### Patient questionnaire

By conducting the two-part diabetes risk score developed by the German Institute of Human Nutrition (DIfE), it is possible to estimate the personal risk of a patient for developing type 2 diabetes within the next 5 years.

#### Age

<table>
<thead>
<tr>
<th>How old are you (years)?</th>
<th>0 points</th>
<th>1 point</th>
<th>2 points</th>
<th>3 points</th>
<th>4 points</th>
<th>5 points</th>
<th>6 points</th>
<th>7 points</th>
<th>8 points</th>
<th>9 points</th>
<th>10 points</th>
<th>11 points</th>
<th>12 points</th>
<th>13 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 35</td>
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<td>35-39</td>
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<td>40-44</td>
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<td>45-49</td>
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<tr>
<td>50-54</td>
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</tbody>
</table>

#### Physical activity

Are you physically active at least 5 hours a week? (e.g., sport, gardening, cycling)

- No: 1 point
- Yes: 0 points

#### High blood pressure

Have you ever been told by a doctor that you have high blood pressure?

- No: 0 points
- Yes: 5 points

#### Consumption of whole grain bread/rolls and muesli

How many slices of whole grain bread/rolls and portions of muesli (1 portion = 3 tablespoons) do you eat daily?

<table>
<thead>
<tr>
<th>0</th>
<th>5 points</th>
<th>3</th>
<th>2 points</th>
<th>4</th>
<th>1 point</th>
<th>&gt;4</th>
<th>0 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 points</td>
<td>3</td>
<td>3 points</td>
<td>4</td>
<td>1 point</td>
<td>&gt;4</td>
<td>0 points</td>
</tr>
<tr>
<td>2</td>
<td>3 points</td>
<td>3</td>
<td>3 points</td>
<td>4</td>
<td>1 point</td>
<td>&gt;4</td>
<td>0 points</td>
</tr>
</tbody>
</table>

#### Consumption of meat

How often do you eat beef, pork or lamb (not processed meat like hot dogs, bacon, sausage, or salami)?

- Never or rarely: 0 points
- 1-2 times per week: 1 point
- 3-4 times per week: 2 points
- 5-6 times per week: 3 points
- Daily: 4 points
- Several times a day: 5 points

#### Coffee

How many cups of coffee do you drink per day?

- 0-1: 3 points
- 2-5: 2 points
- >5: 0 points

### Smoking

What is your smoking status?

- I never smoked: 0 points
- I used to smoke on average less than 20 cigarettes a day: 1 point
- I used to smoke on average 20 or more cigarettes a day: 5 points
- I smoke on average less than 20 cigarettes a day: 2 points
- I smoke on average 20 or more cigarettes a day: 8 points

### Height

What is your height in centimetres?

- < 152: 11 points
- 152-159: 9 points
- 160-167: 7 points
- 168-175: 5 points
- ≥ 176: 3 points

### Waistline

What is your waist in centimetres?

- < 75: 0 points
- 75-79: 4 points
- 80-84: 8 points
- 85-89: 12 points
- 90-94: 16 points
- 95-99: 20 points
- ≥ 100: 24 points

### Diabetes in the family

Have your parents been diagnosed with type 2 diabetes?

- No, or I don't know: 0 points
- Yes, one parent has type 2 diabetes: 6 points
- Yes, both parents have type 2 diabetes: 11 points

Have at least one of your siblings been diagnosed with type 2 diabetes?

- No, or I don't know: 0 points
- Yes, at least one of my siblings has type 2 diabetes: 6 points

Add up the number of points corresponding to the answers given.
By using the following tables you can determine the patient's diabetes risk.

Evaluating the diabetes risk based on DRS points

<table>
<thead>
<tr>
<th>DRS points</th>
<th>&lt; 46</th>
<th>46-56</th>
<th>57-63</th>
<th>&gt; 63</th>
</tr>
</thead>
<tbody>
<tr>
<td>diabetes risk</td>
<td>low</td>
<td>still low</td>
<td>elevated</td>
<td>high to very high</td>
</tr>
</tbody>
</table>

In order to determine the diabetes risk more accurately and to rule out the possibility of a clinically manifest diabetes in patients with more than 57 points, the HbA1c or fasting blood sugar level should also be determined.

Risk evaluation based on DRS points plus HbA1c or fasting glucose test

<table>
<thead>
<tr>
<th>HbA1c / fasting glucose</th>
<th>DRS points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 46</td>
</tr>
<tr>
<td>5.7-6.4 % (39-46 mmol/mol) / 100-125 mg/dl (5.6-6.9 mmol/l)</td>
<td>still low</td>
</tr>
<tr>
<td>&lt; 5.7 % (&lt; 39 mmol/mol) / &lt; 100 mg/dl (&lt; 5.6 mmol/l)</td>
<td>low</td>
</tr>
</tbody>
</table>

Disease probability within 5 years

Of 100 individuals with the data given, x individuals will develop type 2 diabetes within the next 5 years.

<table>
<thead>
<tr>
<th>determined risk</th>
<th>x diseased individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>low risk</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>still low risk</td>
<td>approx. 2-5</td>
</tr>
<tr>
<td>elevated risk</td>
<td>approx. 6-10</td>
</tr>
<tr>
<td>high to very high risk</td>
<td>&gt; 10</td>
</tr>
</tbody>
</table>

Recommendations for action

1) The patient should be informed of the significance of the test results.

2) Patients with an “elevated” risk should be advised on modifiable risk factors, especially as to waist circumference, nutrition, smoking behaviour and physical activity (see the additional Information sheet “Factors that influence the risk of type 2 diabetes”). A follow-up examination should be carried out after a maximum of 3 years.

3) In patients with a “high to very high” risk – depending on their risk profile – measures should be taken towards weight reduction (waist circumference as target parameter), dietary changes (increasing whole-grain consumption, decreasing meat consumption), ways to quit smoking and increasing physical activity. A follow-up examination should be carried out after 1 year.

4) In the case of clinically manifest diabetes (HbA1c ≥ 6.5 %, equivalent to 48 mmol/mol; fasting blood sugar ≥ 126 mg/dl, equivalent to 7.0 mmol/l), a lifestyle intervention should be carried out as well. At the same time, a decision should be made on appropriate medication intervention.