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### 1.0 Descriptive summary of station:

In this station the candidate is reviewing a 25-year-old man who has been admitted with complications of muscle dysmorphia/reverse anorexia including an acute kidney injury. They are expected to identify that the patient's physical and psychiatric symptoms relate to the substances (anabolic steroids, diuretics and thyroid hormone) the patient has been taking as part of a bodybuilding regime. The candidate is then required to describe an appropriately focussed physical examination and interpret pathology results before presenting their differential diagnosis and management plan to the examiner and should take the renal dysfunction into account when discussing management options for mania.

### 1.1 The main assessment aims are to:

- Recognise that the behaviour prior to admission is driven by a body dysmorphic disorder.
- Explain a physical examination relevant to the patient's history of hyperthyroidism and steroid misuse.
- Identify and mitigate for important complications (e.g. choice of treatment for mania given current renal dysfunction) when developing a management plan.

### 1.2 The candidate MUST demonstrate the following to achieve the required standard:

- Enquire about any non-prescription medication being utilised.
- Attempt to clarify whether a doctor is involved in the recommendations for his bodybuilding regime.
- Describe examining the skin for track marks or acne.
- Identify that the thyroid function test results are consistent with hyperthyroidism due to levothyroxine.
- Identify that the patient has body dysmorphic disorder.
- Identify that, due to acute kidney injury, lithium would not be the first choice for treatment of mania in this patient.

### 1.3 Station covers the:

- **RANZCP OSCE Curriculum Blueprint Primary Descriptor Category:** Medical Disorders in Psychiatry, Substance Used Disorders
- **Area of Practice:** Consultation–Liaison
- **CanMEDS Marking Domains Covered:** Medical Expert, Professional
- **RANZCP 2012 Fellowship Program Learning Outcomes:** Medical Expert (Assessment – Data Gathering Content, Assessment – Physical – Selection, Diagnosis – Investigation Analysis, Diagnosis, Management – Initial Plan); Professional (Ethical Practice)

#### References:

- American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders (5th ed.)*. Arlington, VA: American Psychiatric Publishing.
- Geeky Medics website - <https://geekymedics.com/thyroid-status-examination/>
- Murray S, Griffiths S et al. Evolving eating disorder psychopathology: Conceptualising muscularity-oriented disordered eating, *British Journal of Psychiatry*, Volume 208, May 2016 , pp. 414-415
- Phillips KA. *Understanding Body Dysmorphic Disorder: An Essential Guide* New York: Oxford University Press, 2009, pp 50-51
- Strother E, Lemberg R, Stanford S & Dayton (2012) Eating Disorders in Men: Underdiagnosed, Undertreated, and Misunderstood, *Eating Disorders*, 20:5, 346-355
- World Health Organisation (1992). *ICD-10 Classifications of Mental and Behavioural Disorder: Clinical Descriptions and Diagnostic Guidelines*. Geneva. World Health Organisation.
- National Institute on Drug Abuse - <https://www.drugabuse.gov/publications/drugfacts/anabolic-steroids>
- Mosley, P. 2008 Bigorexia: Bodybuilding and muscular dysmorphia. *European Eating Disorders Review*, 17: 191-198

**1.4 Station requirements:**

- Standard room with suitable IT equipment and internet connection for all participants.
- Accessibility to Zoom for all participants (examiners x 2, role player x 1, candidate x 1, observer x 1).
- A set of 'Instructions to Candidate' for each candidate.
- Role player: Male (20–30s), must have a lean and muscular build.
- Pens for each candidate.

## 2.0 Instructions to Candidate

You have **15 minutes** to complete this station after **5 minutes** of reading time.

You are working as a junior consultant psychiatrist in consultation–liaison psychiatry. You have been asked to review Josh Morgan, a 25-year-old man who was admitted yesterday. He presented following a collapse and reported symptoms of nausea, headache and blurred vision that had lasted for 1 week.

Josh has been disruptive on the ward, he didn't sleep last night, and today he has been insisting that he is not unwell and attempting to leave as he says he needs to go to the gym as he is training for a bodybuilding competition.

Josh's pathology results and physical observations are included on the following page.

Your tasks are to:

- Take a history relevant to Josh Morgan's current symptoms.
- Interpret the provided blood investigation results and physical observations.
- Describe how you would conduct a focussed examination based on Josh's symptoms, observations and investigations **to the examiners**.
- Justify your differential diagnosis and outline your short-term management plan **to the examiners**.

## INVESTIGATION RESULTS

Physical Observations (21-11-20)	
Pulse Rate	108
BP	170/100
Temp	37.7
SpO2	98%

Liver Function Tests (21-11-20)			
Bilirubin (total)	19	umol/L	<20
Alk Phos	44	umol/L	(42-98)
Gamma GT	28	umol/L	<38
ALT	33	umol/L	<34
AST	<b>32</b>	umol/L	<31
Albumin	45	g/L	35–50
Protein	80	g/L	60–83

Full Blood Examination (21-11-20)			
Hb	<b>110</b>	g/L	(115–160)
RCC	3.8	x10 <sup>12</sup> /L	(3.80–5.20)
MCHC	325	g/L	(320–360)
MCV	82	fL	(80–100)
MCH	28	pg	(27.00–33.50)
Platelets	140	x10 <sup>9</sup> /L	(140–400)
WCC	<b>3.8</b>	x10 <sup>9</sup> /L	(4.0–11.0)
neutrophils	<b>1.6</b>	x10 <sup>9</sup> /L	(2.0–8.0)
lymphocytes	1.7	x10 <sup>9</sup> /L	(1.00–4.0)
monocytes	0.2	x10 <sup>9</sup> /L	(0.1–1.0)
eosinophils	0.1	x10 <sup>9</sup> /L	<0.60
ESR	18	mm/Hr	(0–20)

Thyroid Function Tests (21-11-20)			
TSH	<b>&lt;0.30</b>	mIU/L	(0.30–5.00)
Free T4	<b>27</b>	pmol/L	(9–19)

Renal Function (21-11-20)			
Creatinine	<b>120</b>	umol/L	(60–110)
eGFR	<b>59</b>		(>90)

### 3.0 Instructions to Examiner

#### 3.1 In this station, your role is to:

Observe the activity undertaken in the station and judge it according to the station assessment aims and defined tasks as outlined in 1.1 and 1.2.

When the candidate enters the station briefly check the photo ID.

The role player opens with the following statement (speaking quickly):

*'I don't have long to talk, I have somewhere to be.'*

#### 3.2 Background information for examiners

In this station the candidate is expected to review a 25-year-old man who has been admitted with complications of muscle dysmorphia/reverse anorexia. They are expected to identify that the patient's physical and psychiatric symptoms relate to the substances (steroids, diuretics and thyroid hormone) that the patient has been taking as part of a bodybuilding regime that is complicated by an underlying eating disorder.

The candidate is required to describe how they would conduct an appropriate physical examination that addresses the investigations suggestive of hyperthyroidism and the history of steroid misuse. The history elicited, pathology results and physical observations should be incorporated into an appropriate differential diagnosis and management plan.

In order to 'Achieve' this station the candidate **MUST**:

- Enquire about any non-prescription medication being utilised.
- Attempt to clarify whether a doctor is involved in the recommendations for his bodybuilding regime.
- Describe examining the skin for track marks or acne.
- Identify that the thyroid function test results are consistent with hyperthyroidism due to levothyroxine.
- Identify that the patient has body dysmorphic disorder.
- Identify that, due to acute kidney injury, lithium would not be the first choice for treatment of mania in this patient.

A surpassing candidate will demonstrate a sophisticated understanding of muscle dysmorphia, linking all abnormal results and physical observations to malnutrition and substance misuse, and suggest the patient likely also has an eating disorder. They should also recognise that, while the patient likely has a substance induced mood disorder secondary to thyroid hormone misuse, bipolar affective disorder cannot be excluded.

#### Muscle dysmorphia and eating disorders in men

Muscle dysmorphia is a subtype of body dysmorphic disorder in DSM-5 but is often also grouped with eating disorders. It is sometimes called 'bigorexia', 'megarexia', or 'reverse anorexia' with an exaggerated belief that one's own body is too small, too skinny, insufficiently muscular or insufficiently lean, although in most cases, the individual's build is normal or can already be abnormally large and muscular.

Murray et al. (2016) reported that the population prevalence of eating disorder behaviour in males far outweighs the treated prevalence, suggesting that males are far less likely to seek treatment for eating disorder-related problems. It may also indicate that male eating disorder problems are unlikely to be detected by health professionals. Aligned with increasing preoccupation with body weight and shape among males, there has been an increase in muscularity-oriented eating and exercise practices. For example, more than 90% of adolescent boys in general community settings have reported that they exercise primarily to increase muscle mass or tone and two-thirds report specific changes in dietary intake to increase muscle size or tone, with up to 15% using muscle-enhancing substances including anabolic steroids. About 8% of young men report being very concerned with their muscularity and use unhealthy means, including potentially dangerous dietary practices, in pursuit of their desired level of muscularity.

In muscle dysmorphia (previously referred to as reverse anorexia nervosa), the person becomes over concerned, or obsessed, with muscle mass or body size. The use of steroids and growth hormones is common in muscle dysmorphia. The rate of anabolic steroid use among young males is roughly equal to that of anorexia and bulimia in young females. These drugs produce swift changes in muscle mass and have very few initial side effects. However, long-term use has been linked with a range of physical and psychological complications and side effects including prostate enlargement, high cholesterol, depression, and suicidal ideation as a withdrawal symptom.

Steroids and other hormones are often used by men with body image concerns, which are greatest for those with a less than average weight for height. These men generally have a strong drive for bulk, combined with a drive for thinness or lean body mass. They are therefore at risk of developing disordered eating habits such as bingeing, purging and restricting, as well as abuse of hormones. There is considerable overlap between this disorder and an eating disorder. Because men who struggle with muscle dysmorphia often struggle with an eating disorder as well it has been recommended that treatment interventions similar to those used for eating disorders be applied in cases of muscle dysmorphia (Strother et al. 2012).

### **Anabolic steroid use**

Anabolic–androgenic steroids (AAS) are steroidal androgens that include natural androgens like testosterone as well as synthetic androgens that are structurally related and have similar effects to testosterone. These drugs help the growth and repair of muscle tissue and can be used to treat hormonal issues in puberty and muscle loss caused by other diseases such as cancer and AIDS. Anabolic steroids are also classed as performance and image enhancing drugs (PIEDs) and are taken by people with the intention of improving their physical appearance or enhancing their sporting performance (often referred to as Roids, gear or juice).

According to the National Institute on Drug Abuse, anabolic steroid misuse may lead to serious, even permanent, health problems such as:

- kidney problems or failure
- liver damage and tumours
- enlarged heart, high blood pressure and changes in blood cholesterol, all of which increase the risk of stroke and heart attack, even in young people
- increased risk of blood clots.

Several other effects are gender-and age-specific:

In men:

- shrinking testicles
- decreased sperm count
- baldness
- development of breasts
- increased risk for prostate cancer.

## INVESTIGATION RESULTS – provided to candidate

Physical Observations (21-11-20)	
Pulse Rate	108
BP	170/100
Temp	37.7
SpO2	98%

Liver Function Tests (21-11-20)			
Bilirubin (total)	19	umol/L	<20
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Gamma GT	28	umol/L	<38
ALT	33	umol/L	<34
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lymphocytes	1.7	$\times 10^9/L$	(1.00–4.0)
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In this scenario the patient has evidence of haematological abnormality and hyperthyroidism. Therefore, the candidate should prioritise assessment of the thyroid gland to elicit symptoms of hyperthyroidism (e.g. tremor and thyroid eye signs) and to look for evidence of anaemia. Based on the history they should also look for evidence of anabolic steroid use and in the time available the candidate should be able to demonstrate the relative importance of specific tests that are relevant to this presentation and not merely provide a generic assessment approach.

The patient has abnormal renal function suggestive of an acute kidney injury and the candidate should suggest this may relate to dehydration secondary to frusemide use but should also consider level of protein consumption (including asking about protein supplementation). The candidate should identify that neutropaenia is reflective of malnutrition/inadequate intake to match the patient's level of physical activity.

## PHYSICAL ASSESSMENT

### Thyroid Examination (adapted from Geeky Medics OSCE website)

A thorough thyroid examination is listed below but as a priority the candidate should describe:

- palpating the thyroid gland
- assessing for thyroid eyes signs
- assessing for peripheral tremor.

#### General inspection:

- **Weight:** weight loss with hyperthyroidism, weight gain with hypothyroidism.
- **Behaviour:** anxiety and hyperactivity are associated with hyperthyroidism.
- **Clothing:** patients with hyperthyroidism suffer from heat intolerance.
- **Hoarse voice:** caused by compression of the larynx due to thyroid gland enlargement.

#### Thyroid inspection – technique:

- Inspect the midline of the neck from the front and the sides noting any masses (e.g. goitre) or scars (e.g. previous thyroidectomy). The normal thyroid gland should not be visible.
- If a mass is identified it can be further examined by asking the patient to swallow some water and observe the movement of the mass or asking the patient to protrude their tongue.

#### Thyroid palpation

Palpate each of the thyroid's **lobes** and the **isthmus**:

1. Stand behind the patient and ask them to tilt their chin slightly downwards to relax the muscles of the neck to aid palpation of the thyroid gland.
2. Place the three middle fingers of each hand along the midline of the neck below the chin.
3. Locate the upper edge of the thyroid cartilage ('Adam's apple') with your fingers.
4. Move your fingers inferiorly until you reach the cricoid cartilage. The first two rings of the trachea are located below the cricoid cartilage and the thyroid isthmus overlies this area.
5. Palpate the thyroid isthmus using the pads of your fingers.
6. Palpate each lobe of the thyroid in turn by moving your fingers out laterally from the isthmus.
7. Ask the patient to swallow some water, whilst you feel for the symmetrical elevation of the thyroid lobes (asymmetrical elevation may suggest a unilateral thyroid mass).
8. Ask the patient to protrude their tongue (if a mass represents a thyroglossal cyst, you will feel it rise during tongue protrusion).

### **Characteristics of the thyroid gland on palpation:**

- **Size:** note if the thyroid gland feels enlarged.
- **Symmetry:** assess for any evidence of asymmetry between the thyroid lobes (unilateral enlargement may be caused by a thyroid nodule or malignancy).
- **Consistency:** assess the consistency of the thyroid gland tissue, noting any irregularities (e.g. a widespread irregular consistency would be suggestive of a multinodular goitre).
- **Masses:** note if there are any distinct palpable masses within the thyroid gland's tissue (e.g. solitary thyroid nodule or thyroid malignancy).
- **Palpable thrill:** assess for evidence of a palpable thrill caused by increased vascularity of the thyroid gland due to hyperthyroidism (suggestive of Graves' disease).

Auscultate each lobe of the thyroid gland for a bruit (looking for increased vascularity) using the bell of the stethoscope.

### **Lymph node palpation – technique:**

1. Position the patient sitting upright and examine from behind if possible. Ask the patient to tilt their chin slightly downwards to relax the muscles of the neck and aid palpation of lymph nodes. You should also ask them to relax their hands in their lap.
2. Stand behind the patient and use both hands to start palpating the neck.
3. Use the pads of the second, third and fourth fingers to press and roll the lymph nodes over the surrounding tissue to assess the various characteristics of the lymph nodes.
4. Start in the submental area and progress through the various lymph node chains including:
  - submental
  - submandibular
  - pre-auricular
  - post-auricular
  - superficial cervical
  - deep cervical
  - posterior cervical
  - supraclavicular.

### **Trachea**

Inspect for evidence of tracheal deviation, which may be caused by a large goitre.

### **Sternum**

Percuss the sternum moving downwards from the sternal notch to assess for retrosternal dullness.

**Hands** – Inspect the hands for peripheral stigmata of thyroid-related pathology:

- **Excessive sweating:** associated with hyperthyroidism.
- **Thyroid acropachy:** similar in appearance to finger clubbing but caused by periosteal phalangeal bone overgrowth secondary to Graves' disease.
- **Onycholysis:** painless detachment of the nail from the nail bed associated with hyperthyroidism.
- **Palmar erythema:** reddening of the palms associated with hyperthyroidism.

### **Peripheral tremor – technique:**

1. Ask the patient to stretch their arms out in front of them.
2. Place a piece of paper across the back of the patient's hands.
3. Observe for evidence of a peripheral tremor associated with hyperthyroidism (the paper will quiver).

### **Radial pulse**

Assess the rate and rhythm.

## Face

- **Dry skin:** associated with hypothyroidism.
- **Excessive sweating:** associated with hyperthyroidism.
- **Eyebrow loss:** the absence of the outer third of the eyebrows is associated with hypothyroidism.

## Eyes – technique:

Inspect the eyes for evidence of eye pathology associated with Graves' disease (known as Graves' ophthalmopathy) including:

- eye inflammation
- exophthalmos (also known as proptosis)
- eye movement abnormalities
- lid lag
- lid retraction.

## Reflexes

Reflexes are assessed to screen for hyporeflexia, which is associated with *hypothyroidism*. The most commonly tested reflexes are the biceps or the knee jerk reflex (only one needs to be assessed).

## Pretibial myxoedema

Pretibial myxoedema is a form of diffuse mucinosis in which there is an accumulation of excess glycosaminoglycans in the dermis and subcutis of the skin. It usually presents itself as a waxy, discoloured induration of the skin on the anterior aspect of the lower legs (pre-tibial region). Pretibial myxoedema is a rare complication of Graves' disease.

## Proximal myopathy

Proximal myopathy is a potential complication of both multinodular goitre and Graves' disease. Patients develop wasting of their proximal musculature causing difficulties in tasks such as standing from a sitting position.

To screen for proximal myopathy, ask the patient to stand from a sitting position with their arms crossed (to minimise their ability to mask proximal muscle weakness). Make sure to stand close to the patient to prevent them from falling. An inability to stand up would suggest proximal muscle weakness.

## Examination for AAS (steroid) use

Patient should be inspected for:

- acne and/or oily skin
- temporal hairline recession/male pattern baldness
- striae or keloids
- gynecomastia
- testicular shrinkage
- track marks (including between digits/toes)
- jaundice or signs of liver dysfunction.

## DIAGNOSIS

The patient meets the criteria for:

Substance/medication-induced mental disorder – the patient has a symptomatic presentation consistent with mania developing in the context of taking non-prescribed thyroid hormone (T3) which is capable of producing mania.

AND

Body dysmorphic disorder (with muscle dysmorphia) – the patient has been preoccupied with the belief that his body is not muscular enough and has engaged in regular body checking activities, his pursuit of a more muscular body has impaired his social and vocational functioning.

In the differential it would be appropriate and important to include:

Bipolar disorder – the presentation meets the criteria for a manic episode and although a substance/medication-induced mental disorder is more likely in the setting of hyperthyroidism secondary to thyroid hormone misuse there is a family history of bipolar disorder and therefore bipolar disorder should be included in the differential.

A surpassing candidate may identify that the patient meets the criteria for:

OSFED (Other Specific Feeding or Eating Disorder) – eating disorders and muscle dysmorphia commonly co-occur. The patient doesn't meet the criteria for anorexia nervosa, bulimia nervosa or ARFID (avoidant and restrictive food intake disorder); he is focussed on a lean body with no body fat and engages in restriction and food avoidance. The patient exhibits significant distress if required to eat other food and engages in several compensatory mechanism – increasing his exercise, purging and increasing insulin use.

## Diagnostic criteria

### DSM-5 criteria for substance/medication-induced mental disorders

- A. The disorder represents a clinically significant symptomatic presentation of a relevant mental disorder.
- B. There is evidence from the history, physical examination, or laboratory findings of both of the following:
  1. The disorder development during or within 1 month of substance intoxication or withdrawal or taking a medication; and
  2. The involved substance/medication is capable of producing the mental disorder.
- C. The disorder is not better explained by an independent mental disorder (i.e. one that is not substance- or medication-induced). Such evidence of an independent mental disorder could include the following:
  1. The disorder preceded the onset of severe intoxication or withdrawal or exposure to the medication; or
  2. The full mental disorder persisted for a substantial period of time (e.g. at least 1 month after the cessation of acute withdrawal or severe intoxication or taking the medication. This criterion does not apply to substance-induced neurocognitive disorders or hallucinogen persisting perception disorder, which persist beyond the cessation of acute intoxication or withdrawal).
- D. The disorder does not occur exclusively during the course of delirium.
- E. The disorder causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- F. ICD-10 Criteria F19. 94 - Other psychoactive substance use, unspecified with psychoactive substance-induced mood disorder).

### DSM-5 criteria for mania

- A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood and abnormally and persistently increased activity or energy, lasting at least 1 week and present most of the day, nearly every day (or any duration if hospitalisation is necessary).
- B. During the period of mood disturbance and increased energy or activity, three (or more) of the following symptoms (four if the mood is only irritable) are present to a significant degree, and represent a noticeable change from usual behaviour:
  1. Inflated self-esteem or grandiosity.
  2. Decreased need for sleep (e.g. feels rested after only 3 hours of sleep).
  3. More talkative than usual or pressure to keep talking.
  4. Flight of ideas or subjective experience that thoughts are racing.
  5. Distractibility (i.e. attention too easily drawn to unimportant or irrelevant external stimuli), as reported or observed.
  6. Increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation (i.e. purposeless non-goal-directed activity).
  7. Excessive involvement in activities that have a high potential for painful consequences (e.g. engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments).
- C. The mood disturbance is sufficiently severe to cause marked impairment in social or occupational functioning or to necessitate hospitalisation to prevent harm to self or others, or there are psychotic features.
- D. The episode is not attributable to the physiological effects of a substance (e.g. a drug of abuse, a medication, other treatment) or another medical condition.

**Note:** A full manic episode that emerges during antidepressant treatment (e.g. medication, electroconvulsive therapy) but persists at a fully syndromal level beyond the physiological effect of that treatment is sufficient evidence for a manic episode and, therefore, a bipolar I diagnosis.

## ICD-10 criteria for mania

### F30 Manic episode

All the subdivisions of this category should be used only for a single episode. Hypomanic or manic episodes in individuals who have had one or more previous affective episodes (depressive, hypomanic, manic, or mixed) should be coded as bipolar affective disorder (F31.-).

Incl.: bipolar disorder, single manic episode

### F30.0 Hypomania

A disorder characterised by a persistent mild elevation of mood, increased energy and activity and usually marked feelings of wellbeing and both physical and mental efficiency. Increased sociability, talkativeness, over-familiarity, increased sexual energy, and a decreased need for sleep are often present but not to the extent that they lead to severe disruption of work or result in social rejection. Irritability, conceit, and boorish behaviour may take the place of the more usual euphoric sociability. The disturbances of mood and behaviour are not accompanied by hallucinations or delusions.

### F30.1 Mania without psychotic symptoms

Mood is elevated out of keeping with the patient's circumstances and may vary from carefree joviality to almost uncontrollable excitement. Elation is accompanied by increased energy, resulting in overactivity, pressure of speech, and a decreased need for sleep. Attention cannot be sustained, and there is often marked distractibility. Self-esteem is often inflated with grandiose ideas and overconfidence. Loss of normal social inhibitions may result in behaviour that is reckless, foolhardy, or inappropriate to the circumstances, and out of character.

### F30.8 Other manic episodes

### F30.9 Manic episode, unspecified

### F31 Bipolar affective disorder

A disorder characterized by two or more episodes in which the patient's mood and activity levels are significantly disturbed, this disturbance consisting on some occasions of an elevation of mood and increased energy and activity (hypomania or mania) and on others of a lowering of mood and decreased energy and activity (depression). Repeated episodes of hypomania or mania only are classified as bipolar.

#### Includes manic-depressive:

- illness
- psychosis
- reaction

**Excludes:** bipolar disorder, single manic episode ( F30.- )  
cyclothymia ( F34.0 )

## ICD-10 Criteria for bipolar affective disorder

### F31.1 Bipolar affective disorder, current episode manic without psychotic symptoms

The patient is currently manic, without psychotic symptoms (as in F30.1) and has had at least one other affective episode (hypomanic, manic, depressive, or mixed) in the past.

### F31.8 Other bipolar affective disorders

Bipolar II disorder

Recurrent manic episodes NOS

### DSM-5 criteria for body dysmorphic disorder

- A. Preoccupation with one or more perceived defects or flaws in physical appearance that are not observable or appear slight to others.
- B. At some point during the course of the disorder, the individual has performed repetitive behaviours (e.g. mirror checking, excessive grooming, skin picking, reassurance seeking) or mental acts (e.g. comparing his or her appearance with that of others) in response to the appearance concerns.
- C. The preoccupation causes clinically significant distress or impairment in social, occupational or other areas of functioning.
- D. The appearance preoccupation is not better explained by concerns with body fat or weight in an individual whose symptoms meet diagnostic criteria for an eating disorder.

#### Specify if:

- With muscle dysmorphia: The individual is preoccupied with the idea that his or her body build is too small or insufficiently muscular. This specifier is used even if the individual is preoccupied with other body areas, which is often the case.

#### Specify if:

- Indicate degree of insight regarding body dysmorphic disorder beliefs (e.g. 'I look ugly' or 'I look deformed').
  - With good or fair insight: The individual recognises that the body dysmorphic disorder beliefs are definitely or probably not true or that they may or may not be true.
  - With poor insight: The individual thinks that the body dysmorphic beliefs are probably true.
  - With absent insight/delusional beliefs: The individual is completely convinced that the body dysmorphic beliefs are true.

### DSM-5 criteria for Other Specified Feeding or Eating Disorder (OSFED)

- A person must present with feeding or eating behaviours that cause clinically significant distress and impairment in areas of functioning, but do not meet the full criteria for any of the other feeding and eating disorders.
- A diagnosis might then be allocated that specifies a specific reason why the presentation does not meet the specifics of another disorder (e.g. bulimia nervosa – low frequency). The following are further examples for OSFED:
  - **Atypical anorexia nervosa:** All criteria are met, except despite significant weight loss, the individual's weight is within or above the normal range.
  - **Binge eating disorder (BED; of low frequency and/or limited duration):** All of the criteria for BED are met, except at a lower frequency and/or for less than 3 months.
  - **Bulimia nervosa (of low frequency and/or limited duration):** All of the criteria for bulimia nervosa are met, except that the binge eating, and inappropriate compensatory behaviour occurs at a lower frequency and/or for less than 3 months.
  - **Purging disorder:** Recurrent purging behaviour to influence weight or shape in the absence of binge eating
  - **Night eating syndrome:** Recurrent episodes of night eating. Eating after awakening from sleep, or by excessive food consumption after the evening meal. The behaviour is not better explained by environmental influences or social norms. The behaviour causes significant distress/impairment. The behaviour is not better explained by another mental health disorder (e.g. BED).

### ICD-10 Eating disorder Not Otherwise Specified F50.9

Eating disorder not otherwise specified (EDNOS) is an eating disorder that does not meet the criteria for anorexia nervosa or bulimia nervosa. Individuals with EDNOS usually fall into one of three groups: sub-threshold symptoms of anorexia nervosa or bulimia nervosa, mixed features of both disorders or extremely atypical eating behaviours that are not characterised by either of the other established disorders.

### 3.3 The Standard Required

**Surpasses the Standard** – the candidate demonstrates competence above the level of a junior consultant psychiatrist in several of the domains described below.

**Achieves the Standard** – the candidate demonstrates competence expected of a junior consultant psychiatrist. That is the candidate is able to demonstrate, *taking their performance in the examination overall*, that

- i. they have competence as a **medical expert** who can apply psychiatric knowledge including medicolegal expertise, clinical skills and professional attitudes in the care of patients (such attitudes may include an ability to tolerate uncertainty, balance, open-mindedness, curiosity, 'common sense' and a scientific approach).
- ii. they can act as a **communicator** who effectively facilitates the doctor–patient relationship.
- iii. they can **collaborate** effectively within a healthcare team to optimise patient care.
- iv. they can act as **managers** in healthcare organisations who contribute to the effectiveness of the healthcare system, organise sustainable practices and make decisions about allocating resources.
- v. they can act as **health advocates** to advance the health and wellbeing of individual patients, communities and populations.
- vi. they can act as **scholars** who demonstrate a life-long commitment to learning as well as the creation, dissemination, application and translation of medical knowledge.
- vii. they can act as **professionals** who are committed to ethical practice and high personal standards of behaviour.

**Below the Standard** – the candidate demonstrates significant defects in several of the domains listed above.

**Domain Not Addressed** – the candidate demonstrates significant defects in all of the domains listed above or the candidate demonstrates significant defects in the first domain of being a medical expert.

## 4.0 Instructions to the Role Player

### 4.1 This is the information you need to memorise for your role:

You are Josh Morgan, a 25-year-old man who works in retail and lives with two flatmates – Adam and Kyle.

You have been admitted to hospital after you collapsed at the gym. For a week prior to this you had been experiencing a headache and your vision kept becoming blurry. However you are not worried about these things and believe that you were doing better than ever at the gym and are keen to return as you have an upcoming bodybuilding competition that you are absolutely certain you will win.

#### Background

##### Your personal history

You are an only child.

Your mother is an administrative assistant and your father is a PE teacher.

Growing up you were not good at, or interested in, sport and you always felt that this disappointed your father.

When you were young your father (and the kids at school) would tease you for being scrawny and when in high school your father would tell you that you were lazy and unfit because you weren't interested in sport.

You were an average student but never felt that you did well enough or that you met your parent's expectations. You left school after year 10 and have been working in retail since then. You currently work in a department store.

##### Your physical and mental health history

You've had no past health problems and have never been in hospital before.

You do not smoke.

You used to drink alcohol with your friends and at parties but have stopped drinking since getting into bodybuilding.

You have no history of mental illness.

Your Uncle Ben has '*bipolar*' but you don't know any further details about his illness or treatment as he lives in the UK.

You do not take any medication prescribed by a doctor. Your use of medication for your bodybuilding should NOT be disclosed unless you are specifically asked by the candidate.

#### Gym

You have been going to the gym for 18 months. Your flatmates pressured you to go but now you go more often than they do. Currently you go to the gym 7 days a week for a least 3 hours a day. You have entered a bodybuilding competition and have been doing a combination of cardio and weights at the gym.

Since starting bodybuilding, you have felt a great sense of achievement. You are aware that you are more dedicated to going to the gym than your flatmates are and for the first time in your life you have felt like you are good at something.

Developing muscle and reducing body fat is very important to you. You measure your biceps with a tape measure before and after each gym session. You check your stomach for fat by pinching the skin – you do this many times a day. At times you worry that you are not muscular enough and need to work even harder to achieve your goals. You need to stop and look at your reflection to reassure yourself that you're fit.

Some days you will go to the gym more than once and occasionally you can spend up to 14 hours a day there. You have missed work or cancelled social engagements in order to go to the gym. You would worry that you'd end up losing your job but you feel anxious and stressed if you haven't been to the gym enough.

Since you started going to the gym you have changed your diet. Initially you decreased the amount of takeaway and junk food that you had but as you progressed with bodybuilding you have increased your protein intake and stopped eating carbs. In the lead up to your competition you have only been eating boiled chicken and eggs. You carefully weigh and portion your food and you become distressed and angry if anyone tries to get you to eat anything else.



You avoid any social interaction that involves food and if you have to attend such an event and eat you will induce vomiting as soon as possible. You will also use more insulin injections before your gym session the following day, but the use of any medication should not be disclosed unless the candidate asks you directly about this – please see medication section below.

You have protein shakes before and after each gym session but do not inform the candidate of this unless they directly ask you about protein shakes or protein supplementation.

You have a Garmin and if you don't complete the workouts you have planned for the day you are unable to sleep and you have been known to go to the gym in the middle of the night to compete your goals for the day.

People at the gym have been supportive and encouraged you and one person, Craig, even approached you about being your personal trainer. You now have sessions with Craig most days and he was the one who suggested you should commence bodybuilding seriously and eventually to enter the competition.

You desire to be lean and do not want to have any body fat but to have significant muscle bulk. Through the gym you've met some people who told you that they could help you improve your performance and increase your muscle definition using certain drugs – please see medication section below.

### **More recently**

In the last few weeks you've felt better than ever. You no longer worry that you will get in trouble with work or think you will lose your job and so you have not been to work at all in the last 2 weeks. You are certain that you are going to win your upcoming bodybuilding competition (even though you have never competed before) and that you are going to be famous as a result – so you won't need to work.

You have not felt the need to sleep (at the most you have 1–2 hours a night) and you have more energy than usual. You are really happy about this as it means that you can spend more time at the gym.

You admit that you have had some arguments with your flatmates, but you believe this is because they are jealous that you are going to win the bodybuilding competition. You've also had arguments with your parents whom you believe are trying to get in the way of your success; your father doesn't want you to achieve more than he has.

You are not worried that you collapsed or had headaches – you think this is understandable because you've been working so hard and achieving so much and you are certain that you can keep working out and achieve even more and that nothing bad can possibly happen to you. You know you don't get results without hard work.

## **4.2 How to play the role:**

You are to dress in gym attire/athletic wear.

You should not be concerned about the fact that you collapsed yesterday. You should be clear that you feel well, in fact you feel great, and you do not understand why you are in hospital. You should be proud of how well you are doing at bodybuilding and certain that you are going to win the upcoming competition.

You are self-assured and confident in your manner. Your speech is a bit loud and fast. You easily get irritable and are focussed on the fact that you need to go to the gym, but you should not attempt to leave. Try to cooperate with the candidate and answer their questions despite your feelings of irritation.

If you are requested to hold out your arms and/or to place a piece of paper over your hands, your hands are to shake.

## **4.3 Opening statement:**

*'I don't have long to talk, I have somewhere to be.'*

## **4.4 What to expect from the candidate:**

The candidate should be polite and appropriate and try to engage you in a conversation about what is going on in your life. They should ask you about your mood and features such as your sleep and appetite. They should enquire about your exercise and your thoughts about your body shape.

The candidate is then required to explain to the examiners the physical examination that they would conduct and present their findings and management plan to the examiners. At this time you just sit quietly and try not to distract the candidate.

## **4.5 Responses you MUST make:**

***'I can't stay here I have a competition to win.'***

***'You are keeping me here to make me lose muscle and gain fat.'***

***'I don't need to be here; I've never felt better.'***

#### 4.6 Responses you MIGHT make:

If the candidate asks about any medication or substances you are talking that are not prescribed  
Please see medication section below. Please do not provide this information unless the candidate asks.

If the candidate asks about being worried about collapsing or being in hospital or concerned for your health  
Scripted Response: ***'There's nothing to worry about I just need to get to the gym.'***

If the candidate asks you how you feel about your weight/shape or your body image  
Scripted Response: ***'I know that I can win the competition and that I can get more muscle definition.'***

If the candidate asks about hearing voices or unusual experiences  
Scripted Response: ***'No. I'm not crazy.'***

If the candidate asks about you having special powers or abilities  
Scripted Response: ***'I'm the greatest body builder in the world and it's going to make me millions.'***

If the candidate asks about your weight  
Scripted Response: ***'I haven't weighed myself today, if you just let me go I can gain more muscle.'***

#### 4.7 Medication and dosage that you need to remember

You are NOT on any medication prescribed by a doctor.

You ARE taking some products recommended to you by people you know from the gym but you SHOULD NOT disclose this unless you are specifically asked. You are unwilling to tell the candidate who is providing these medications to you – including being unwilling to make comment on whether there is a doctor involved in the recommendations.

You are currently taking:

Medication	Use
Testosterone	You've been injecting 400 milligrams at least weekly so you can really increase body muscle mass and strength and reduce fat mass, even though one of the guys told you the maximum dose is fortnightly.
Levothyroxine	You know this is a type of thyroid medication given when the thyroid does not produce enough of this hormone on its own. You use it to regulate your body's energy and metabolism and understand it reduces levels of body fat.
Insulin	Some days you use this before a heavy lifting session at a dose of 4–6 units to increase stamina and endurance as well as increase muscle bulk. You don't like to eat carbohydrates even though someone said it was essential to consume the right amount of carbohydrates at the correct times in order to keep adequate blood sugar levels in your body.
Frusemide	You took 10 milligrams for the first time the day you were admitted. You have also cut much salt out of your diet. You plan to take 20 milligrams on the day of competition for better muscle definition as it is a diuretic and minimises water concentrations within the muscles.

You have been taking all of the above (except the frusemide that you only took yesterday) in order to lose fat and to increase muscle for the last 8 months.

## STATION 5 – MARKING DOMAINS

The main assessment aims are to:

- Recognise that the behaviour prior to admission is driven by a body dysmorphic disorder.
- Explain a physical examination relevant to the patient's history of hyperthyroidism and steroid misuse.
- Identify and mitigate for important complications (e.g. choice of treatment for mania given current renal dysfunction) when developing a management plan.

Level of Observed Competence:

### 1.0 MEDICAL EXPERT

#### 1.1 Did the candidate take an appropriately detailed and focussed history (Proportionate value - 20%)

**Surpasses the Standard (scores 5) if:**

clearly achieves the overall standard with a superior performance in a range of areas; demonstrates prioritisation and screens for both substance use and eating disordered behaviours in a sophisticated manner.

**Achieves the Standard by:**

demonstrating use of a tailored biopsychosocial approach; conducting a detailed but targeted assessment; obtaining a history relevant to the patient's problems and circumstances with appropriate depth and breadth; history taking is hypothesis-driven; demonstrating ability to prioritise; eliciting the key issues; completing a risk assessment relevant to the individual case; demonstrating phenomenology; clarifying important positive and negative features; assessing for typical and atypical features.

To achieve the standard (**scores 3**) the candidate **MUST:**

a. Enquire about any non-prescription medications being utilised.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; omissions adversely impact on the obtained content; significant deficiencies such as substantial omissions in history.

**Does Not Address the Task of This Domain (scores 0).**

1.1. Category: ASSESSMENT – Data Gathering Content	Surpasses Standard	Achieves Standard			Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>	

### 7.0 PROFESSIONAL

#### 7.2 Did the candidate appropriately adhere to principles of ethical conduct and practice? (Proportionate value - 5%)

**Surpasses the Standard (scores 5) if:**

comprehensively considered all major aspects of ethical conduct and practice.

**Achieves the Standard by:**

demonstrating the capacity to: integrate ethical practice into the clinical setting; utilise ethical decision-making strategies to manage the impact of illicit medication access on patient care; maintain appropriate personal/interpersonal boundaries; seek peer review in difficult counter-transference situations; recognise the importance and limitations of obtaining consent and keeping confidentiality.

To achieve the standard (**scores 3**) the candidate **MUST:**

a. Attempt to clarify whether a doctor is involved in the recommendations for his bodybuilding regime.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; does not appear aware of, or adhere to, accepted medical ethical principles.

**Does Not Address the Task of This Domain (scores 0).**

7.2. Category: ETHICAL PRACTICE	Surpasses Standard	Achieves Standard			Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>	

**1.0 MEDICAL EXPERT**

**1.3 Did the candidate choose appropriately focussed and relevant physical examination tasks? (Proportionate value - 25%)**

**Surpasses the Standard (scores 5) if:**

describes features of a sophisticated examination, targeting signs of both steroid use and thyroid dysfunction and considers the possible barriers related to performing an examination in the setting of mood elevation.

**Achieves the Standard by:**

describing an organised and systematic physical, targeting signs of both steroid use and thyroid dysfunction; identifies tremor due to hyperthyroidism, covering all essential aspects; considers attention to privacy and boundary recognition.

To achieve the standard (**scores 3**) the candidate **MUST:**

a. Describe examining the skin for track marks or acne.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; significant deficiencies in choice of tasks; disorganisation in application of tasks; errors or omissions adversely impact on the examination outcome.

**Does Not Address the Task of This Domain (scores 0).**

1.3 Category: ASSESSMENT – Physical – Selection	Surpasses Standard	Achieves Standard			Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>	

**1.10 Did the candidate interpret physical observations and investigations correctly? (Proportionate value - 10%)**

**Surpasses the Standard (scores 5) if:**

demonstrates a comprehensive performance linking full blood count results to malnutrition, the acute kidney injury to malnutrition and diuretic use, and physical observations to hyperthyroidism due to thyroid hormone misuse.

**Achieves the Standard by:**

accurately identifying anaemia, recognising severity of hypertension, and interpreting the results and incorporating them into the diagnosis – any errors minor and do not materially adversely affect outcomes.

To achieve the standard (**scores 3**) the candidate **MUST:**

a. Identify that the thyroid function test results are consistent with hyperthyroidism caused by levothyroxine.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, does not consider both the physical observations and the investigations, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; inaccurate or inadequate interpretation of investigations; errors or omissions are significant and materially adversely affect conclusions.

**Does Not Address the Task of This Domain (scores 0).**

1.10. Category: DIAGNOSIS – Investigation Analysis	Surpasses Standard	Achieves Standard			Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>	

**1.9 Did the candidate formulate and describe an appropriate differential diagnosis? (Proportionate value - 15%)**

**Surpasses the Standard (scores 5) if:**

demonstrates a superior performance in describing the comorbidities; identifies that in addition to muscle dysmorphia that the patient meets the criteria for OSFED; appropriately identifies the limitations of diagnostic classification systems to guide treatment; able to synthesise the information in a sophisticated way that links underlying behaviours to abnormal observations and results and current manic symptoms.

**Achieves the Standard by:**

demonstrating capacity to integrate available information in order to formulate a differential diagnosis that includes steroid misuse and a substance-induced mood disorder due to thyroid hormone misuse as well as physical complications; demonstrating detailed understanding of diagnostic systems to provide justification for differential diagnosis; adequate prioritising of conditions relevant to the obtained history and findings; considering the temporal nature of the presentation; utilising a biopsychosocial approach, and/or identifying relevant predisposing, precipitating perpetuating and protective factors; incorporating appropriate technical criteria to justify diagnoses.

To achieve the standard (scores 3) the candidate **MUST:**

- a. Identify that the patient has body dysmorphic disorder.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, doesn't consider bipolar affective disorder in the differential diagnosis, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; inaccurate or inadequate diagnostic formulation; errors or omissions are significant and materially adversely affect conclusions.

**Does Not Address the Task of This Domain (scores 0).**

1.9 Category: DIAGNOSIS	Surpasses Standard	Achieves Standard		Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**1.11 Did the candidate develop and describe a relevant initial management plan? (Proportionate value - 25%)**

**Surpasses the Standard (scores 5) if:**

provides a sophisticated link between the plan and key issues identified and describes risks related to both current mental state and current physical condition; considers potential complication of steroid withdrawal.

**Achieves the Standard by:**

demonstrating the ability to prioritise and implement evidence-based acute care skills; planning for risk management; consideration of involuntary treatment and selection of treatment environment; recommending medication and other specific treatments in accordance with evidence and guidelines; record keeping and communication of assessment to the treating medical team; clearly addresses difficulties in the application of the plan including the barriers related to impaired insight and drive to continue exercise; recognition of their role in effective treatment.

To achieve the standard (scores 3) the candidate **MUST:**

- a. Identify that, due to acute kidney injury, lithium would not be the first choice for treatment of mania in this patient.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality (e.g. doesn't address current physical complications); omissions will impact adversely on patient care; plan lacks structure or is inaccurate; plan not tailored to patient's immediate needs or circumstances.

**Does Not Address the Task of This Domain (scores 0).**

1.11. Category: MANAGEMENT – Initial Plan	Surpasses Standard	Achieves Standard		Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**GLOBAL PROFICIENCY RATING**

Did the candidate demonstrate adequate overall knowledge and performance at the level of a junior consultant psychiatrist?

Circle One Grade to Score	Clearly Proficient	Marginal Performance	Not proficient
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