

Case 1

Amy is 25 she attends for a contraception review, she has been using Evra. Her weight has increased since last year; her BMI was 33 but is now 36. You decide to change her to a POP which she is not happy about. "I've always been big boned, what is the issue with weight anyway? You're just being prejudiced!"

What can you tell her about obesity in general?

NICE Guidelines:

Obesity should be talked about in a medical way to try to reduce negative feelings.

NICE classify obesity into categories:

Healthy weight	BMI 18.5- 24.9
Overweight	BMI 25- 29.9
Obese 1	BMI 30- 34.9
Obese 2	BMI 35- 39.9
Obese 3	BMI >40

Chart from FSRH:

Table 1: Definition of weight categories and body mass index (BMI)

Weight category	Body mass index (BMI)
Underweight	<18.5 kg/m ²
Normal weight	18.5 – 24.9 kg/m ²
Overweight	25 – 29.9 kg/m ²
Obese	30 – 34.9 kg/m ²
	35 – 39.9 kg/m ²
Morbidly obese*	≥ 40 kg/m ²

*sometimes referred to as severely obese

Heavier weight more associated health risks: T2DM, stroke, HTN, VTE, coronary Artery Disease, lipid problems, gallstones, sleep apnoea, osteoarthritis, depression, endometrial, breast and renal cell cancer.

Safe and effective pregnancy prevention and planning is critical since women with obesity, particularly those with comorbidities, are at significantly higher risk of pregnancy-related complications, making avoidance of unintended pregnancy especially important.

Women with obesity who become pregnant face an increased risk of gestational hypertension, diabetes, preeclampsia, caesarean delivery, post-partum haemorrhage and fetal complications such as growth restriction, macrosomia, neural tube defects, and stillbirth.

Maternal obesity impacts the long-term health of future generations with increased rates of chronic health conditions like obesity and diabetes in offspring.

HCPs giving contraception care are well-placed to raise the topic of weight and signpost women to appropriate support, because issues of weight are relevant to contraceptive decision-making. It is good practice to calculate and document BMI when providing contraception. Many HCPs feel concerned they may cause offense when discussing weight.

The GDG suggests that safe principles include:

- Ask permission to discuss weight;
- Give context as to why weight is relevant to your discussion;
- Be aware of stigmatising language;
- Avoid conveying judgemental views;
- Use the 'third person' to convey factual information about risks to reduce chance of patients becoming defensive or feeling disempowered or burdened by their weight;
- Offer support.

The following phrases could encourage a positive conversation when raising the topic of weight with contraception patients:

- “We know that body weight can affect some of the contraceptive choices. Is it ok if I talk to you about your weight?”
- How do you feel about your weight?” or “Do you have any concerns about your weight? Is this something you would like more help with?” HCPs should be aware of local weight management support services in their locality or signpost to web-based resources such as NHS Choices.
- “We know that a higher BMI is linked to increased risk of.../may affect the safety of.../may alter the effectiveness of... Shall I explain more about this risk?”

Motivational interviewing can help. Lots of web resources- change4life, couch to 5k, NHS weight loss guide, GP ref to gym/diet if BMI >35

How would her weight affect her contraception?

POP:

In the general population, there is no evidence suggesting a causal association between POP use and weight gain.

POP= small trials- reduced concentration of progestogen in obese women **but** no evidence of reduced efficacy.

Key information on POP (draft guideline):

The available evidence suggests that effectiveness of POP is not affected by body weight or BMI.

The available evidence suggests that POP is a safe contraceptive option for women who are overweight and women with obesity.

Clinical recommendation:

Double dose POP is not recommended for women who are overweight or women with obesity.

CHC:

CHC= Potential reduced efficacy for women with BMI >30 but conflicting and small trials.

Evra SPC says possible reduced effect of woman weighs 90kg or over.

Key information (draft guideline):

Most evidence suggests that effectiveness of combined oral contraception (COC) is not affected by body weight or BMI.

Limited evidence suggests a possible reduction in patch effectiveness in women $\geq 90\text{kg}$.

Limited evidence suggests that effectiveness of the ring is not affected by body weight or BMI.

CHC use is UKMEC 2 for use by women with BMI $\geq 30\text{-}34\text{ kg/m}^2$ and UKMEC 3 for women with BMI $\geq 35\text{kg/m}^2$.

Clinical recommendation

Women with obesity should be informed:

- that risk of thrombosis increases with increasing BMI.
- that current CHC use is associated with increased risk of VTE.
- that current CHC use is associated with a small increased risk of MI and ischaemic stroke.
- that if BMI is $\geq 35\text{ kg/m}^2$ the risks associated with use of CHC generally outweigh the benefits.

Therefore, CHC should only be used if no other contraceptive methods are available or acceptable – or if on clinical judgement of the healthcare provider the benefits still outweigh the risks.

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					

Obesity						
a) BMI ≥ 30 – 34 kg/m ²	1	1	1	1	1	2
b) BMI ≥ 35 kg/m ²	1	1	1	1	1	3

UKMEC	Definition of category
Category 1	A condition for which there is no restriction for the use of the method
Category 2	A condition where the advantages of using the method generally outweigh the theoretical or proven risks
Category 3	A condition where the theoretical or proven risks usually outweigh the advantages of using the method. The provision of a method requires expert clinical judgement and/or referral to a specialist contraceptive provider, since use of the method is not usually recommended unless other more appropriate methods are not available or not acceptable
Category 4	A condition which represents an unacceptable health risk if the method is used

Amy moved away for 2 years as she had been touring with an all girl capella singing group called The Bella's! She has now had bariatric surgery. She returns with her BMI now at 24 and she wants to use Rigivedon. She didn't get on with the POP.

How could this affect her contraception choice?

Table 3: UK Medical Eligibility Criteria for Contraceptive Use (UKMEC)[1] recommendations for contraceptive safety following bariatric surgery

CONDITION	CATEGORY					
	Cu-IUD	LNG- IUS	IMP	DMPA	POP	CHC
History of bariatric surgery						
a) With <30 kg/m ² BMI	1	1	1	1	1	1
b) With ≥ 30 – 34 kg/m ² BMI	1	1	1	1	1	2
c) With ≥ 35 kg/m ² BMI	1	1	1	1	1	3

Different types of bariatric surgery-

Restrictive (Gastric band) where part of stomach is occluded.

Malabsorptive (Biliopancreatic diversion) where section of small bowel is cut away and the ends re-joined.

The most common procedure in the UK is the gastric bypass, with gastric sleeve and gastric banding performed less frequently. Most procedures are performed laparoscopically.

Draft guideline states:

There are theoretical concerns that both:

- malabsorptive (e.g., jejunioileal bypass, biliopancreatic diversion with/without duodenal switch, and Roux-en-Y bypass (gastric bypass))

and

-restrictive bariatric (e.g. vertical banded gastroplasty, laparoscopic adjustable gastric band or laparoscopic sleeve gastrectomy) procedures,

could decrease the absorption of OC, including oral EC.

Thus, bariatric procedures have the potential to decrease OC effectiveness, and OC effectiveness could perhaps be further decreased by postoperative complications such as long-term diarrhoea and/or vomiting.

Note: **Orlistat** reduces fat absorption and speeds up transit time so could affect oral contraception absorption as well.

FSRH Guideline: Women should be advised that it is possible that medications that induce diarrhoea and/or vomiting (e.g. Orlistat, laxatives) could reduce the effectiveness of POP, COC and oral EC.

Practical considerations post bariatric surgery:

The restrictions on eating, drinking and pill-taking following bariatric surgery may make it difficult for some women to comply with OC regimens. Women are advised to follow a specific diet for the first few weeks post-operatively that phases from a liquid diet slowly back into solid foods. There are restrictions on how much time is required between eating and drinking. Surgeons advise that medications are preferably taken in liquid, chewable, or dissolved form. As the effectiveness of OC depends on consistent and correct use, it is theoretically possible that the effectiveness of OC could be reduced by the requirements of the post-operative period. This should be discussed with women who are considering using, or are already using, OC.

Other considerations after bariatric surgery:

It has been suggested that because women experience significant weight loss after surgery, the resulting loose skin may affect contraceptive choices (e.g. difficulties in finding a suitable site for applying transdermal patches and making insertion of subdermal implants technically more difficult). There is, however, no evidence relating to these concerns.

DMPA injectable contraception after bariatric surgery:

Bariatric surgery appears to be associated with reduced bone mineral density.

An association between bariatric surgery and increased fracture risk is not, however established.

Both obesity and bariatric surgery are associated with vitamin D deficiency, a risk factor for reduced calcium absorption and potential loss of bone mineral density.

Individuals who undergo bariatric surgery require life-long calcium and vitamin D supplementation

Use of DMPA for contraception is also associated with a small loss of BMD, which is usually recovered after discontinuation. There is no evidence relating

specifically to risk of osteoporosis or fracture in women who have had bariatric surgery and also use DMPA.

When choosing a contraceptive method, women who have had bariatric surgery should be informed that bariatric surgery and DMPA use are both associated with reduced BMD but that the clinical significance of this for women who have had bariatric surgery and use DMPA is unknown. They should be made aware that other effective contraceptive methods are not associated with reduced BMD

Emergency contraception after bariatric surgery:

Women presenting for EC who have had bariatric surgery should be offered a Cu-IUD, assuming the criteria for Cu-IUD use are met (see FSRH guideline Emergency Contraception).

Where a CuIUD is not appropriate or acceptable, there is no evidence relating to which, if any, oral EC option would be most effective after bariatric surgery.

Pregnancy after bariatric surgery:

UKMEC 2016 identifies bariatric surgery in the past 2 years as a condition that exposes a woman to increased risk as a result of unintended pregnancy.

Effective contraception is important, as pregnancy should be avoided during the period of intensive weight loss, from 12 to 18 months after surgery.

Pregnancy occurring after surgery may be associated with an increased risk of both maternal and child complications.

The weight loss that accompanies bariatric surgery can enhance fecundity in women who were sub-fertile because of anovulation.

Thus, contraception education, counselling, and follow-up should be conducted prior to and at the time of bariatric surgery for all women with the potential to conceive.

Case 2

Vicky is 17. She comes to clinic with her mum (Mrs Pollard). Vicky started depot 6 months ago and has come for her 3rd injection. Initially she weighed 10st (63.5kg) She has gained 6lb (she now weighs 66.4kg). She thinks it is due to the depot.

What can we tell her?

There is an association with depot and weight gain.

Average weight gain 6.2 Kg.

Risk factors for weight gain are being age <18 and initial BMI >30.

If woman gains >5% of her initial weight over first 6 months she is likely to continue to gain weight.

She is worried that the depot won't be absorbed properly and wonders if a coil or implant would be a better option.

What can we advise?

Trails show a lower concentration of DMPA in obese women but levels still high enough to suppress ovulation. Not much data for women with BMI >40,

Progestogen-only injectable - Key information (from draft guideline):

The available evidence suggests that effectiveness of DMPA is not affected by body weight or BMI.

From the limited evidence available it is not possible to confirm or exclude a causal association between DMPA use and venous thromboembolism (VTE).

Whilst obesity alone does not restrict the use of DMPA (UKMEC 1), DMPA use becomes a UKMEC 3 when obesity is in the context of other risk factors for cardiovascular disease (e.g. smoking, diabetes, hypertension).

DMPA use appears to be associated with some weight gain.

Clinical recommendation

For women with obesity:

- If using intramuscular DMPA or norethisterone enanthate (NET-EN) injectable, consider use of a longer-length needle or deltoid administration to ensure the muscle layer is reached.
- Consider use of subcutaneous DMPA.

Implant= no evidence of weight gain.

Progestogen-only implants - Key information (from draft guideline):

The etonogestrel implant is a highly effective method of contraception and available evidence suggests that its effectiveness is not affected by body weight or BMI.

The licensed duration of etonogestrel implant use of 3 years applies to women of all weight categories.

The available evidence suggests that the etonogestrel implant is a safe contraceptive option for women who are overweight and women with obesity.

Some pharmacokinetic studies have shown an inverse relationship between body weight and ENG serum levels raising concerns about the effectiveness of the method in women with raised BMI, and particularly with respect to the duration for which the method is effective in women with high BMI.

Levels in normal weighted women are 156 pg/ml by end of 3rd year, in women with BMI >30 expect 98 at end 3rd year. Need levels to be 90 or over to

effectively suppress ovulation. No pregnancies observed in study up to weight 149kg as quoted in guidelines.

The Summary of Product Characteristics (SPC) for the progestogen-only implant advises that “the clinical experience in heavier women in the third year of use is limited.” It therefore states that “it cannot be excluded that the contraceptive effect may be lower than for women of normal weight”. It advises that health professionals may therefore consider earlier replacement of the implant in ‘heavier’ women. The SPC does not specify a definition of heavier weight or after what duration of use replacement may need to be considered.

The FSRH advises that there is no direct evidence to support a need for earlier implant replacement, and recent data assessing continued use in women with raised BMI beyond 3 years are very reassuring.

Therefore, the GDG recommends that the ENG implant can be considered to provide very effective contraception for 3 years for women in all weight/ BMI categories.

IUT- no evidence of weight gain.

Action is local so no evidence of reduced efficacy in obese women.

Need to be aware of the practical aspects of fitting coils in women with high BMI.

Case 3

Nessa is 29. She sees you as an extra at the end of a busy Saturday morning clinic. She had UPSI last night with an on - off partner she has known for the past 2 years. She tells you she really does not want to become pregnant again – she already has a son with this partner. This is the only UPSI in her cycle. She weighs 80kg and her BMI is 29. She doesn't want a coil as her friend, Stacey told her it was "the worst pain she ever had". Plus, she is in a hurry – her bus back to Barry leaves in an hour so she just wants to take the morning after pill and go home. She has heard that there are 2 pills but doesn't know much about them.

What can we advise?

Key information Emergency Contraception (from draft obesity guideline):

Cu IUD is the most effective option and not affected by weight.

The available evidence suggests that effectiveness of the copper intrauterine device (CuIUD) is not affected by body weight or BMI.

1.5 mg levonorgestrel EC (LNG-EC) appears to be less effective in women with BMI >26 kg/m² or weight >70 kg.

Ulipristal acetate EC (UPA-EC) may be less effective in women with BMI >30 kg/m² or weight >85 kg.

Clinical recommendations (from draft obesity guideline):

Women should be informed that the Cu-IUD is the most effective method of EC.

Women should be informed that BMI >26 kg/m² or weight >70 kg may reduce the effectiveness of oral EC, particularly of LNG-EC.

Consider UPA-EC or double-dose (3 mg) LNG-EC if BMI >26 kg/m² or weight >70 kg. *It is unknown which is more effective – **this advice is slightly different to below FSRH EC Guideline which says offer UPA first then double dose LNG if women with BMI > 26 or Wt > 70 Kg.***

Double dose of UPA-EC is not recommended for women of any body weight or BMI.

For women weighing >85 kg or with a BMI >30 kg/m², it is not known whether UPA-EC or 3 mg LNG-EC is more effective.

From FSRH EC Guideline:

The GDG considers that the evidence presented above suggests that LNG-EC could be less effective in women weighing >70 kg or with a BMI >26 kg/m².

If a Cu-IUD is not indicated or not acceptable, the GDG recommends that such women can be offered UPA-EC. If UPA-EC is not suitable, a double dose (3 mg) of LNG-EC can be used.

The effectiveness of 3 mg LNG-EC for these women is unknown. However, the GDG considers that use of 3 mg LNG-EC (which is well tolerated and is supported by pharmacokinetic data) is justified by its potential ability to prevent unintended pregnancy more effectively than the standard 1.5 mg dose in women weighing >70 kg or with a BMI >26 kg/m².

For women weighing >85 kg or with a BMI >30 kg/m², it is not known whether UPA-EC or 3 mg LNG-EC is more effective.

This is based on:

Levonelle= there is an association with lower concentration of LNG in women with BMI >25, these women are 4 times more likely to get pregnant with standard dose.

However with a double dose the concentrations are equal for obese vs normal weight patients.

Ella-One= Possible increased risk of pregnancy in women >80kg or BMI >30 but evidence is limited.

Pharmacokinetic studies show same concentration of UPA in obese and normal weight women therefore no indication to double the dose.

I suggest: A woman with a BMI of >26 or weight >70kg (11st) should

- Be offered Cu IUD as first line option as unaffected by weight.
- If IUD not acceptable be offered UPA.
- If UPA not suitable pt can have double dose of levonelle.

If woman > 85 Kg or BMI > 30:

- Not known whether UPA-EC or 3 mg LNG-EC is more effective.

Interesting comment on sexual behaviour in obese women - from draft guideline:

Understanding the evidence on fertility, sexual activity, contraceptive use and unintended pregnancy among women with raised BMI is essential to providing them with good contraceptive care.

Fertility

While women with obesity may experience reduced fecundity and fertility because of anovulation, polycystic ovarian syndrome and insulin resistance, **the majority of women with obesity may continue to ovulate on a regular basis and should therefore view themselves as having the potential to become pregnant.**

Sexual activity and use of contraception Despite common misconceptions, the available evidence shows that the weight of adult women is not associated with their sexual behaviour, though most of the studies on this topic are limited by self reporting of very personal questions and could be subject to misreporting. However, data from the US indicates that **adolescent girls with obesity are more likely to have an older partner, more likely to have more than three sexual partners in 1 year, and less likely to use condoms than girls who are not obese**. It is important to note that these differences were only seen among Caucasian girls but not African-American girls. Other large-scale analyses have similar findings.

Although there are no published data on sexual behaviour and contraceptive use among women of differing weight or BMI categories from the UK, data on adult and adolescent women are available from several surveys in the US and Europe. In some US studies, the use of any contraceptive method by women with raised BMI does not differ from women who are normal weight.[31,32] Other studies have found degree of obesity to be associated with contraceptive use: **women with BMI \geq 35 kg/m² were more likely to not be using contraception compared with normal weight women**. French surveys have shown that women with obesity are significantly less likely to use contraception compared to normal weight women; the reasons for this, whether related to patient, provider or systems issues, are unclear.

Preventing unintended pregnancy Findings as to whether BMI affects the likelihood of unintended pregnancy vary across studies. While recognising that this is a limitation of the available literature, some studies which have addressed this in the US have found no association between unintended pregnancy and BMI whereas others have found increased risk; **women with BMI \geq 40 kg/m² had significantly greater odds of mistimed or unwanted pregnancy compared with normal weight women**. A French study found that women with obesity under 30 years of age were four times more likely to

report a prior unintended pregnancy or abortion than normal-weight women, but this association was not present for older women.

Overall, adult women with obesity appear to be at a similar or higher risk of unintended pregnancy as compared to women of normal weight. For younger women, associations between obesity and riskier sexual behaviours may place them at greater risk of unintended pregnancy than their normal BMI counterparts. **It is therefore imperative that women with higher BMI, like all women, have access to effective, safe contraception, and are supported to use contraception successfully if they so desire**