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Heavy Menstrual Bleeding - Causes and Treatment Options

What is a Period?

A menstrual period occurs when the endometrium, a velvety lining to the uterus, is shed at the end of a woman's menstrual cycle because a pregnancy has not occurred. The menstrual fluid is composed of dissolved endometrium and a variable amount of blood from the spiral blood vessels that nourish the endometrium. Circulating reproductive hormones, principally oestrogen and progesterone, locally acting tissue factors, including those called prostaglandins, and the body's other mechanisms to control blood loss from an opened blood vessel, all work together to regulate the amount of blood that is passed with a period. Not surprisingly therefore the amount of menstrual loss and the number of days of bleeding can vary quite a deal from one women to another and even within the same woman at different stages of her life.

What is a Heavy Period?

There is enormous variation in what some women (and even some doctors) will regard as a heavy period. It is quite difficult, but not impossible, to measure the amount of haemoglobin (red blood pigment) lost during a period but the technique is, as you would expect, rather messy and expensive. We have to therefore rely on other means of estimating the amount of blood lost.

In general, I regard menstrual loss as excessive if any of the following occurs:

- It results in iron deficiency anaemia (in the absence of other causes of blood loss, adequate iron intake in the diet and normal iron absorption).
- The menstrual loss frequently contains clots larger than a 50 cent coin in diameter. (Small stringy clots are common and normal).
- There is frequently an escape from normal menstrual protection i.e. an accident and a mess!
- The blood loss is not absorbed by a menstrual pad of appropriate dimensions and quality changed at not less than 4 hourly intervals.
- You have to get up more than once at night on the heaviest day to change menstrual pads.
- Menstrual bleeding exceeds seven (7) days as a "full flow".

Are Heavy Periods Bad?

Some women are not satisfied unless they have a "good flow" each month. However, this is more related to traditional myths about menstruation rather than any physiological need for the body to lose a certain amount or indeed any blood at all. For many women heavy periods will result in a steady depletion of their

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iron stores and eventually anaemia because this element is critical for the body's restoration of the blood that is lost. This will be exacerbated if iron intake in the diet is suboptimal or iron absorption is impaired.

What Causes Heavy Periods?

Abnormalities of the uterus that can result in heavy periods include fibroids, benign polyps, internal endometriosis or adenomyosis (a condition in which there is growth of endometrium into the underlying muscle wall of the uterus) and cancer. However, heavy periods can occur without any recognised abnormalities of the uterus. This is more likely at the extremes of reproductive life i.e. in the teen and perimenopausal years.

Strictly speaking, the menopause is the last ever menstrual period. Those years of run down to that event is the perimenopausal period or climacteric. Sometimes hormonal deficiencies associated with failure of ovulation (egg release) can be identified in this period.

For a few women, disorders of the blood coagulation system are responsible for excessive menstrual loss. For such women there may be a family history of "bleeding".

What Tests are Required?

More important than tests is first of all a careful evaluation of the symptoms. You and your doctor need to analyse and document your menstrual periods and be able to answer the following questions:

- Is the loss really heavier than normal or just heavier than before or heavier than is convenient for your lifestyle?
- Are the periods of blood loss regular or irregular? If irregular bleeding is occurring are there periods of menstrual loss that is normal in timing and or amount that can be distinguished from other episodes of bleeding?
- Is there pain associated with the bleeding? If so when, how much, where and is there anything that makes it better or worse?
- Are there other causes of iron deficiency?

Your doctor may perform a vaginal examination and take a cervical smear for cytology (Pap test) if this has not been recently performed.. It is important to be aware that this test is primarily for the detection of pre cancer of the cervix (neck of the uterus) and it is not check for all cancers that can occur in this area. A digital or bimanual examination (two fingers internal and one hand on the abdomen) is used to assess the size and shape of the uterus. Vaginal examinations are not usually required or performed if sexual intercourse has not commenced or ever occurred.

A blood test for haemoglobin (anaemia) and iron stores may be required. Rarely hormones studies may also be performed on a blood sample. Because hormones change on an almost daily basis, a single sample is of little value in pinpointing a problem unless a conception (falling pregnant) is desired. Even the hormone test for menopause has been shown to be of limited value because many women can drift in and out of a "menopause" over quite a long period of time.

Pelvic ultrasound with a full bladder, similar to the examination performed during pregnancy, but also including a vaginal probe ultrasound (bladder emptied thank goodness!) is an accurate method of assessing the size and shape of the uterus and also the thickness of its endometrium. Fibroids are often diagnosed with ultrasound. However, it is important to recognise that a womb that has borne a few pregnancies

sometimes has irregularities that look like fibroids on ultrasound but this is not subsequently confirmed. The other common cause of an enlarged womb called adenomyosis can also have the same ultrasound appearance as multiple small fibroids. Even if fibroids are identified with certainty, they may not be responsible for the problem. Ovarian cysts are often identified using ultrasound but these can be a normal finding.

Women who are more than 45 years of age with heavy periods sometimes require sampling of the endometrium and a microscopic examination of this tissue to exclude cancer or pre cancer changes. This can be done by hysteroscopy or by endometrial biopsy. Hysteroscopy is a minor surgical procedure that is usually done with general anaesthesia but endometrial biopsy is an office procedure that can be quickly and easily accomplished, particularly for women who have had a vaginal birth.

If pelvic pain is a problem as well as heavy periods then a laparoscopy may be performed. This is day only surgery that is performed through small abdominal incisions.

What Treatments are Available?

Whereas once upon a time the only option for most women with heavy periods was hysterectomy now there is a range of effective treatment that you may discuss with your doctor.

Non Steroidal Anti inflammatory Drugs (NSAIDs): Up to 66% of women with heavy periods will have less menstrual loss if they take appropriate amounts of those drugs that are commonly recommended for period pain. These include Ponstan, Naprosyn, Naprogesic and Nurofen. It is important to recognise that these drugs are not pain-killers and they are not addictive. Indeed, other analgesics such as aspirin, paracetamol and codeine have no such effect on menstrual loss. Up to 30% of individuals over the age of 65 in our community are taking NSAIDs for the treatment of arthritis (hence their name) because they inhibit the production and action of prostaglandins. These compounds are involved in the inflammation associated with arthritis but they are also responsible for uterine cramps that cause pain during labour and menstruation and the regulation of blood loss from the uterus.

NSAIDs are particularly useful for women whose heavy periods are accompanied or preceded by disabling pain. They have few side effects if taken with food or drink but most women do not take them in sufficient quantities during a menstrual period for their optimal therapeutic effect.

Tranexamic Acid (Cyklokapron): This simple compound acts to promote the sealing of blood vessels that are bleeding by inhibiting the breakdown of fibrin - the end product of coagulation. Tranexamic acid has been used for decades by women in Europe to control heavy periods but it is not widely prescribed in Australia and New Zealand. As for the NSAIDs, the tablets are taken only while the problem is occurring i.e. when the period is heavy or imminent and, like the NSAIDs, they must be taken in sufficient quantities to be effective. Three to six tablets daily in divided doses is usually required but both the amount and duration of bleeding is reduced in up to 85% of women with heavy periods.

This drug is not a hormone. A few women (about one woman in every 8) develop nausea, dyspepsia or diarrhea whilst taking Tranexamic acid but the drug is free of serious side effects including deep vein thrombosis (blood clots in veins).

The Progestin-Releasing Intrauterine System: The Mirena is a medicated Intrauterine Device (IUD) that is fitted by a doctor and remains in the womb for a period of up to five (5) years. It is similar to an Intrauterine Contraceptive Device (IUCD) and this was the purpose for which it was first developed. However, it is different to other available IUCDs because it releases a tiny amount of a hormone called Levonorgestrel directly into the lining of the womb. Levonorgestrel is used in contraceptive pills such as Logynon, Microgynon and Levlen. For Mirena, however, a much lower dose is released than when you take the Pill (about 1/7th strength), and it goes directly to the lining of the womb, rather than through the blood stream when it may lead to the common progesterone-type side effects.

After three months of Mirena use, the average blood loss is 85% less, and by 12 months the flow is reduced by 97% every cycle. About one third of women using Mirena will not have any periods at all. Although women initially find it a bit unusual not having periods, it doesn't cause any problems. There is no 'build up' of blood, because the hormone in Mirena prevents the endometrium from building up at all.

Hormone Tablets: Most women with heavy periods and without uterine enlargement or other pathology in the pelvis will have substantially lighter periods when they take a combined oral contraceptive (The Pill). This seems unnecessary and unnatural to women who do not require this method of contraception. "My partner had a vasectomy so that I could get off The Pill" is one typical assertion. Women are also worried about side effects that they have experienced in the past or have read about in the popular press. However, the following facts about The Pill are worthy of reflection:

- For most women taking The Pill is safer than the risks associated with driving or riding in a motor vehicle.
- Nature did not really intend that a woman should have that many menstrual periods during her reproductive life. Without modern family planning most women would be either pregnant or lactating and not having periods. Taking The Pill is, in a sense, the next closest or "natural" state to being pregnant.
- In addition to reducing menstrual loss there are many positive health benefits associated with taking The Pill. These include less menstrual pain, a reduced chance of ovarian, endometrial and bowel cancer, fewer ovarian cysts requiring surgery, less endometriosis and a reduced risk of pelvic inflammatory disease.

Women who are more than 35 years of age and who smoke and a few other women with medical disorders are at risk of serious disease when they take The Pill and side effects are a real problem for others. However, there are continuing advances in formulations that may help to avert some of these. It may require "trial and error" with the assistance and advice of a doctor with experience and interest in this area of practice. For some women a progestin only pill for 21 days each month can be effective. This latter option may be attractive for a teenager who does not want to be "on The Pill" with all that this implies.

Hormone tablets are worth considering even if the uterus is enlarged by fibroids or adenomyosis and the same advice applies to each of the following "non hysterectomy" options for the treatment of heavy periods.

GnRH agonists that are taken as a daily or monthly injection or nasal spray are drugs that suppress menstruation and are used for the treatment of endometriosis. Because of their expense they are limited to short courses of therapy. They induce a state of reversible menopause, usually with complete absence of menstruation but side effects such as hot flushes and vaginal dryness can be a problem. These side effects can be overcome by giving the Pill or related hormones as “addback therapy”. GnRh agonists are very useful drugs that build up body iron stores before a hysterectomy by suppressing all menstrual bleeding. They also shrink fibroids and the overall size of the uterus making such operations easier and safer.

Endometrial Ablation: This is the surgical removal of the endometrium using a hysteroscope, an instrument that is inserted into the cavity of the uterus through the vagina and cervix. Day surgery and general anaesthesia is involved. It was once called "the laser alternative to hysterectomy" because the first techniques that were developed involved laser instruments. In recent years expensive lasers have been replaced by much simpler equipment and a number of innovative means of ablating the endometrium are currently used. Some do not require a hysteroscopy. However, access to endometrial ablation may be limited by the local availability of the equipment required for the operation and or gynaecologists who are trained and accredited to perform the procedure.

Overall up to 85% of women with heavy periods will be satisfied with endometrial ablation and no periods may result for between 30 and 50% who undergo the procedure. This may decrease with time. Studies have demonstrated that the Mirena intrauterine system is as effective as endometrial ablation and even more effective as time elapses.

Endometrial ablation is not compatible with future pregnancy and there are a few but potentially serious complications that can occur as a consequence of the surgery (see table below).

Table: Side effects or unwanted outcomes from operations for heavy menstrual bleeding. Common = 1 in 100 chance or greater, Less common = 1:1,00 chance, Rare = 1 in 10,000 chance (from NICE, see http://guidance.nice.org.uk/TA78/Guidance)

Uterine artery embolisation (UAE)	Common:	persistent vaginal discharge; post-embolisation syndrome – pain, nausea, vomiting and fever (not involving hospitalisation)
	Less common:	need for additional surgery; premature ovarian failure, particularly in women over 45 years old; haematoma
	Rare:	haemorrhage; non-target embolisation causing tissue necrosis; infection causing septicaemia
Myomectomy	Less common:	adhesions (which may lead to pain and/or impaired fertility); need for additional surgery; recurrence of fibroids; perforation (hysteroscopic route); infection
	Rare:	haemorrhage
Hysterectomy	Common:	infection
	Less common:	intra-operative haemorrhage; damage to other abdominal organs, such as the urinary tract or bowel; urinary dysfunction – frequent passing of urine and incontinence
	Rare:	thrombosis (DVT and clot on the lung)
	Very rare:	death
	(Complications are more likely when hysterectomy is performed in the presence of fibroids)	

Myomectomy: This is a surgical operation to remove uterine fibroids. In general this is not appropriate if there are multiple fibroids as is frequently the case. However, sometimes the procedure can be performed by hysteroscopic resection (as for endometrial ablation) if the fibroid responsible for the heavy periods is located next to or within the uterine cavity.

Uterine Artery Embolisation: Women with fibroids who are unsuitable for hysterectomy may be offered this procedure that is performed by an interventional radiologist, a specialist normally more involved with XRays and other imaging techniques. Tiny microspheres of inert material are selectively released into arteries that supply the uterus with blood. When deprived of a blood supply the target structures in fact (die) and shrink. The side effects of such treatment are summarized in the table above.

Hysterectomy: This operation is obviously 100% effective in dealing with heavy periods and it is an attractive choice for this reason alone. However, you need to be aware that up to 40% of women undergoing hysterectomy suffer some operative or post operative complication, albeit often only of a minor nature.

If you are significantly overweight, have other health problems or multiple adhesions in the pelvis arising from previous surgery, endometriosis or inflammation then hysterectomy can be technically difficult and with an increased risk of complications. On the other hand, if you have had easy vaginal births and there is a degree of prolapse present, then a vaginal hysterectomy can be easily performed with a rapid recovery and no abdominal incision..

Any decision to undergo hysterectomy other than for cancer or pre cancer changes needs to be carefully discussed with the doctor who is offering this alternative. Sometimes it is wise to seek a second opinion and or to review all of the options discussed above. However, gynaecologists are apt to say that few women with really heavy periods regret their decision to undergo hysterectomy and, by and large, this is still true.

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