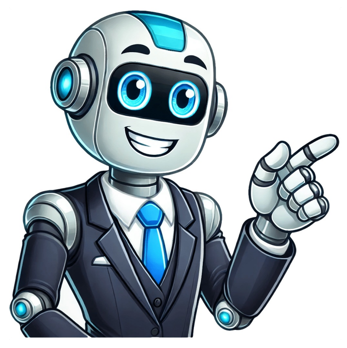

Have you let a few of your courgettes get too big? Try one of our delicious marrow recipes, like this flavour-packed stuffed marrow. For more inspiration, try substituting marrows (scoop out the fleshy middle) for courgettes in many courgette recipes.PreparationMarrows are an acquired taste, more watery and bland than young, sweet courgettes, but they're a wonderful blank canvas for spiced or strongly flavoured foods. Add marrows to curries to soak up and amplify the flavours of the spices, or stuff them with marinated meat, pungent cheese or hot chorizo. Alternatively, pickle your glut of marrows in vinegar with a selection of crunchy vegetables and serve with cheese as a snack, or as a side dish with cooked ham or curries. Marrows are tender plants and love warmth, sun and plenty of water. They can quickly grow into large plants, producing sizeable fruits in a relatively short time. Marrows are essentially large courgettes, but their skin can be ripened until it becomes hard, so the fruits can be stored for later use. Both marrows and courgettes are the same botanical species (Cucurbita pepo), but marrow varieties are particularly bred for cropping when the fruits are larger and for their ability to store. Sow seed indoorsSow seed outdoors under clochesHarden off young plantsPlant out in warm regionsSow seed indoorsSow seed outdoors under clochesHarden off young plantsPlant out in warm regionsJFMAMJJASONDSowPlant OutHarvestThere are several marrow varieties to choose from, although any courgette variety will produce marrows if you leave the fruits to grow. There are trailing types that can spread over several metres, and bush types that are slightly more compact, for smaller gardens or containers. Marrow fruits are traditionally green and usually striped lengthways, although there are yellow-skinned varieties too.   For the most reliable varieties, look for those with an RHS Award of Garden Merit (AGM), as these performed well in our trials – see our list of AGM fruit and veg (135kB pdf) and our Recommended Varieties below. You may also find marrows growing in the veg areas of the RHS gardens over the summer months, so do visit to compare varieties and pick up growing tips. Marrow seeds are readily available from garden centres and online seed stockists. In spring, you may also find young marrow plants on sale in garden centres and online. These are useful if you don't have the time or space to grow from seed, but the choice of varieties may be limited. If you buy after the last frost, they can usually be planted out straight away – although do check with the seller to make sure they have been hardened off. Showing 3 out of 4 varietiesChoose a warm, sunny location for marrows, where you can space plants at least 90cm (3ft) apart for bush varieties and 1.5m (5ft) apart for trailing varieties. Prepare each sowing/planting site by digging in lots of home-made garden compost or well-rotted manure, to the depth and width of a spade's blade. Ideally do this a few weeks before sowing or planting out, to allow the soil to settle. Alternatively, if you're practising no-dig, mulch the soil at each site ahead of sowing or planting directly into the mulch. Marrows grow readily from seed in warm conditions. They are best started off indoors in spring, where they can be kept reliably cosy and protected from slugs and snails, but you can sow them outdoors too, after the last frost. For a longer cropping season or more reliable results in colder regions, start marrows off indoors from mid- to late April.   Sow the seeds into 7.5cm (3in) pots or a modular tray filled with moist peat-free seed compost. Position the seed on its side, 1.5cm (½in) deep, sowing one per pot/module, to minimise root disturbance when planting out later. Water in, then keep at 18–21°C (65–70°F) in a heated propagator. Alternatively, place on a warm sunny windowsill and cover with clear plastic bags until the seedlings appear. Keep young marrow plants indoors until after the last frost, in a warm, bright spot and water regularly. For more sowing tips, see our guides below. You can sow marrow seeds outdoors in late May or early June. If possible, warm the soil for a couple of weeks ahead of sowing, especially in cooler locations, by covering the ground with cloches or plastic-free fleece. The soil should be at least 13°C (56°F) for successful germination. Sow two or three seeds in the centre of each prepared site, 2.5cm (1in) deep, then water well. Cover with cloches or plastic-free fleece, and leave in place for as long as possible after germination. If more than one seed germinates per sowing site, remove the smaller, weaker seedlings to leave just the strongest one. Germination outdoors may be less reliable than indoors, and the young seedlings are vulnerable to slugs and snails, especially in damp conditions. Outdoor-sown marrow plants will usually start cropping later than those sown earlier indoors. Young marrow plants grown from seed indoors should be ready for planting out in early summer, once the soil has warmed up. If you haven't grown your own from seed, you can simply buy young marrow plants on sale in late spring and early summer. Harden off young plants to gradually acclimatise them to outdoor conditions and make sure your planting sites are prepared in advance (see Preparing the ground above). Then gently remove each young marrow plant from its pot, without disturbing the roots, and plant into the centre of your prepared sites. Firm them in, then water well. Protect the young marrow plants from slugs and snails, especially in damp weather. Marrows generally crop best in the ground, but compact or bush varieties can also be grown in a large container. Just bear in mind that plants will need regular watering and feeding to swell the large fruits. Also make sure there is plenty of space around the outside of the container, so the marrow plant can spread out its large leaves. Overcrowding and poor air circulation encourage fungal diseases. Choose a container that's at least 45cm (18in) wide, fill it with peat-free soil-based or multi-purpose compost, then plant one young marrow plant in the centre. Marrows need regular and generous watering, especially when flowering and fruiting, and when growing in containers. Aim to keep the soil or potting compost consistently moist. During hot spells, plants may need watering daily, and this is best done early in the morning or in the evening so the moisture doesn't simply evaporate. Use rainwater from a butt if possible, and when you water, try not to wet the leaves, as this can encourage fungal diseases such as powdery mildew. For more water-wise advice, see our guides below. Cover the ground around marrow plants with a thick layer of mulch to help hold moisture in the soil, reduce the need to water, and deter weed germination. Use garden compost or well-rotted manure, but leave a gap around the base of the stem, to keep dampness away, which could cause rotting. Marrows growing in the ground don't generally need feeding, unless the soil is very poor. But if you want particularly large fruits for exhibition, or are growing marrows in containers, then it's worth feeding regularly – apply a high potassium organic liquid fertiliser, such as tomato feed, every 10–14 days once the first fruits start to swell. Place a tile or wooden board under developing marrows to lift them off damp soil and help to prevent rotting. To ripen a marrow's skin for storage, ensure the fruit gets plenty of sun, and carefully turn it occasionally to expose the underside.   If you want to produce giant marrows for shows or competitions, keep just one marrow on the plant, removing any others that start to form, so the plant puts all its energy into growing just one large fruit. Regular watering and feeding with a potassium-rich organic fertiliser, such as tomato feed, will also help to increase fruit size.Marrows can be harvested from mid-summer, at 20–30cm (8–12in) long, for use straight away. The flowers are also edible. Harvesting marrows regularly encourages plants to produce further fruits, and in warm, damp weather these can grow rapidly. Later in the season, the fruits can be left to reach full size and mature on the plant, for storing. Harvest the last marrows before any frosty weather arrives. Marrows for storing should be left to fully ripen in the sun until the skin is hard. But bring them indoors well before any frost. Place them in a cool, dark, frost-free place, such as a garage, where they should keep for a month or two. Check them regularly for signs of deterioration or rot. Marrows are tender plants, so can be damaged or killed by cold weather or frost. In early summer, plants may produce no fruit or the fruits may rot when very small – this is caused by cool weather, leading to poor pollination, but should remedy itself once the temperatures improve. Marrow plants can also be affected by various fungal diseases, and slugs and snails may eat young plants, flowers and young fruits. See Common problems below for advice on how to spot and tackle these issues. The Royal Horticultural Society is the UK's leading gardening charity. We aim to enrich everyone's life through plants, and make the UK a greener and more beautiful place. A stem cell or bone marrow transplant is a long and complicated process that involves 5 main stages.These stages are:Tests and examinations – to assess your general level of health.Harvesting – the process of collecting the stem cells to be used in the transplant, either from you or a donor.Conditioning – treatment to prepare your body for the transplant.Transplanting the stem cells.Recovery – you'll need to stay in hospital for at least a few weeks until the transplant starts to take effect. Before a stem cell transplant can be carried out, you'll need a series of tests and examinations to ensure you're healthy enough for the procedure to be carried out.Transplants tend to be more successful in people who are in good general health, despite their underlying condition.The tests you might have include:an electrocardiogram (ECG) – a simple test used to check your heart's rhythm and electrical activityan echocardiogram – a scan used to look at the heart and nearby blood vesselsan X-ray and/or computerised tomography (CT) scan to check the condition of organs such as the lungs and liverblood tests to check the level of blood cells and assess how well the liver and kidneys are workinga coronavirus (COVID-19) test – both you and your donor may be tested for COVID-19 and if either test is positive the transplant may be delayedIf you have cancer, you may also need to have a biopsy. This is where a small sample of cancerous cells is removed and analysed. It can show whether your cancer is under control (in remission) and whether there's a high risk of it returning after your transplant. After you've had tests to check your general health, the stem cells that will be used for the transplant need to be removed and stored.There are 3 main ways stem cells can be harvested. These are:from blood – where the stem cells are removed from the blood using a special machinefrom bone marrow – where a procedure is carried out to remove a sample of bone marrow from the hip bonefrom cord blood – where donated blood from the placenta and umbilical cord of a newborn baby is used as the source of stem cells (find out more about cord blood on the NHS Blood and Transplant website)It may be possible to remove stem cells from your own blood or bone marrow and transplant them later after any damaged or cancerous cells have been removed.If this is not possible, stem cells from a donor's blood or bone marrow will usually be used.Removing stem cells from bloodThe most common way to harvest stem cells involves temporarily removing blood from the body, separating out the stem cells, and then returning the blood to the body.To boost the number of stem cells in the blood, medicine that stimulates their production will be given for about 4 days beforehand. On the 5th day, a blood test will be carried out to check there are enough circulating stem cells.If there are enough cells, veins in each arm will be connected by tubes to a cell separator machine. Blood is removed from one arm and passed through a filter, before being returned to the body through the other arm.This procedure is not painful and is done while you're awake. It takes around 3 to 4 hours and may need to be repeated the next day if not enough cells are removed the first time.Removing a bone marrow sampleAn alternative method of collecting stem cells is to remove around a litre of bone marrow from your hip bone using a needle and syringe.The needle may need to be inserted into several parts of your hip to ensure enough bone marrow is obtained. This is done under a general anaesthetic, so you'll be asleep and will not feel any pain while it's carried out.However, the area where the needle is inserted may be painful afterwards and you'll have marks on your skin where it was inserted (usually one on each side). Treatment with high doses of chemotherapy and sometimes radiotherapy will be needed before the stem cells can be transplanted.This is to:destroy existing bone marrow cells – to make room for the transplanted tissuedestroy any existing cancer cellsstop your immune system working – this reduces the risk of the transplant being rejectedAs part of the conditioning treatment, you'll be given a range of medicines, so a tube called a central line will usually be inserted into a large vein near your heart. This means medicine can be passed into your body without the need for lots of injections.The conditioning process usually lasts about a week or 2. You'll probably need to stay in hospital throughout the treatment.Conditioning can cause a number of unpleasant side effects, such as sickness, hair loss and tiredness. These are usually temporary. Your treatment team will discuss the risks of treatment with you beforehand.Read more about the risks of stem cell transplants. The transplant will usually be carried out a day or 2 after conditioning has finished.The stem cells will be passed slowly into your body through the central line. This process often takes around a couple of hours.The transplant will not be painful and you'll be awake throughout. Once the transplant is finished, you'll need to stay in hospital for a few weeks while you wait for the stem cells to settle in your bone marrow and start producing new blood cells.During this period you may:feel weak, and you may experience diarrhoea and vomiting, and/or a loss of appetitebe given fluids by mouth or through a tube running from your nose to your stomach (a nasogastric tube) to prevent malnutritionhave regular blood transfusions, as you'll have a low number of red blood cellshave regular platelet transfusions, as you'll have a low number of plateletsstay in a special germ-free room, and visitors may need to wear protective clothing to prevent infections, as you'll have a low number of infection-fighting white blood cellsMany people are well enough to leave hospital between 1 and 3 months after the transplant. However, if you develop complications such as an infection, you may have to stay in hospital for longer.Even after going home, you'll still be at risk of infections for potentially a year or longer because it can take a while for your immune system to return to full strength.If donated stem cells were transplanted, you'll also usually need to take medicines called immunosuppressants that stop your immune system from working so strongly. This is to reduce the risk of your body attacking the transplanted cells or to reduce the risk of the transplanted cells attacking other cells in your body. Page last reviewed: 07 September 2022 Next review due: 07 September 2025 Anatomy.co.ukLearn Human AnatomySoft tissue in bone producing blood cellsSystemMusculoskeletal SystemBone marrow is a soft, spongy tissue found within the hollow cavities of bones. It is a crucial component of the body's hematopoietic system, responsible for producing blood cells. Bone marrow exists in two forms: red marrow, which is active in hematopoiesis (blood cell formation), and yellow marrow, which primarily stores fat and can convert to red marrow if necessary. Bone marrow is located in the medullary cavities of bones. In adults, red marrow is primarily found in flat bones such as the pelvis, sternum, ribs, skull, and vertebrae, as well as the ends of long bones like the femur and humerus. Yellow marrow occupies the cavities of other long bones and can be found in the shafts of bones like the tibia and radius. Bone marrow is a vital tissue responsible for the production of blood cells and the storage of fat. It is housed within the medullary cavities of bones and consists of a complex network of cells, blood vessels, and supportive tissues. The anatomy of bone marrow is organized into two types: red marrow and yellow marrow, each serving distinct purposes. Below is a detailed description of the structure and organization of bone marrow. There are two main types of bone marrow, each with different cellular compositions and functions: Red marrow is the active site of hematopoiesis, where new blood cells are produced. It contains a rich supply of stem cells, progenitor cells, and mature blood cells, supported by a network of blood vessels and supportive stromal cells. Cell Composition: Red marrow contains hematopoietic stem cells (HSCs), which give rise to all blood cells, including red blood cells (erythrocytes), white blood cells (leukocytes), and platelets (thrombocytes). In addition to stem cells, red marrow contains stromal cells, adipocytes, and endothelial cells. Location: In adults, red marrow is primarily found in the flat bones, such as the sternum, pelvis, ribs, and vertebrae, as well as the proximal ends of long bones like the femur and humerus. Yellow marrow primarily stores fat and is less active in hematopoiesis. However, in certain situations (e.g., severe blood loss or anemia), yellow marrow can convert back to red marrow to increase blood cell production. Cell Composition: Yellow marrow is dominated by adipocytes (fat cells) but retains some hematopoietic potential in the form of dormant stem cells. Location: Yellow marrow is found in the medullary cavity of long bones, such as the tibia, radius, and ulna, as well as in the diaphysis (shaft) of long bones. The microenvironment of bone marrow consists of various cells and extracellular components that provide structural support and regulate the production of blood cells. This microenvironment is crucial for the maintenance and differentiation of stem cells. The stroma is the supportive tissue in the bone marrow, consisting of a network of connective tissue cells that create a scaffold for hematopoietic cells. The stroma includes: Fibroblasts: Produce the extracellular matrix and collagen, providing structural support. Reticular Cells: Secrete reticular fibers, which form a supportive mesh for the hematopoietic cells. Adipocytes: Store fat and regulate the energy supply within the marrow. Endothelial Cells: Line the blood vessels and control the movement of cells between the marrow and the bloodstream. The extracellular matrix (ECM) is composed of proteins and glycoproteins that provide structural integrity to the marrow. The ECM anchors hematopoietic stem cells and provides signaling molecules that regulate cell differentiation and proliferation. The bone marrow contains specialized blood vessels called sinusoids, which allow for the efficient exchange of cells between the marrow and the bloodstream. These sinusoids have thin walls that enable the newly formed blood cells to enter the circulation. The sinusoidal endothelium also plays a role in regulating the release of mature blood cells. Bone marrow has a rich vascular network that supports its function by delivering nutrients, oxygen, and regulatory signals. The vascular supply is critical for transporting mature blood cells into circulation. Each long bone has a nutrient artery that enters the bone through the nutrient foramen and supplies the marrow cavity with blood. The nutrient artery branches into smaller arterioles and capillaries that permeate the marrow, providing oxygen and nutrients to the cells. Sinusoids are thin-walled, wide blood vessels within the bone marrow that allow the passage of newly formed blood cells into the venous circulation. The sinusoids converge into veins that drain the marrow, eventually returning blood to the systemic circulation via the central venous system. In addition to sinusoids, smaller arterioles and capillaries provide oxygenated blood to the bone marrow, ensuring that the metabolic needs of the hematopoietic cells are met. The bone marrow is organized into specific compartments that support different stages of blood cell development and maturation. The hematopoietic compartment of the red marrow contains the stem and progenitor cells that give rise to all types of blood cells. This compartment includes clusters of developing red blood cells, white blood cells, and megakaryocytes (which produce platelets). Hematopoietic stem cells (HSCs) reside within specialized niches, where they are regulated by signals from the surrounding stromal cells and blood vessels. These niches maintain a balance between self-renewal and differentiation of the HSCs. In yellow marrow, the adipose compartment is composed mainly of adipocytes (fat cells), which store energy in the form of fat. These cells can also secrete cytokines and growth factors that influence the hematopoietic process. Under certain conditions, the adipose tissue can be replaced by hematopoietic tissue. The vascular compartment consists of the sinusoidal network, arteries, veins, and capillaries that provide the marrow with blood. This compartment facilitates the exchange of nutrients, gases, and cells between the bone marrow and the bloodstream. The composition and function of bone marrow change throughout life, with significant differences between childhood and adulthood. In infants and young children, nearly all bone marrow is red marrow, actively producing blood cells to support rapid growth and development. The high demand for new blood cells during early life requires a larger proportion of red marrow. As a person ages, much of the red marrow in the long bones is gradually replaced by yellow marrow, leading to a higher proportion of fat-storing tissue. In adults, red marrow is mainly confined to the flat bones and the proximal ends of long bones, while yellow marrow dominates the shafts of long bones. Although yellow marrow primarily serves as a fat reserve in adults, it retains the potential to revert to red marrow in cases of severe blood loss or increased demand for blood cell production. This reactivation process allows the body to respond to increased hematopoietic needs during stress or illness. Bone marrow contains nerves that help regulate blood flow and cellular activity within the tissue. The sympathetic nervous system innervates bone marrow and plays a role in regulating blood flow to the marrow, as well as controlling the release of stem cells into the bloodstream. Sympathetic nerve fibers interact with stromal cells and endothelial cells, influencing hematopoietic activity. Bone marrow also contains sensory nerve fibers, which are thought to contribute to the regulation of blood cell production and the response to injury or infection. Bone marrow plays a critical role in the production of blood cells, immune function, and the storage of fat. It is responsible for hematopoiesis (the formation of blood cells), the regulation of the body's immune responses, and the storage of essential fat reserves. Below is a detailed description of the various functions of bone marrow. Bone marrow is the primary site for the production of blood cells, a process known as hematopoiesis. This process occurs in the red marrow, which houses hematopoietic stem cells that give rise to all types of blood cells. Red blood cells (RBCs) are produced through a process called erythropoiesis. Hematopoietic stem cells in the bone marrow differentiate into erythroid progenitor cells, which eventually become mature RBCs. RBCs are responsible for carrying oxygen to tissues and removing carbon dioxide from the body. The hormone erythropoietin, produced by the kidneys, regulates RBC production by stimulating the bone marrow to produce more RBCs in response to low oxygen levels (hypoxia).[8] White blood cells (WBCs) are produced in the bone marrow through leukopoiesis. WBCs are essential for the body's immune response and include various types of cells: Granulocytes: Include neutrophils, eosinophils, and basophils, which are responsible for attacking and neutralizing pathogens. Lymphocytes: Include B cells and T cells, which are critical for adaptive immunity. B cells mature in the bone marrow, while T cells migrate to the thymus for further maturation. Monocytes: Mature into macrophages and dendritic cells, which play a key role in innate immunity and antigen presentation. Platelets, also known as thrombocytes, are produced in the bone marrow through a process called thrombopoiesis. Platelets are derived from large precursor cells known as megakaryocytes, which break apart to release platelets into the bloodstream. Platelets are essential for blood clotting and wound healing, and their production is regulated by the hormone thrombopoietin, produced by the liver and kidneys. Bone marrow serves as a reservoir for hematopoietic stem cells (HSCs), which have the ability to self-renew and differentiate into all types of blood cells.[7] This makes the bone marrow a vital source of stem cells for both normal blood cell turnover and in response to injury or disease. HSCs are multipotent stem cells that reside in specialized niches within the bone marrow. They are capable of differentiating into the following blood cell lineages: Myeloid lineage: Produces red blood cells, platelets, and granulocytes (neutrophils, eosinophils, basophils). Lymphoid lineage: Produces lymphocytes (B cells and T cells). HSCs are tightly regulated by the bone marrow microenvironment to maintain a balance between stem cell renewal and differentiation, ensuring a continuous supply of blood cells throughout life. The bone marrow's function as a stem cell reservoir is clinically significant in bone marrow transplantation.[6] In cases of blood disorders, such as leukemia or aplastic anemia, healthy HSCs can be transplanted to restore normal blood cell production. Bone marrow plays a central role in the development and function of the immune system. It is the site of origin for immune cells and supports the development of both innate and adaptive immune responses. B lymphocytes (B cells), which are part of the adaptive immune system, mature in the bone marrow. After maturation, B cells enter the bloodstream and travel to secondary lymphoid organs (such as the spleen and lymph nodes), where they encounter antigens and mount an immune response by producing antibodies. Natural killer (NK) cells, which are part of the innate immune system, are produced in the bone marrow. NK cells play a key role in recognizing and destroying infected or cancerous cells without the need for prior sensitization. Although T lymphocytes (T cells) mature in the thymus, they originate from hematopoietic stem cells in the bone marrow. The bone marrow provides T cell progenitors that migrate to the thymus for further maturation and differentiation into helper T cells, cytotoxic T cells, or regulatory T cells. In addition to its role in blood cell production, bone marrow also serves as a storage site for fat. Yellow marrow is primarily composed of adipocytes, which store energy in the form of fat and provide structural support for the bone marrow.[5] The fat stored in yellow marrow serves as an energy reserve for the body. During periods of increased energy demand (e.g., starvation or illness), the stored fat can be metabolized to provide energy. Under certain conditions, such as severe blood loss or anemia, yellow marrow can convert back to red marrow to increase the body's capacity for blood cell production. This conversion is a key adaptive response that allows the bone marrow to meet the increased hematopoietic demands. Bone marrow is responsible for regulating the production and release of blood cells in response to the body's needs.[4] This regulation is influenced by hormones, growth factors, and signaling molecules that control the proliferation and differentiation of stem cells. Erythropoietin (EPO) is a hormone produced by the kidneys that stimulates the production of red blood cells in response to low oxygen levels (hypoxia). EPO binds to receptors on erythroid progenitor cells in the bone marrow, promoting their maturation into red blood cells. Thrombopoietin (TPO) is a hormone produced by the liver and kidneys that regulates the production of platelets. TPO stimulates the proliferation and maturation of megakaryocytes, leading to the release of platelets into the bloodstream. Colony-stimulating factors (CSFs) are growth factors that regulate the production of white blood cells. These factors include: Granulocyte colony-stimulating factor (G-CSF): Promotes the production of neutrophils. Granulocyte-macrophage colony-stimulating factor (GM-CSF): Stimulates the production of granulocytes and macrophages. Once blood cells have matured within the bone marrow, they are released into the bloodstream to perform their functions.[3] Mature red blood cells, white blood cells, and platelets pass from the bone marrow into the circulation through sinusoidal capillaries. These capillaries have thin, porous walls that allow cells to move from the marrow into the bloodstream. The release of blood cells from the bone marrow is regulated based on the body's needs. For example, in response to an infection, the bone marrow will increase the production and release of white blood cells. In cases of blood loss or hypoxia, red blood cell production and release are accelerated to restore oxygen-carrying capacity. Bone marrow has the ability to increase blood cell production in response to injury, stress, or disease.[2] This adaptive response is essential for maintaining homeostasis during periods of increased demand. In response to conditions such as hemorrhage, anemia, or infection, bone marrow increases the production of specific blood cells (e.g., red blood cells during anemia or white blood cells during infection). This compensatory mechanism ensures that the body has an adequate supply of blood cells to respond to physiological challenges. In cases of severe stress or disease, hematopoiesis can occur outside of the bone marrow, a process known as extramedullary hematopoiesis. Organs such as the liver and spleen may resume their fetal role of blood cell production to meet the body's increased hematopoietic needs. Bone marrow is crucial for the production of blood cells, and its dysfunction can lead to serious health conditions. Disorders such as leukemia, lymphoma, aplastic anemia, and myelodysplastic syndromes result from abnormalities in bone marrow, leading to insufficient or abnormal blood cell production.[1] Bone marrow failure can cause a lack of red blood cells (anemia), white blood cells (increased infection risk), and platelets (bleeding disorders). Bone marrow transplantation is a life-saving procedure used to treat certain cancers, immune deficiencies, and blood disorders. In this procedure, damaged or diseased bone marrow is replaced with healthy stem cells, restoring normal blood cell production. Additionally, bone marrow biopsy is a diagnostic tool used to assess hematologic diseases, infections, and cancer spread. Given its central role in hematopoiesis, bone marrow health is critical for immune defense, oxygen transport, and overall well-being.Published on November 30, 2024Last updated on April 28, 2025HomeExploreDiscussFlashcardsQuizDisclaimer: The content on this site is for educational purposes only and is not a substitute for professional medical advice, diagnosis, or treatment. by Great British Chefs6 September 2021These giants of the vegetable world often have home-growers desperately thinking of ways to use them up, but marrows are the perfect vehicle for all manner of flavours. Learn how to cook them to perfection with our guide.Marrows are technically classed as a type of summer squash, though they're actually just very big courgettes. Left on the vine to grow larger, the skin is tougher and the flavour milder but the size makes it an excellent vessel for stuffing and the mild flesh carries punchy, spicy flavours wonderfully. If you grow your own vegetables then you'll no doubt have a glut of them in the later summer months of August and September, although they're readily available in shops around this time too. Their large size makes them perfect for midweek meals to fill up the family, but they're equally suited to show-stopping veggie roasts with a difference.When selecting your marrow, the smaller the better, as very large ones tend to turn a little bitter and watery. Check the marrow is firm with no soft brown patches – although it's such a large vegetable you can cut away any blemishes.Stuffed, preserved and roast to perfection, chef Anna Tobias knows how to take this unglamorous vegetable to new heights. Take a look at her three stunning recipes.As with most vegetables, marrows can be roasted, steamed, baked, grilled or boiled. The skin can be quite tough (especially on larger marrows), so if you're not peeling it it's a good idea to cut the vegetable into smaller pieces (although leaving it on when stuffing marrow is a good idea as it won't break down whilst cooking). Follow the recipe below for a simple roast marrow side dish.1 marrow3 sprigs of fresh thymeolive oilsaltpepperPreheat the oven to 190ºC/gas mark 5Slice the marrow in half lengthways and scrape out the seeds with a metal spoonSlice the marrow into 1.5cm-thick crescents then toss with oil, salt and pepper. Place on a baking tray with the fresh thymeRoast in the oven for around 25 minutes, mixing the marrow halfway through to get an even roast (and siphoning off any liquid which may have come out of the marrow during roasting)To impart as much flavour as possible into the marrow, try stuffing with a rich, slow cooked stew, Bolognese, or moussaka then wrapping in foil and baking low and slowThe mild flesh of a marrow provides the perfect medium for strong flavours, so try cooking the flesh in a curry or tagine with plenty of punchy spices. You can also preserve the flavour all year round with a spiced chutney recipe. The soft texture of marrow also lends itself well to creamy, cheesy textures with crunchy toppings; think pasta bakes or gratins. If you're feeling brave, try out this marrow and cheddar soufflé recipe from Anna Tobias.Like carrots and courgettes, the water content in marrows makes for wonderfully moist baking; try savoury marrow, thyme and parmesan muffins, or go sweet with marrow, lemon and almond cupcakes. Due to the size of this giant vegetable, why not turn to the marrow for party food inspiration? Marinate in miso then deep fry in tempura batter for a wonderfully crispy snack. Or experiment by charring the skin over a barbecue, then blend up the flesh with plenty of garlic, lemon and herbs for a twist on a smoky baba ganoush dip. Marrows are cucurbits (the same family as courgettes, squash and cucumbers). There is almost no difference betrween marrows and courgettes – just leave a courgette to grow and you have a marrow. The difference is the varieties are bred for purpose. Sowing and Growing Marrow Marrows are cultivated in the same way as courgettes, except that the fruits are left on the plant to develop and limited to four per plant. They need a lot of food and water. Try growing in an old bucket, or similar, with drainage holes made in the bottom. Sow indoors in March–April, into 8 cm (3 inch) pots. Move plants to their final site when all risk of frost has passed. Outdoors, sow direct May–June. Sow the flat seeds with their thin sides vertical to prevent them rotting. Allow 75–90 cm (2½–3 feet) between plants. Feed the plants regularly with tomato feed once the fruits start to develop. Leave the fruits to grow on the plant and limit to four per plant. Provide shelter, such as large cloches, towards the end of the season. Harvesting Marrow Pick at the end of the season and allow the skins to harden (as for squash). Marrow should store well for a few months, preferably on a slatted shelf or strung up in a net or even an old pair of tights. Pests and Problems with Marrow Marrows are usually trouble free, aparts from slugs, although they can be susceptible to cucumber mosaic virus and powdery mildew. Varieties of Marrow The seed suppliers have a wide variety of marrows to try. Eating Unlike courgettes, the skin and seeds are not eaten. Try stuffed and baked, or in chutneys. Marrow was often used as a bulking 'fruit' in jams being fairly neutral in flavour but Marrow & Ginger Jam is delicious. Further Information on Marrow The content herein is provided for informational purposes and does not replace the need to apply professional clinical judgement when diagnosing or treating any medical condition. A licensed medical practitioner should be consulted for diagnosis and treatment of any and all medical conditions.