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## Care Pathway: Bariatric Adults Requiring Dental Care

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Planning and delivery of Special Care Dentistry is underpinned by legislation, most notably the Equality Act 2010<sup>[1]</sup>

## Definition

Patients are considered bariatric when their Body Mass Index (BMI) is greater than 40kg/m<sup>2</sup> or they weigh 40kg above the ideal weight for their height (Swann, 2013). It is recognised that bariatric patients may have difficulties not only due to their weight, but also due to physical width, associated health conditions, body shape and mobility levels.

## Criteria for use

This guide is to be used alongside professional judgement and a holistic view of the patient to plan management.

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## 1.1 Introduction

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- Being overweight or obese is defined by the World Health Organisation (WHO) (2006) as abnormal or excessive fat accumulation that may impair health.
- The terms 'overweight' and 'obesity' are used to describe excess body fat.
  - Different weight classes are defined according to a person's body mass index (BMI) as follows [NICE, 2014]:
    - Healthy weight — BMI of 18.5–24.9 kg/m<sup>2</sup>
    - Overweight — BMI of 25–29.9 kg/m<sup>2</sup>
    - Obesity I — BMI of 30–34.9 kg/m<sup>2</sup>
    - Obesity II — BMI of 35–39.9 kg/m<sup>2</sup>
    - Obesity III — BMI of 40 kg/m<sup>2</sup> or more
  - BMI is calculated by dividing a person's weight in kilograms by the square of their height in metres. An online calculator is available at [www.nhs.uk](http://www.nhs.uk).

'Bariatrics' is the management of extreme obesity and its related diseases. Patients can be considered to be 'bariatric' if they have one or more of the following factors:

- Their weight exceeds the working load limit (WLL) and dimensions of the available standard support surface e.g. bed, wheelchair etc.
- Body Mass Index (BMI) is greater than 40kg/m<sup>2</sup> and/or they weigh 40kg above the ideal weight for their height.

An ideal body mass index (BMI) is generally defined as a body mass index greater than or equal to 18.5 kg/m<sup>2</sup> and under 25 kg/m<sup>2</sup>; overweight is defined as a BMI greater than or equal to 25 kg/m<sup>2</sup> and under 30 kg/m<sup>2</sup>; obesity is defined as a BMI greater than or equal to 30kg/m<sup>2</sup>; and severe or morbid obesity as a BMI of greater than or equal to 40 kg/m<sup>2</sup>. These definitions represent arbitrary points on a continuum of risk for morbidity and mortality.

In the National Survey for Wales 2019/2020 61% of adults were classified as overweight or obese, more specifically 25% were obese.

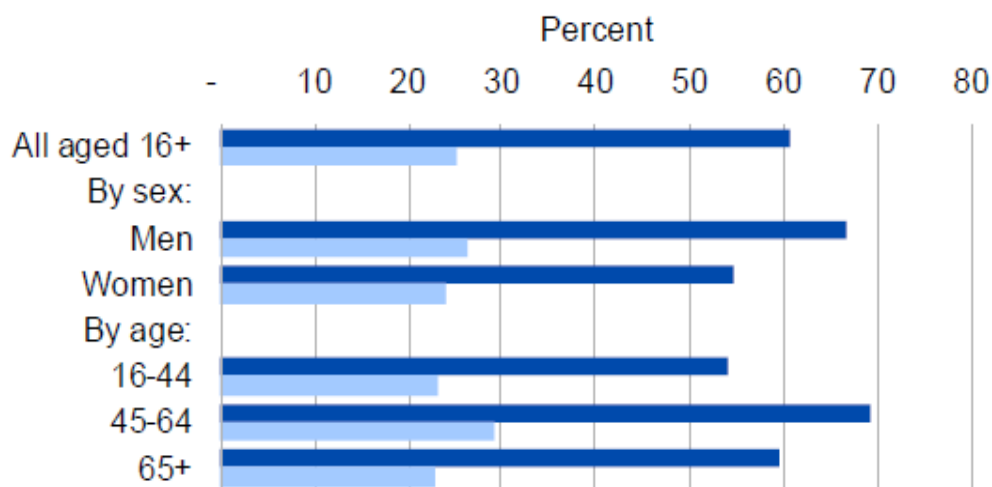
Men were more likely to be overweight, but not obese, than women. Middle aged adults were more likely to be overweight or obese, as were adults in the most deprived areas.

Obesity is an important factor in a wide range of systemic diseases including, but not limited to: type 2 diabetes, cardiovascular disease, obstructive sleep apnoea and musculoskeletal problems. It also links to psychological issues that can range from low self-confidence to clinical depression.

## 1.2 Obesity in Wales

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### Percentage of adults in Wales who were overweight or obese 2019/20 - by gender and age



Welsh Assembly Government. Welsh Health Survey [Online], 2019-20.

The proportion of the Welsh population that is obese (BMI  $\geq 30\text{kg/m}^2$ ) has risen from 18% in 2003/04 to 25% in 2019/20. The main limitation of this data is that it uses self-reports and this tends to produce underestimates of obesity. The true figure for a given year may therefore be higher, but the trend is likely to reflect a real change in the Welsh population.

### Variation in proportion of the population that is overweight or obese - by health board in Wales 2019-20

Health Board	Percentage of adults aged 16yrs and over	
	Overweight or Obese	Obese
Betsi Cadwaladr	55	20
Powys	56	19
Hywel Dda	61	25
Swansea Bay	61	25
Cwm Taf Morgannwg	64	27
Aneurin Bevan	65	29
Cardiff & Vale	56	20

Welsh Assembly Government. Welsh Health Survey [Online], 2019-20.

### 1.3 Objectives of the pathway

- Provide access to high quality NHS Dental Services for bariatric populations
- Maintain dignity for bariatric patients at all times
- Develop a standardised protocol for clinical dental management of bariatric patients
- Identify oral health issues associated with bariatric patients

- Identify risk management strategies in consideration of both staff and patient safety as required, in particular regarding patient handling and positioning.
- Develop an awareness of potential underlying health issues that may contribute to patients' being overweight or obese, as well as an awareness of the chronic health conditions that can ensue and implications of these when assessing a patient for the provision of treatment.
- To ensure compliance with the Equality Act 2010
- To develop services in line with the evolving local and national strategic approach to primary care dental provision and guidance from Welsh Government and UK-wide professional bodies.

## 2.1 Referrals

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It is essential that referrals both to and from services include accurate information on the patient's size and weight, if it is in any way perceived to be an issue. If this is not possible, indication of the patient's bariatric status must be given.

Referrals are made through <https://app.dental-referrals.org/login> through the special care pathway.

## 2.2 Assessing weight

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It must be accepted that although GMPs and Hospitals would be expected to have appropriate scales, GDPs (from whom the majority of referrals would be expected) might not.

GDPs will therefore rely upon patient estimates - which may not be accurate. Therefore, if there is doubt dentists should make a referral to a health clinic for accurate weight measurement.

It should be borne in mind that the majority of standard weighing scales only weigh up to 22 stone, therefore use of appropriate equipment to get an accurate reading is necessary.

Suitable weighing scales and a height scale to calculate BMI should be available. Height and weight measurements may be important for a dentist considering providing treatment for obese patients. Weighing scales should have a wide base to allow the patient to securely balance, a nearby handle rail for support and a high maximum limit. The scales should be located in a non-public area away from the gaze of other patients, staff and anyone accompanying the patient

Patients often report a preference for a direct approach from the dentist when asking about weight, despite common wariness from dental professionals of causing offence. Although each case should be evaluated individually, there is a general willingness and awareness from patients that information on weight will need to be gathered. Often weight is requested to be declared on a medical history form, but bear in mind this may be an underestimation. Bariatric patients are likely to be accessing secondary services and therefore may be able to provide you with an accurate weight, especially if the justification for the questions are explained.

An up-to-date and accurate weight measurement ensures patient and clinician safety and aids treatment of the patient in the best setting.

It is also essential when considering sedation or general anaesthetic.

Where the patient exceeds the weight limit for the practice facilities the dentist should make appropriate referral to a dental provider with equipment appropriate to the weight of the patient.

## 2.3 Weight loss management

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Dentists already give diet advice as part of the 'Delivering Better Oral Health' toolkit and Making Every Contact Count (MECC) and are suitably qualified to offer basic nutritional advice. This should include advice on the consumption of high calorie foods and drinks which are a major contributor to obesity, as well as dental decay.

Be sensitive to the individual patient and their feelings on their weight. Some patients may be open about discussing weight with dental teams, but others could be led to feeling more embarrassed and anxious and this in turn could lead to making them less likely to re-attend.

The majority of patients are aware of their obesity problem and its impact on health and care delivery. However, patients with learning disabilities are often less aware. In these instances, it may be appropriate to raise this issue with patients/carers/family members. This can be in the form of advice and encouragement on weight loss, as well as directing them to their GMP for services of support (e.g. NHS weight loss plan). In a similar fashion to smoking cessation advice and support sign-posting.

## 2.4 Equipment

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The following considerations must be taken in the management of a bariatric patient:

### Dental chairs

- Most UK dental chairs have a safe maximum operating load in the range of 23-25 stone (146-158kg), although some have a maximum weight of 21 stone (133kg)
- Intermediate dental chairs are available e.g. Belmont Clair and Compass, working weight capacity 31stone (200kg) Helka Unic working weight capacity 37stone (234kg).
- For patients over this weight the two most commonly used bariatric dental chairs are:
  - Dedicated fixed dental chair that can be used to treat patients up to 71 stone e.g. Barico chair (Diaco Ltd. UK). It is also 15-20cm wider than a normal dental chair and has a low starting height and arm/head rests.
  - Combined wheelchair recliner and bariatric bench. Dual purpose that patients that use a wheelchair, including bariatric wheelchairs, can remain in their own chair and reclined for treatment delivery. For ambulatory patients a bench can be inserted for use.

*Cautions - always check individual chair's weight limit before using.*

**Hoists** - Check hoist and sling specifications against patient's weight. Ensure operators are suitably trained.

**Waiting room chairs** - These must be of the appropriate size and weight limit for patients waiting for appointments. A number of armless waiting room chairs including at least one bariatric chair is advised.

**Toilet facilities** - These must be adequate for this patient group: door width, grab handles, toilet area size, toilet seat height and toilet seat weight limit. These all require assessment and adjustment as needed. The maximum weight of the toilet should be displayed.

**Bariatric wheelchairs** - Usually able to support up to 50 stone. The average width of a UK internal door is 76.2cm and a bariatric wheelchair can be up to 83.8cm. The extended space required for bariatric wheelchair positioning also needs to be taken into consideration.

## 2.5 Location of Equipment

The table below gives location of higher weight dental chairs and wheelchair recliners in South East Wales:

	Telephone number	Higher Weight Dental Chair	Wheelchair Recliner
CTMUHB Dewi Sant Health Park, Pontypridd	01443 443816	Up to 70 stone	
C&VUHB The Blue Room, University Dental Hospital, Cardiff	02921 842415	Up to 70 stone	✓
Community Dental Service Mobile Dental Unit	02920190175	Up to 30 stone	
ABUHB Blaenavon	Referrals made via ERMs	X – up to 70 stone	Wheelchair recliner  Wheelchair recliner
Clytha		X – up to 30 stone	
Abertillery		X – up to 28 stone	
Pontllanfraith		X – up to 30 stone	
Brynmawr		X – up to 30 stone	
Ringland			
Ysbwty Ystrad Fawr			

x

The manual handling department ([manual.handling2@wales.nhs.uk](mailto:manual.handling2@wales.nhs.uk)) may be able to offer advice, especially if hospital admission is required.

## 2.6 Transport

- Bariatric suitable ambulance transport may be needed for patients who require ambulance transfer and are unsuitable for standard ambulance transport due to their weight.
- Contact ambulance services to discuss specific requirements, ensuring you have the patient's weight and other specific requirements available e.g. oxygen cylinder carriage.
- To book transport for a patient please telephone 0300 123 2303
- Domiciliary visits maybe a first line option, however in some circumstances it may be necessary. Full risk assessment (as per any domiciliary visit) is essential.

## 3.1 Manual Handling

- Dental staff, especially those who assist in mobilising patients or treat obese patients, require specific moving and handling training to avoid injuring themselves.
- Under no circumstances should a staff member attempt to break the fall of an obese patient
- Appropriate risk assessment processes should be completed prior to the delivery of care. See the following risk assessment and protocols - Specific training is required to be able to manual handle bariatric patients and the use of hoists
- A risk assessment for fire safety and the movement or not of bariatric patients must be undertaken for all premises with bariatric/intermediate dental chairs
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### 3.2 Medical Considerations

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Obesity has a significant physiological impact, with an excess of weight leading to the following issues being more likely to occur:

- Type 2 diabetes
- Multiple cancers
- Cardiac disease (e.g. angina, hypertension)
- Cerebrovascular accident - CVA
- Sleep apnoea (they may use a CPAP - continual positive airway pressure machine)
- Asthma
- Gallbladder disease
- Liver disease
- Osteoarthritis
- Mental health problems (e.g. anxiety, depression)
- Dyspnoea - how far are they able to walk without getting breathless?
- Gastroesophageal reflux disease - GORD

Comprehensive medical history taking and liaison with medical teams is crucial to ensure safe delivery of treatment. It is important to be aware there is a potential for patients to be experiencing a systemic disease that is undiagnosed currently, this should be remembered when treating patients.

### 3.3 Dental Considerations

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- **Access and visibility** may be challenging for examination and treatment due to the physical size of the patient and the enlarged soft tissues such as tongue and cheeks. Use of a 'Lacks Tongue Depressor' if available can help to retract the tongue.
- **Loss of anatomical landmarks** may make inferior alveolar nerve blocks or intravenous cannulation more difficult.
- There may be **difficulties treating patients in the supine position** due to excessive weight around the neck and trunk leading to potential airway compromise. Patients may have to be treated semi-supine or upright.
- **Increased risk of caries and periodontal disease.** There is a body of evidence that suggests dietary habits amongst other theories lead to obese patients being higher risk e.g. high levels of processed sugars. Additionally, diabetic patients will have a higher periodontal risk.
- **Increased risk of non-carious tooth tissue loss.** This is especially true in patients who have undergone bariatric surgery and those with eating disorders that may involve vomiting. Erosion is seen more commonly due to the high prevalence of GORD in this patient group.
- **Radiography** may be more difficult with intra-oral films more challenging due to increased soft tissue. Pan-oral radiography can be difficult or even impossible if the machine is unable to accommodate the patient's size. Alternatively a lateral oblique may be able to be taken.

- **Long procedures** can lead to acute leg oedemas, cellulitis and pressure sores.
- **Potential for compromised immune function** that may lead to delayed healing e.g. of wounds.
- **Coagulation abnormalities** can occur (e.g. due to non-alcoholic fatty liver disease).

### 3.4 Medical Emergencies

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- Equipment needs may change for bariatric patients in medical emergency considerations
  - **Wider blood pressure cuffs** e.g. thigh cuff
  - **Longer IM needles** due to increased fat deposits
  - **Longer i-gel airways**
- Chest thrusts if they are choking can be difficult or even impossible
- Resuscitation and identification of landmarks for chest compressions may be more difficult
- Ability to move patients into recovery or supine positions as appropriate may be impossible and clinician safety should be maintained (see manual handling section)
- Services should consider 'Immediate Life Support Training' (ILS) for clinicians and staff involved in the treatment of this patient group.
- If an ambulance is required, ensure you inform them when contacting them of the patient's bariatric status.

### 3.5 Conscious Sedation

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- **Inhalation sedation:** There are no specific contra-indications and it remains safe for the majority of overweight or obese patients. Care must still be taken to ensure safe airway maintenance.
- **Intravenous (IV) sedation:** Multiple factors in this patient group can affect safe delivery of care in this instance. ASA 3 status or above are unsuitable for the majority of primary care setting. Cannulation can be challenging and respiratory depression associated with sedation agents can be more profound in those with compromised cardiovascular and respiratory systems, along with increased weight resting on their chest when reclined. Decision should be taken carefully and IV sedation for this patient group is often anaesthetist led in an acute setting.

### 3.6 General Anaesthesia

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- General anaesthesia (GA) for the bariatric patient carries unique and increased risks. Every effort should be made to avoid the need to treat patients with obesity using GA.

### 4.1 Useful links

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- **Manual handling** [http://www.wales.nhs.uk/documents/NHS\\_manual\\_handling\\_passpor.pdf](http://www.wales.nhs.uk/documents/NHS_manual_handling_passpor.pdf)
- [http://ctuhbintranet/dir/HealthandSafety/SaferHandling/PatientHandling/\\_layouts/15/WopiFrame.aspx?sourcedoc=%7BBAB30A262-EB4D-4F83-98B0-047CDF27EFFB%7D&file=Bariatric%20Protocol%20Op%20V%201-Sept13.doc&action=default&DefaultItemOpen=1](http://ctuhbintranet/dir/HealthandSafety/SaferHandling/PatientHandling/_layouts/15/WopiFrame.aspx?sourcedoc=%7BBAB30A262-EB4D-4F83-98B0-047CDF27EFFB%7D&file=Bariatric%20Protocol%20Op%20V%201-Sept13.doc&action=default&DefaultItemOpen=1)
- Online BMI Calculator: <https://www.nhs.uk/live-well/healthy-weight/bmi-calculator/>
- Welsh Ambulance Service website: <https://www.ambulance.wales.nhs.uk/en/406>

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## 4.3 Appendices

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### 1- Care pathway flowchart

