

## Leicestershire Nutrition & Dietetic Services

### Medical Devices Competency Statement

#### Calculating Body Mass Index (BMI) in Adults

#### SELF-ASSESSMENT

|                        |  |                   |  |
|------------------------|--|-------------------|--|
| Surname:               |  | Forename(s):      |  |
| Job title/Designation: |  | Line Manager:     |  |
| Department / Base:     |  | Extension number: |  |

Self- Verification of competence is undertaken by assessment against the following statements:

- Responsibility for competency remains with the individual, so if you are in any doubt regarding your competence to perform this measurement, you should seek further training.
- To perform the measurement you must follow instructions below before considering yourself to be competent.
- If you are not competent, inform your Line Manager for further training and repeat self-verification by completing a new form.

**To be able to undertake this self-assessment you must first be competent in measuring height and weight (see weight and height self-assessment competencies)**

1. Obtain the patient's weight in kilograms (Kg), using approved scales. If it is not possible to weigh the patient a recalled or estimated weight should be used.
2. Measure the patient's height in metres (m). If it is not possible to obtain an accurate height a recall height should be used.

An estimated height (via ulna length measurement please see BAPEN MUST Tool online for more information) should only be used if it is not possible to measure the patient or obtain a recall height accurately.

3. To calculate the BMI the following calculation should be used:

$$\frac{\text{Weight in Kg}}{(\text{Height in m})^2} = \text{BMI in Kg/m}^2$$

For example, for a patient weighing 70kg with a height of 1.73m:

$$\text{Calculate height in m}^2 : 1.73\text{m} \times 1.73\text{m} = 2.99\text{m}^2$$

$$70\text{kg} \div 2.99\text{m}^2 = 23.4 \text{ Kg/m}^2$$

4. BMI can also be calculated using a BMI chart:

**BODY MASS INDEX READY RECKONER FOR ADULTS**

|                |        | Height (m) |        |        |       |       |       |        |       |        |        |         |       |       |        |       |         |         |                      |
|----------------|--------|------------|--------|--------|-------|-------|-------|--------|-------|--------|--------|---------|-------|-------|--------|-------|---------|---------|----------------------|
|                |        | 1.38       | 1.42   | 1.46   | 1.50  | 1.54  | 1.58  | 1.62   | 1.66  | 1.70   | 1.74   | 1.78    | 1.82  | 1.86  | 1.90   | 1.94  | 1.98    |         |                      |
| weight<br>(kg) | 150    | 79         | 74     | 70     | 67    | 63    | 60    | 57     | 54    | 52     | 50     | 47      | 45    | 43    | 42     | 40    | 38      | 23st 8  | weight<br>(st / lbs) |
|                | 148    | 78         | 73     | 69     | 66    | 62    | 59    | 56     | 54    | 51     | 49     | 47      | 45    | 43    | 41     | 39    | 38      | 23st 3  |                      |
|                | 146    | 77         | 72     | 68     | 65    | 62    | 58    | 56     | 53    | 51     | 48     | 46      | 44    | 42    | 40     | 39    | 37      | 22st 13 |                      |
|                | 144    | 76         | 71     | 68     | 64    | 61    | 58    | 56     | 52    | 50     | 48     | 45      | 43    | 42    | 40     | 38    | 37      | 22st 9  |                      |
|                | 142    | 75         | 70     | 67     | 63    | 60    | 57    | 54     | 52    | 49     | 47     | 45      | 43    | 41    | 39     | 38    | 36      | 22st 4  |                      |
|                | 140    | 74         | 69     | 66     | 62    | 59    | 56    | 53     | 51    | 48     | 46     | 44      | 42    | 40    | 39     | 37    | 36      | 22st    |                      |
|                | 138    | 72         | 68     | 65     | 61    | 58    | 55    | 53     | 50    | 48     | 46     | 44      | 42    | 40    | 38     | 37    | 35      | 21st 10 |                      |
|                | 136    | 71         | 67     | 64     | 60    | 57    | 54    | 52     | 49    | 47     | 45     | 43      | 41    | 39    | 38     | 36    | 35      | 21st 5  |                      |
|                | 134    | 70         | 66     | 63     | 60    | 57    | 54    | 51     | 49    | 46     | 44     | 42      | 40    | 39    | 37     | 36    | 34      | 21st 1  |                      |
|                | 132    | 69         | 65     | 62     | 59    | 56    | 53    | 50     | 48    | 46     | 44     | 42      | 40    | 38    | 37     | 35    | 34      | 20st 10 |                      |
|                | 130    | 68         | 64     | 61     | 58    | 55    | 52    | 50     | 47    | 45     | 43     | 41      | 39    | 38    | 36     | 35    | 33      | 20st 6  |                      |
|                | 128    | 67         | 63     | 60     | 57    | 54    | 51    | 49     | 46    | 44     | 42     | 40      | 39    | 37    | 35     | 34    | 33      | 20st 2  |                      |
|                | 126    | 66         | 62     | 59     | 56    | 53    | 50    | 48     | 46    | 44     | 42     | 40      | 38    | 36    | 35     | 33    | 32      | 19st 12 |                      |
|                | 124    | 65         | 61     | 58     | 55    | 52    | 50    | 47     | 45    | 43     | 41     | 39      | 37    | 36    | 34     | 33    | 32      | 19st 7  |                      |
|                | 122    | 64         | 61     | 57     | 54    | 51    | 49    | 46     | 44    | 42     | 40     | 39      | 37    | 35    | 34     | 32    | 31      | 19st 3  |                      |
|                | 120    | 63         | 60     | 56     | 53    | 51    | 48    | 46     | 44    | 42     | 40     | 38      | 36    | 35    | 33     | 32    | 31      | 18st 13 |                      |
|                | 118    | 62         | 59     | 55     | 52    | 50    | 47    | 45     | 43    | 41     | 39     | 37      | 36    | 34    | 33     | 31    | 30      | 18st 8  |                      |
|                | 116    | 61         | 58     | 54     | 52    | 49    | 46    | 44     | 42    | 40     | 38     | 37      | 35    | 34    | 32     | 31    | 30      | 18st 4  |                      |
|                | 114    | 60         | 57     | 53     | 51    | 48    | 46    | 43     | 41    | 39     | 38     | 36      | 34    | 33    | 32     | 30    | 29      | 17st 13 |                      |
|                | 112    | 59         | 56     | 53     | 50    | 47    | 45    | 43     | 41    | 39     | 37     | 36      | 34    | 32    | 31     | 30    | 29      | 17st 9  |                      |
|                | 110    | 58         | 55     | 52     | 49    | 46    | 44    | 42     | 40    | 38     | 36     | 35      | 33    | 32    | 30     | 29    | 28      | 17st 5  |                      |
|                | 108    | 57         | 54     | 51     | 48    | 46    | 43    | 41     | 39    | 37     | 36     | 34      | 33    | 31    | 30     | 29    | 28      | 17st    |                      |
|                | 106    | 56         | 53     | 50     | 47    | 45    | 42    | 40     | 38    | 37     | 35     | 33      | 32    | 31    | 29     | 28    | 27      | 16st 10 |                      |
|                | 104    | 55         | 52     | 49     | 46    | 44    | 42    | 40     | 38    | 36     | 34     | 33      | 31    | 30    | 29     | 28    | 27      | 16st 5  |                      |
|                | 102    | 54         | 51     | 48     | 45    | 43    | 41    | 39     | 37    | 35     | 34     | 32      | 31    | 29    | 28     | 27    | 26      | 16st 1  |                      |
|                | 100    | 53         | 50     | 47     | 44    | 42    | 40    | 38     | 36    | 35     | 33     | 32      | 30    | 29    | 28     | 27    | 26      | 15st 10 |                      |
|                | 98     | 51         | 49     | 46     | 44    | 41    | 39    | 37     | 36    | 34     | 32     | 31      | 30    | 28    | 27     | 26    | 25      | 15st 6  |                      |
|                | 96     | 50         | 48     | 45     | 43    | 40    | 38    | 37     | 35    | 33     | 32     | 30      | 29    | 28    | 27     | 26    | 24      | 15st 2  |                      |
|                | 94     | 49         | 47     | 44     | 42    | 40    | 38    | 36     | 34    | 33     | 31     | 30      | 28    | 27    | 26     | 25    | 24      | 14st 11 |                      |
|                | 92     | 48         | 46     | 43     | 41    | 39    | 37    | 35     | 33    | 32     | 30     | 29      | 28    | 27    | 25     | 24    | 23      | 14st 7  |                      |
| 90             | 47     | 45         | 42     | 40     | 38    | 36    | 34    | 33     | 31    | 30     | 28     | 27      | 26    | 25    | 24     | 23    | 14st 2  |         |                      |
| 88             | 46     | 44         | 41     | 39     | 37    | 35    | 34    | 32     | 30    | 29     | 28     | 27      | 25    | 24    | 23     | 22    | 13st 12 |         |                      |
| 86             | 45     | 43         | 40     | 38     | 36    | 34    | 33    | 31     | 30    | 28     | 27     | 26      | 25    | 24    | 23     | 22    | 13st 8  |         |                      |
| 84             | 44     | 42         | 39     | 37     | 35    | 34    | 32    | 30     | 29    | 28     | 27     | 25      | 24    | 23    | 22     | 21    | 13st 3  |         |                      |
| 82             | 43     | 41         | 38     | 36     | 35    | 33    | 31    | 30     | 28    | 27     | 26     | 25      | 24    | 23    | 22     | 21    | 12st 13 |         |                      |
| 80             | 42     | 40         | 38     | 36     | 34    | 32    | 30    | 29     | 28    | 26     | 25     | 24      | 23    | 22    | 21     | 20    | 12st 8  |         |                      |
| 78             | 41     | 39         | 37     | 35     | 33    | 31    | 30    | 28     | 27    | 26     | 25     | 24      | 23    | 22    | 21     | 20    | 12st 4  |         |                      |
| 76             | 40     | 38         | 36     | 34     | 32    | 30    | 29    | 28     | 26    | 25     | 24     | 23      | 22    | 21    | 20     | 19    | 12st    |         |                      |
| 74             | 39     | 37         | 35     | 33     | 31    | 30    | 28    | 27     | 26    | 24     | 23     | 22      | 21    | 20    | 20     | 19    | 11st 9  |         |                      |
| 72             | 38     | 36         | 34     | 32     | 30    | 29    | 27    | 26     | 25    | 24     | 23     | 22      | 21    | 20    | 19     | 18    | 11st 5  |         |                      |
| 70             | 37     | 35         | 33     | 31     | 30    | 28    | 27    | 25     | 24    | 23     | 22     | 21      | 20    | 19    | 19     | 18    | 11st    |         |                      |
| 68             | 36     | 34         | 32     | 30     | 29    | 27    | 26    | 25     | 24    | 22     | 21     | 21      | 20    | 19    | 18     | 17    | 10st 10 |         |                      |
| 66             | 35     | 33         | 31     | 29     | 28    | 26    | 25    | 24     | 23    | 22     | 21     | 20      | 19    | 18    | 18     | 17    | 10st 6  |         |                      |
| 64             | 34     | 32         | 30     | 28     | 27    | 26    | 24    | 23     | 22    | 21     | 20     | 19      | 18    | 18    | 17     | 16    | 10st 1  |         |                      |
| 62             | 33     | 31         | 29     | 28     | 26    | 25    | 24    | 22     | 21    | 20     | 20     | 19      | 18    | 17    | 16     | 16    | 9st 11  |         |                      |
| 60             | 32     | 30         | 28     | 27     | 25    | 24    | 23    | 22     | 21    | 20     | 19     | 18      | 17    | 16    | 15     | 15    | 9st 6   |         |                      |
| 58             | 30     | 29         | 27     | 26     | 24    | 23    | 22    | 21     | 20    | 19     | 18     | 18      | 17    | 16    | 15     | 15    | 9st 2   |         |                      |
| 56             | 29     | 28         | 26     | 25     | 24    | 22    | 21    | 20     | 19    | 18     | 18     | 17      | 16    | 16    | 15     | 14    | 8st 11  |         |                      |
| 54             | 28     | 27         | 25     | 24     | 23    | 22    | 21    | 20     | 19    | 17     | 17     | 16      | 16    | 15    | 14     | 14    | 8st 7   |         |                      |
| 52             | 27     | 26         | 24     | 23     | 22    | 21    | 20    | 19     | 18    | 17     | 16     | 16      | 15    | 14    | 14     | 13    | 8st 3   |         |                      |
| 50             | 26     | 25         | 23     | 22     | 21    | 20    | 19    | 18     | 17    | 17     | 16     | 15      | 14    | 14    | 13     | 13    | 7st 12  |         |                      |
| 48             | 25     | 24         | 23     | 21     | 20    | 19    | 18    | 17     | 17    | 16     | 15     | 14      | 14    | 13    | 13     | 12    | 7st 8   |         |                      |
| 46             | 24     | 23         | 22     | 20     | 19    | 18    | 18    | 17     | 16    | 15     | 15     | 14      | 13    | 13    | 12     | 12    | 7st 3   |         |                      |
| 44             | 23     | 22         | 21     | 20     | 19    | 18    | 17    | 16     | 15    | 15     | 14     | 13      | 13    | 12    | 12     | 11    | 6st 13  |         |                      |
| 42             | 22     | 21         | 20     | 19     | 18    | 17    | 16    | 15     | 15    | 14     | 13     | 13      | 12    | 12    | 11     | 11    | 6st 9   |         |                      |
| 40             | 21     | 20         | 19     | 18     | 17    | 16    | 15    | 15     | 14    | 13     | 13     | 12      | 12    | 11    | 10     | 10    | 6st 4   |         |                      |
| 38             | 20     | 19         | 18     | 17     | 16    | 15    | 14    | 14     | 13    | 13     | 12     | 11      | 11    | 11    | 10     | 10    | 6st     |         |                      |
| 36             | 19     | 18         | 17     | 16     | 15    | 14    | 14    | 13     | 12    | 12     | 11     | 11      | 10    | 10    | 9      | 9     | 5st 9   |         |                      |
|                | 4' 6½" | 4' 8"      | 4' 9½" | 4' 11" | 5' ½" | 5' 2" | 5' 4" | 5' 5½" | 5' 7" | 5' 8½" | 5' 10" | 5' 11½" | 6' 1" | 6' 3" | 6' 4½" | 6' 6" |         |         |                      |

To Calculate BMI:

Weight (kg)

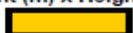
Height (m) x Height (m)

Key

 BMI <18.5  
Underweight

 BMI 18.5-24.9  
Desirable

 BMI 25-29.9  
Overweight

 BMI 30-34.9  
Obese  
(Class I)

 BMI 35-40  
Obese  
(Class II)

 BMI >40  
Obese  
(Class III)

**CLASSIFICATION OF OVERWEIGHT AND OBESITY IN CHILDREN**

The Child Growth Foundation Body Mass Index Percentile chart <sup>(2)</sup> should be used to identify overweight and obese children:

Overweight: BMI >= 91st centile  
Obese: BMI >= 98th centile

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5. To interpret the BMI the following table should be used:

| Category        | BMI         | BMI Asian origin |
|-----------------|-------------|------------------|
| Underweight     | <18.5       | <18.5            |
| Healthy         | 18.5 - 24.9 | 18.5 - 22.9      |
| Overweight      | 25 - 29.9   | 23 - 27.4        |
| Obese Class 1   | 30 - 34.9   | 27.5 - 32.4      |
| Obese Class 11  | 35 - 39.9   | 32.5 - 37.4      |
| Obese Class 111 | >40         | >37.5            |

### Statement

I am able to perform the measurement & have taken into account my personal assessment of my competence with the measurement, I declare that:

**I am competent to perform the measurement without further training.**

Signature:

Date:

**I require further training before I can perform this measurement in a competent manner.**

Signature:

Date:

**Pass this form to your manager to add to your personal records**