) |
| ![Microtainer® Contact-Activated Lancet](image2.png) | Microtainer® Contact-Activated Lancet | BD | - Single-use, prevention of re-use  
- Ergonomic design  
- Contact activated: only when positioned and pressed against the skin  
- Automatic retraction  
- Available in 3 sizes, color coded: Width: 1.5mm blade, 21G, 30G  
| ![Tenderlett finger incision device](image3.png) | Tenderlett® finger incision device | ITC medical | - Only available in adult size  
- Incision (no puncture)  
- Permanent retraction of blade after incision  
- Depth: 1.75mm  
- 100 – 5000/box | | [http://www.itcmed.com/Products/Tenderlett](http://www.itcmed.com/Products/Tenderlett) |
<table>
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| ![Safety seal lancets](image1.png) | Safety seal lancets | Reliamed      | - No automatic retraction  
- Patented safety seals on each side of the lancet head: “single-use”  
- Ultra-fine tri-bevel tip  
- 2 sizes: 28 G, 30G  
- 100/box  
- Universal design: compatible with many lancing devices e.g. Autolet mini |           | [http://www.reliamedproducts.com/diabetes.cfm](http://www.reliamedproducts.com/diabetes.cfm) |
| ![Unilet® lancets](image2.png) | Unilet® lancets | Owen Mumford  | - No automatic retraction  
- 2 sizes available: 23G, 28G  
- 100-200/box  
- Not device specific e.g. Autolet impression (with comfort zone technology) |           | [http://www.owenmumford.com/en/range/2/capillary-blood-sampling.html](http://www.owenmumford.com/en/range/2/capillary-blood-sampling.html) |
| ![Disposable lancet](image3.png) | Disposable lancet | VWR           | - No automatic retraction  
- 200/box                                                                                                                                         | 6.50/box  | [https://nl.vwr.com/app/catalog/Product?article_number=612-3747](https://nl.vwr.com/app/catalog/Product?article_number=612-3747) |

**Notes:**
- A higher gauge means the lancet is thinner
- Lancets are designed to penetrate the skin from 1.6 – 2.2 mm, which is sufficiently deep to consistently penetrate the epidermis and part of dermis while safely avoiding deep dermal vascular plexus.

A study comparing BD Microtainer Contact-Activated lancet (low flow), LifeScan onetouch SureSoft (gentle), BD Genie Blue and Surgilance safety for pain perception and capillary blood volume, concluded that BD Microtainer Contact-Activated lancet gave less perceived pain than the other devices and that it gave an adequate amount of blood volume.

Examples of lancing devices:

- Autolet®, Autolet Mini®, Owen Mumford
- AutoLancet®, Palco
- Freestyle™, Abbott
- Penlet Plus © One Touch, Lifescan
- Microlet® II, Bayer
- BD Lancet Device®, BD
- Glucolet®, Bayer
- Softclix / Multiclix lancing device Accu-Check, Roche
### Overview blood transfer devices

<table>
<thead>
<tr>
<th>Transfer device</th>
<th>Volume</th>
<th>Accuracy (deviation from expected result)</th>
<th>Ease-of-use</th>
<th>Risk of exposure</th>
<th>Health worker preference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loop</td>
<td>5 µl²</td>
<td>14% deviation² (mean 4.3 µl)</td>
<td>48%¹</td>
<td>6%²</td>
<td>23%¹</td>
<td></td>
</tr>
<tr>
<td>Straw pipette</td>
<td>10 µl²</td>
<td>43% deviation¹ (less than expected)</td>
<td>30%¹</td>
<td>5%²</td>
<td>12%¹</td>
<td></td>
</tr>
<tr>
<td>Inverted cup</td>
<td>5 µl²</td>
<td>8% deviation¹ (mean 4.6 µl)</td>
<td>89%¹</td>
<td>2%²</td>
<td>72%²</td>
<td>Not yet commercially in use?</td>
</tr>
<tr>
<td>Calibrated pipette</td>
<td>5 µl²</td>
<td>24% deviation² (mean 6.2 µl)</td>
<td>80%²</td>
<td>10%²</td>
<td>25%²</td>
<td></td>
</tr>
<tr>
<td>Glass capillary tube</td>
<td>10 µl²</td>
<td>30% deviation¹ (less than expected)</td>
<td>80%¹</td>
<td>4%²</td>
<td>17%¹</td>
<td></td>
</tr>
<tr>
<td>Plastic straw</td>
<td>5 µl¹</td>
<td>87% deviation¹ (more 5 µl)</td>
<td>71%¹</td>
<td></td>
<td>31%¹</td>
<td></td>
</tr>
<tr>
<td>Direct sampling on RDT</td>
<td>Not known</td>
<td>Not accurate</td>
<td></td>
<td></td>
<td></td>
<td>Company: Toda Pharma</td>
</tr>
</tbody>
</table>

¹ Source: Toda Pharma
² Source: Other company
References:


Notes:

- Excess blood did not affect accuracy of the results, but could obscure test results.²
- Inadequate blood volume is likely to become critical at low parasite densities, when low volume reduces RDT sensitivity:
  Sensitivity was reduced at parasite densities of 200 parasites/μl with volumes less than 3 μl for RDTs designed for 5 μl of blood.¹