I'm not a bot

A subdural hematoma is a collection of blood outside the brain. It is usually caused by serious head injuries. The bleeding and added pressure on the brain from this condition can be life-threatening. While some may stop on their own and suddenly go away, others need surgical drainage. Sometimes, they are called intracranial hematomas or subdural hemorrhages.In a subdural hematoma, blood collects between the layers of tissue that surround the brain. The outermost layer is called the dura. When bleeding occurs between the dura and the next layer, the arachnoid membrane, it's called a subdural hematoma.This bleeding occurs under the skull and outside the brain, not in the brain itself. As blood pools, however, it puts more pressure on the brain causing symptoms. If pressure inside the skull rises to a very high level, a subdural hematoma can lead to unconsciousness and death.Subdural vs. epidural hematomaLike a subdural hematoma, an epidural hematoma occurs when blood pools in the cranial tissue outside the brain. But in an epidural hematoma, the blood collects outside the dura, the outermost layer of this tissue. It usually requires a more forceful blow to the head to create this type of injury. Epidural hematomas are less common than subdural hematomas and most often occur in young adults.Epidural hematomas also tend to be more sudden than subdural bleeds. If you have an epidural hematoma, you will probably briefly loseconsciousness. Other symptoms include headaches, drowsiness, vomiting and seizures. One of your pupils may alsodilate, or become larger, a symptom known as a blown pupil. It is very important to get treatment for an epidural hematoma as quickly as possible, as the condition can become life-threatening or even fatal as it progresses. A subdural hematoma is a collection of blood outside the brain. (Photo credit: Image Source/Getty Images) Symptoms of a subdural hematoma mostly depend on the rate of bleeding.In head injuries with sudden, serious bleeding that causes a subdural hematoma, a person may pass out right away or even go into a coma.But other times, a person may appear normal for days after a head injury, only to slowly become confused and then pass out several days later. This results from a slower rate of bleeding, causing a slowly enlarging subdural hematoma. In very slow-growing subdural hematomas, there may be no noticeable symptoms for more than 2 weeks after the bleeding starts.The general symptoms of a subdural hematoma include:HeadacheConfusionChange in behaviorDizzinessNausea and vomitingLethargy or excessive drowsinessWeaknessApathySeizuresUnequal pupil sizeLoss of movement on the opposite side of your body as the head injuryEnlarged head in babiesMemory lossSlurred speechVision changesWorseningsymptoms of subdural hematomas can include:ParalysisSeizuresBreathing problemsLoss of consciousnessComa The symptoms and their severity will vary depending on your age, underlying medical conditions, how large the bleed is, and what type of subdural hematoma you have.Acute subdural hematomaAcute subdural hematomas are most often associated with head trauma. After a blow to the skull, veins below the dura matter might rupture, causing pressure on the brain. Symptoms such as confusion, dizziness, nausea, or loss of consciousness appear within hours or even minutes of the injury. People with acute subdural hematomas need medical attention as quickly as possible.Subacute subdural hematomaIn people with subacute subdural hematomas, bleeding under the dura matter is more gradual. These bleeds are usually caused by a head injury, but the symptoms, such as vomiting and intense headaches, emerge over days or even weeks, rather than in the immediate aftermath. The condition is still dangerous and may require treatment, but it is not as deadly as an acute subdural hematoma.Chronic subdural hematomaChronic subdural hematomas are most likely to occur in older adults who experience natural brain atrophy. As you age, your brain shrinks slightly, which can cause the blood vessels under the dura membrane to weaken. These delicate vessels might begin to leak slowly on their own, after a minor blow to the head, or as a side effect of taking certain medications.Symptoms of chronic subdural hematomas usually develop slowly. They can be subtle and easily mistaken for other conditions, such as brain tumor, stroke, or dementia in older people. The symptoms include confusion, difficulty swallowing, trouble walking, drowsiness, and numbness in your arms, legs, or face. In some cases, you may not experience any symptoms at all. If you think you might have a chronic subdural hematoma, you should have your doctor check for one, as the condition will not go away on its own and can be life-threatening if left untreated.Lucid intervalSome people who have a subdural hematoma may undergo a period of apparently normal functioning between the initial head injury and the onset of symptoms. During this time, blood continues to pool in the cranial tissue. This is known as the lucid interval, and it was once believed to only occur in cases of epidural hematoma. But now it's recognized as part of many people's subdural hematoma experience. Unlike the lucid interval in epidural hematomas, which typically lasts 4 hours or less, there is no upper limit to how long it can last in subdural hematoma cases.Subdural hematomas are usually caused by a head injury from a fall, motor vehicle collision, or an assault. The sudden blow to the head tears blood vessels that run along the surface of the brain. This is referred to as an acute subdural hematoma. People who play contact sports, such as (American) football, boxing, or mixed martial arts (MMA) are especially at risk for this condition. Newborn infants are also at risk, as their skulls are still soft and pliable. They may experience subdural hematoma as a result of a traumatic birth or in cases of shaken baby syndrome.People with a bleeding disorder or those who take blood thinners are also more likely to develop a subdural hematoma. A relatively minor head injury can cause the condition in people with a bleeding tendency. Finally, people with alcohol use disorder have a higher risk of developing a subdural hematoma, as alcohol can cause the brain to shrink, weakening the blood vessels in the tissues surrounding it.In a chronic subdural hematoma, small veins on the outer surface of the brain may tear, causing bleeding in the subdural space. Symptoms may not show up for several days or weeks.Elderly people are at a higher risk for chronic subdural hematoma because natural age-related brain shrinkage causes these tiny veins to stretch and become more vulnerable to tearing.People who getmedical attention after a head injury often undergo head imaging, usually with computed tomography (CT scan) or magnetic resonance imaging (MRI scan). These tests create images of the interior of the skull, usually detecting any subdural hematoma present. MRI is slightly better than CT at detecting subdural hematoma, but CT is faster and more readily available.Rarely, angiography may be used to diagnose subdural hematoma. During angiography (angiogram), a catheter is inserted through an artery in the groin and threaded into the arteries of the neck and brain. A special dye is then injected, and an X-ray screen shows blood flow through the arteries and veins.Treatment of subdural hematomas depends on their severity. Treatment can range from watchful waiting to brain surgery.In small subdural hematomas with mild symptoms, doctors may recommend no specific treatment other than observation. They often perform repeated head imaging tests to monitor whether the subdural hematoma is improving.People with severe subdural hematomas are often seriously ill, requiring machine-supported breathing and other forms of life support. More dangerous subdural hematomas require surgery to reduce the pressure on the brain. Surgeons can use various techniques to treat subdural hematomas:Burr hole trephination. A hole is drilled in the skull over the area of the subdural hematoma, and the blood is suctioned out through the hole.Craniotomy. A larger section of the skull is removed to allow better access to the subdural hematoma and reduce pressure. The removed skull is replaced shortly after the procedure.Craniectomy. A section of the skull is removed for an extended period to allow the injured brain to expand and swell without permanent damage. Craniectomy is not often used to treat subdural hematoma. Although they are often lifesaving, these decompression surgeries still carry risks. Some potential complications include blood clots, water on the brain (hydrocephalus), and an increased risk of cranial bleeding or infection, such as meningitis. If a person has a bleeding problem or is taking blood thinners, doctors may take measures to improve blood clotting. This can include prescribing medicines or administering blood products, and the reversal of any blood thinners, when possible. They may also prescribe other medications to help reduce swelling or pressure in the brain or control seizures.Can you survive a subdural hematoma without surgery?The short answer is, yes. If you have a very small subdural hematoma, even an acute one, your doctor may recommend letting it heal on its own with careful observation. That's because any type of brain procedure carries risks, and in some cases, the risk ofoperating may be greater than allowing your body to mend itself. But you should always let an expert make this call.Some subdural hematomas can bring on serious complications, including coma or even death. This can happen if the hematoma is not treated, or even sometimes after treatment. Possible complications include:Brain herniation. Pressure in your brain can move tissue away from where its supposed to be. This can lead to death.More bleeding events. If youre older, youre at a high risk of another hemorrhage as you recover from the first one, especially if you have a head injury.Seizures. You may have seizures, even if youve treated your hematoma.Your health outlook after a subdural hematoma depends on how old you are, how severe your head injury was, and how quickly you got treatment. The younger you are, the higher your chance of survival.The survival rate for subdural hematomas varies widely, depending on the type. Acute subdural hematomas tend to be the most dangerous, with average mortality rates somewhere around 66%. One study on life expectancy after subdural hematoma found that after a year, the mortality rate for chronic subdural hematoma was up to 32%. This could be due to other factors, such as age.Your prognosis is best if your subdural hematoma is chronic, you deal with few symptoms, and you didnt lose consciousness after your initial head injury.Most of your recovery occurs within 3-6 months of injury. While some additional recovery is possible after that, you may never completely recover from a subdural hematoma, especially a severe acute one. Many people continue to experience neurologic symptoms and have a higher risk of seizures. However, going to occupational and physical therapy and joining a local support group can help you maintain a high quality of life.Older adults are at the highest risk of another brain bleed after a subdural hematoma. Older brains dont expand and fill the space left after a hematoma. With more space between the brain and skull, your chance of bleeding goes up, even with a minor injury to the head.The best way to prevent a subdural hematoma is to prevent head injuries. This can mean taking some of the following steps:Wearing a helmet when riding a bike or motorcycleWearing appropriate head protection when participating in contact sports, such as football or boxingKeeping your seatbelt buckled when riding in a carAvoiding and removing tripping hazards in your homeResting after a potential concussionDrinking responsiblyTalking to your health care provider about whether yourprescriptions put you at higher risk of getting a subdural hematomaSubdural hematomas are potentially life-threatening and should be taken very seriously. If you experience a head injury, especially one that causes you to loseconsciousness, seek medical evaluation right away. Continue to watch for symptoms for days or weeks after a blow to the head whether your doctor finds an initial bleed or not.What is the survival rate of a subdural hematoma?The survival rate for people who experience a subdural hematoma can vary depending on what type of bleed they have. If you have an acute subdural hematoma, your chances of survival are 10%-50%, depending on how soon you get treatment. You have a higher chance of surviving a chronic subdural hematoma, but this type of bleed comes with a higher chance of recurring. What is the most common cause of a subdural hematoma?Most subdural hematomas are caused by head injuries. The easiest ways to prevent them are to avoid high-impact sports and take appropriate safety measures when driving or riding a bike. Identifying a Subdural Hematoma: Key Symptoms Spotting early signs of a subdural hematoma is key to quick treatment. Look out for ongoing headaches, dizziness, nausea, confusion, and speech thats hard to understand. These signs can be easy to miss and might seem like other health issues.Identifying a Subdural Hematoma: Key Symptoms Its important to notice changes in how your brain works. Watch for headaches that get worse, getting more lost, or trouble speaking clearly. If these signs get worse, they could lead to seizures or not being able to wake up, showing why catching them early is crucial.Health sources like the Mayo Clinic, American Association of Neurological Surgeons, and Johns Hopkins Medicine say many people dont see the link between these symptoms and a brain injury. Its important to know the difference between these signs and other health problems.What is a Subdural Hematoma?A subdural hematoma is when blood gathers between the brain and its outermost layer. It usually happens after a brain bleed. There are different types, like acute, subacute, and chronic ones. Each type has its own timing and severity, which affects how its treated.See also Open vs. Closed Head Injuries: Key DifferencesAn acute subdural hematoma can happen from a big head injury, like in a car crash. It causes blood to gather fast and can hurt the brain. This type needs quick medical help because it can be very dangerous.A chronic subdural hematoma takes longer to show up, often weeks or months. Its usually from small blood vessels leaking slowly. Its more common in older people and those on blood thinners. Catching it early is key to avoiding serious problems.The brain is very delicate and can be hurt easily by bleeding in the subdural space. The blood puts pressure on the brain and can cause big problems. Knowing about subdural hematomas helps us see why getting medical help fast is important.Why Early Detection is VitalFinding a subdural hematoma early is key to avoiding serious brain damage. Spotting it early can greatly improve the chances of recovery. It also lowers the risk of severe brain problems. Identifying a Subdural Hematoma: Key SymptomsLong-term ComplicationsIf a subdural hematoma is not treated, it can cause lasting harm. Patients might face permanent disabilities, thinking problems, and ongoing headaches. Its vital to catch it early to prevent these bad outcomes and start treatment on time.Immediate RisksSubdural hematomas are dangerous and need quick action. They can lead to brain swelling, coma, or even death. Finding it early and getting medical help fast is key to avoiding these risks. It can save lives and help patients recover better.Experts say early diagnosis is crucial. They talk about it in Neurology, the Journal of Neurosurgery, and World Neurosurgery. Early finding can stop both short-term and long-term brain damage.Common Causes of Subdural HematomasIts important to know what causes subdural hematomas. This helps in preventing and treating this serious condition. Many things can lead to a subdural hematoma, like head trauma and medical issues.Head InjuryHead injuries are a top reason for brain bleeding and subdural hematomas. These injuries can happen in many ways, such as:FallsAutomobile accidentsSports injuriesPhysical assaultsThese events often cause head trauma. This means the brain hits the skull, leading to blood vessel ruptures.Medical ConditionsIdentifying a Subdural Hematoma: Key Symptoms Some medical conditions also increase the risk of getting a subdural hematoma. Issues with blood clotting and taking blood thinners can make bleeding in the brain more likely. Also, drinking too much alcohol over time can make a person more prone to these injuries.Identifying a Subdural Hematoma: Key Symptoms Lets look at some stats on head trauma and other causes:CausePercentage of Subdural HematomasAffected PopulationsFalls47%Older adultsAutomobile Accidents26%General populationSports Injuries15%Young adultsPhysical Assaults8%All agesAnticoagulant-Related Hemorrhage4%Patients on blood thinnersRecognizing the First SignsFinding the initial subdural hematoma symptoms can be hard because they are often not clear. Its very important to catch them early. If you ignore these signs, they can get worse.In the early stage brain bleed, people might feel a bit off. These feelings could be from something minor. Here are some signs to look out for:Mild and persistent headacheSlight confusion or disorientationIntermittent dizzinessSubtle changes in behavior or moodMany people ignore these early signs. This shows how important it is to be careful after an injury. Spotting these signs early can help get you the right medical help. This might stop things from getting worse.See also Your Bumpy Skull: Causes & ConcernsThe Brain Injury Association of America says dont ignore minor head injury signs. The International Journal of Emergency Medicine also stresses the need for quick action. The American Family Physician notes that knowing how to spot these signs can really help.Heres a table that shows the difference between minor and serious signs:Minor Head Injury SignsSevere Symptoms of Subdural HematomaMild headacheIntense and persistent headacheOccasional dizzinessSevere and continuous dizzinessSubtle confusionMarked disorientationTemporary mood changesSignificant behavioral changesSounds Like a Subdural Hematoma to Me: What to DoIf you think someone might have a subdural hematoma, act fast. Spotting the signs early can really help. This can change how well someone recovers from a brain injury.Emergency ActionsHeres what to do if you think someone has a subdural hematoma:Call 911: This gets help on the way right away.Monitor Vital Signs: Watch how the person is breathing and their heart rate. This tells you if theyre okay.Prevent Further Injury: Make sure the person doesnt move. This can make things worse.When to See a DoctorKnowing when to see a neurologist is key. Go to the doctor right away if:Severe Headache: If the headache is bad or getting worse, its serious.Loss of Consciousness: Even if its just for a little bit, its important to see a doctor.Neurological Symptoms: If someone is confused, cant speak clearly, or is weak on one side, they need help fast.Waiting too long to get medical help can make things worse. Doctors and emergency workers know what to do to help people with brain injuries. They make sure they get the care they need quickly.Symptoms in Different Age GroupsThe symptoms of subdural hematomas change a lot with age. This is because of differences in how the brain works and grows. Knowing these changes helps doctors diagnose quickly and right.Symptoms in Older AdultsIn older people, a geriatric subdural hematoma can be sneaky. This is because the brain gets weaker with age. It can bleed more easily after small injuries. Symptoms can be mild but really affect daily life, like:Memory lossSevere headachesBalance problems and frequent fallsConfusion or altered mental stateWeakness on one side of the bodySymptoms in ChildrenSpotting a pediatric brain injury like a subdural hematoma is hard. Kids cant tell us how they feel. Look out for signs like:Persistent crying or irritabilityDifficulty feeding or vomitingAltered sleep patternsDrowsiness or lethargyBulging fontanel in infantsSeeing any of these signs in a child head trauma means you should get help fast.Age GroupCommon SymptomsSpecific ConcernsOlder AdultsMemory loss, headaches, balance problemsBrain atrophy, increased fall riskChildrenIrritability, feeding difficulties, sleep changesCommunication barriers, developmental impactSeverity Levels of SymptomsIts important to know how bad a subdural hematoma is to get the right medical help. Symptoms can be mild or very serious, depending on the size and location of the hematoma and how the body reacts.Doctors use a system to see how bad symptoms are. This system tells them how fast they need to act. Groups like the World Federation of Neurological Surgeons help make these scales.Its key to watch how symptoms change. If not treated, a mild brain injury can turn into a serious problem fast. Heres how symptoms can get worse:Severity LevelSymptomsPotential Indicative SignsResponse RequiredMildHeadache, dizziness, slight confusionNormal pupil response, minor memory issuesObservation, non-invasive measuresModerateSevere headache, blurred vision, vomitingImpaired motor skills, variable pupil responseImmediate medical evaluation, possible imagingSevereLoss of consciousness, seizures, fixed pupilsComa, potentially life-threateningEmergency intervention, surgical proceduresSee also Sinonasal Chordoma: Symptoms & TreatmentIts vital to know how bad symptoms are to get the right medical help fast. Spotting the signs of subdural hematoma severity and knowing it can get worse helps a lot.Diagnostic Methods for Subdural HematomasGetting a correct and quick diagnosis of subdural hematomas is key to avoiding serious problems. Its important for doctors to know the best ways to diagnose. This helps them treat patients fast and well.Medical ImagingMedical imaging is a big help in finding subdural hematomas. Two main tests are used:CT Scan for Hemorrhage: Great for quick checks, a CT scan shows blood fast. Its perfect for urgent cases.MRI Diagnostics: MRI gives clear pictures and is good for tricky cases. It shows details well, helping doctors understand the situation.Heres how these tests compare:AspectCT ScanMRISpeedFastModerateDetail LevelModerateHighBest UseAcute casesChronic casesNeurological ExamsIdentifying a Subdural Hematoma: Key Symptoms Neurological tests are key to seeing how a subdural hematoma affects a patient. These tests check:Reflex Tests: They look at how nerves work to see if theyre okay.Cognition Assessments: These tests check memory, focus, and solving problems to see if the brain is working right.Coordination Evaluations: They test how well you move and balance through different activities.Doing a full neurological check-up gives doctors important info. It helps them make the best treatment plans. Identifying a Subdural Hematoma: Key SymptomsTreatment OptionsWhen you have a subdural hematoma, knowing your treatment choices is key. The choice depends on how bad the hematoma is and your symptoms. You might get surgery or not, each with its own good and bad points.Surgical ProceduresFor very bad cases, surgery is often needed. This is when the hematoma puts a lot of pressure on the brain. There are two main surgeries: craniotomy and the burr hole procedure.A craniotomy means taking a piece of the skull off to get to and drain the hematoma. Its for big or tricky hematomas. The burr hole procedure is less invasive. It makes small holes in the skull to drain the blood. Both surgeries help ease pressure and stop more brain damage.Which surgery you get depends on the size and where the hematoma is.Non-Surgical TreatmentsFor mild cases, you might not need surgery. Instead, youll watch closely and take medicine to help with symptoms and reduce swelling. This is for smaller hematomas that dont put a lot of pressure on the brain.Its important to keep an eye on things with regular check-ups and scans. These make sure the hematoma doesnt get worse. You must be stable and able to follow up closely to be in this group.Choosing between surgery and not having surgery should be a team effort. Talk to your doctors and look at trusted sources like Surgical Neurology International and the American College of Surgeons. Knowing what to expect helps pick the best way to help you. *The information on our website is not intended to direct people to diagnosis and treatment. Do not carry out all your diagnosis and treatment procedures without consulting your doctor. The contents do not contain information about the therapeutic health services of Acbadem Health Group. Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. A subdural hematoma occurs when a blood vessel near the surface of the brain bursts. Blood builds up between the brain and the brain's tough outer lining. The condition is also called a subdural hemorrhage. In a subdural hematoma, blood collects immediately beneath the dura mater. The dura mater is the outermost layer of the meninges. The meninges is the three-layer protective covering of the brain. A subdural hematoma is a life-threatening problem because it can compress the brain. Most subdural hemorrhages resultfrom trauma to the head. The trauma damages tiny veins within the meninges. In young, healthy people, bleeding usually is triggered by a significant impact. This type of impact might occur in a high-speed motor vehicle accident. In contrast, older people may bleed after only a minor trauma. For example, it might happen from falling out of a chair. A subdural hematoma is also more common in people taking medications that thin the blood who abuse alcohol who have seizures. An acute subdural hemorrhage is bleeding that develops shortly after a serious blow to the head. Blood accumulates rapidly, causing pressure to rise within the brain. This can result in loss of consciousness, paralysis, or death. When bleeding develops slowly, it is known as a chronic subdural hemorrhage. Bleeding may develop over a period of weeks to months. This form of bleeding is much more common in older people. The head trauma that causes chronic subdural hemorrhage is often minor. Many of those affected cannot recall a head injury. Symptoms Acute subdural hemorrhage usually develops after severe head trauma. Injuries that result in this condition are typically forceful enough to cause a temporary loss of consciousness. Usually, in the minutes to hours after head injury, the person recovers consciousness. Then, the person gradually loses consciousness again, this time from subdural bleeding. Other common symptoms of an acute subdural hemorrhage include severe headache weakness on one side of the body seizures changes in vision or speech. Chronic subdural hemorrhages produce more subtle symptoms. These symptoms may continue for more than a month before the diagnosis is recognized. These symptoms include mild headache nausea or vomiting change in personality memory loss loss of balance or difficulty walking double vision weakness, numbness, or tingling in arms or legs. The symptoms caused by chronic subdural hemorrhage can mimic other common conditions. For example, they may resemble strokes and brain tumors. Occasionally, the gradual memory loss and personality changes can be mistaken for dementia. Diagnosis All head injuries should be evaluated promptly by a physician. This is especially true if there has been any loss of consciousness. A doctor usually will want to know how the injury occurred what symptoms developed whether there have been head injuries in the past(repeat injuries are more likely to cause serious damage) whether the person has other medical problems what medications the person is taking whether the person has been drinking alcohol or using drugs whether there are symptoms of other injuries (neck pain, shortness of breath, etc.). The doctor will perform a thorough physical and neurological exam. He or she will check blood pressure and pulse vision and the way the eyes respond to light reflexes and balance ability to answer questions and remember things. If the doctor suspects bleeding in the head, he or she will usually order a computer tomography (CT) scan. A CT scan is the fastestway to determine the location and amount of bleeding. It can also identify any injuries to the brain, skull, or neck. If needed, a brain MRI might also be performed. A doctor may suspect a chronic subdural hemorrhage if an older patient develops new neurological symptoms. This is more likely if there has been a fall or minor trauma to the head. Expected duration An acute subdural hemorrhage develops over minutes to hours. If not diagnosed and treated promptly, it can cause severe brain injury and sometimes death. A chronic subdural hemorrhage develops over many days to weeks. The symptoms may be subtle and develop so slowly that the person and family are not alarmed. As is the case with any brain injury, symptoms can be slow to go away after treatment. Some symptoms may be permanent. Occasionally, a subdural hematoma is small enough that you may not need surgery to remove the blood. The blood will be reabsorbed gradually by the body. This process may require a few months. But it is sometimes the safest treatment plan. Prevention Accidents, including head injuries, are the leading cause of death in young people. Many of these accidents are related to drugs and alcohol. Many others could be prevented with simple precautions or safety equipment. To help prevent head injuries: If you drink alcohol, drink in moderation. Never drive after drinking or using drugs. If your job involves working high above the ground, use approved safety equipment to prevent accidental falls. Never work in a high place if you feel lightheaded or unsteadyhave been drinking alcoholare taking medication that can make you dizzy or affect your balance. Have your vision checked regularly. Poor vision can increase your risk of falls and other types of accidents. If you are an older adult, clear your home of hazards that could cause you to trip and fall. These include throw rugs and extension cords. If you feel unsteady on your feet, consider using a cane or walker. If you play a contact sport such as football and you experience a significant head injury, allow adequate time for healing before you start playing again. After a head injury, complete healing can take up to 15 days. This is true even if symptoms go away much sooner. A repeated head injury during this fragile repair period is likely to result in more bleeding. This is calledsecond impact syndrome. "Blood-thinning" medications increase your risk of bleeding within the head. Examples include aspirin clopidogrel (Plavix) and prasugrel (Effient) direct-acting anticoagulants, such as apixaban (Eliquis) and rivaroxaban (Xarelto) heparin warfarin (Coumadin). Treatment An acute subdural hemorrhage requires immediate medical attention. In most cases, emergency surgery must be done to drain the hematoma and to control bleeding. In contrast, only some chronic subdural hemorrhages require emergency surgery. Most physicians will recommend surgery for larger hemorrhages and those that cause neurological symptoms. However, treatment with bed rest, medications, and observation may be reasonable in some cases. This may be the case for smaller hematomas that cause minimal or no symptoms. People who develop a subdural hemorrhage are at risk of seizures. Seizures may occur even after the hematoma has been treated. When to call a professional Call for emergency assistance if you find someone unconscious at an accident scene. Also seek immediate attention if someone with a head injury experiences drowsiness or a decrease in alertness nausea or vomiting confusion or amnesia difficulty walking or poor coordination slurred speech double vision irrational or aggressive behavior seizures numbness or paralysis in any part of the body. Even if a head injury appears minor, with mild symptoms, certain people are at high risk of serious bleeding. Call a doctor or go to an emergency room immediately if a person with head injury also: is elderly takes medications to prevent unwanted blood clots has a bleeding disorder has a history of heavy alcohol use. Prognosis The outlook for acute subdural hemorrhages generally is guarded and some people die even with prompt surgery. Usually there are injuries to other parts of the brain from the trauma. This tends to be true regardless of the size of the hematoma. Many of those who survive may be left with permanent neurological problems. The prognosis for an acute or chronic subdural hematoma is best in people who: don't lose consciousness or are unconscious for a short period of time are awake and alert have no or few neurological symptoms when evaluated by a doctor are younger than age 50 do not have alcohol use disorder do not have other associated brain injuries receive prompt medical attention. The prognosis for chronic subdural hemorrhage is quite favorable. Most people are able to resume their level of previous functioning. Additional info National Institute of Neurological Disorders and Stroke Brain Injury Association of America Symptoms of a subdural hematoma may appear immediately following trauma to your head. Or they may develop over time even weeks to months after the injury.Signs and symptoms of a subdural hematoma include:A headache that doesnt go away. Its usually severe in acute subdural hematomas.Nausea and vomiting.Slurred speech (dysarthria).Changes in your vision.Dizziness.Balance issues or difficulty walking.Weakness on one side of your body.Symptoms of chronic subdural hematoma may also include:Memory loss.Disorientation.Personality changes.A baby with a subdural hematoma may have an enlarged head. This is because their soft skull can enlarge as blood collects.Get immediate medical help if you or a loved one have these symptoms.As bleeding continues and the pressure in your brain increases, symptoms can get worse. Severe symptoms include:Paralysis.Seizures.Breathing problems.Loss of consciousness (passing out).Coma.Sometimes, people have no symptoms immediately following a head injury. This is called a lucid interval. They develop symptoms days later. Also, its important to know that subdural hematomas that develop more slowly (the chronic type) might be mistaken for other conditions, such as a brain tumor, stroke or dementia.Any time you experience neurological symptoms, like memory loss, dizziness or muscle weakness, you should see a healthcare provider. Try to give them as much information as possible about when and how your symptoms started.What causes subdural hematomas?Head injuries cause most subdural hematomas. Examples of how this could happen include:Falling and hitting your head.Taking a blow to your head in a car or bike accident.Hitting your head while playing sports.Getting a head injury from an assault or physical abuse.What are the risk factors for subdural hematoma?Anyone can get a subdural hematoma from an accidental head injury. But certain factors can increase your risk, including:Age: People 65 and older and babies are more at risk for getting subdural hematomas. As you age, your brain shrinks inside your skull. The space between your skull and brain widens. This makes the tiny veins in the membranes between your skull and brain stretch. These thinned, stretched veins are more likely to tear, even if you experience a minor head injury. Babies dont have strong neck muscles to protect themselves from head trauma. When someone shakes a baby forcefully, they can develop a subdural hematoma (shaken baby syndrome).Playing contact sports: People who play high-impact or extreme sports (like football, rugby or snowboarding) have an increased risk of a subdural hematoma.Taking blood thinners: Blood thinners (anticoagulants) slow down your clotting process or prevent blood from clotting at all. If your blood doesnt clot, bleeding around your brain can be severe and long-lasting, even after a relatively minor injury.Hemophilia: This is an inherited bleeding disorder that prevents your blood from clotting. People with hemophilia have a higher risk of uncontrolled bleeding after an injury.Alcohol use disorder: Drinking excessive amounts of alcohol causes liver damage over time. A damaged liver cant produce enough of the proteins that help your blood clot. This increases your risk of uncontrolled bleeding.DefinitionSymptomsCausesTreatmentDiagnosisComplicationsOutlookShare on PinterestTonpor Kasa/Getty ImagesA subdural hematoma is a collection of blood on your brains surface under the skull.This type of bleeding usually happens after a head injury and can be either acute or chronic.Subdural hematomas occur when a vein tears between your skull and your brains surface. A blood clot on the surface of the brain is also called a subdural hematoma.Subdural hematomas can be life-threatening, especially when they occur after a serious brain injury. Recovery after any severe brain injury is varied.But the outcomes after subdural hematomas can depend on age, the type of hematoma, and how quickly treatment is given. Better outcomes are most common in:younger adultsthose who received treatment quicklypeople with reactive pupils and higher levels of consciousnessthose with only one area of bleeding on the brain, as opposed to multiplethose with a manageable amount of pressure on the brainIf you sustain a major brain injury, the injured area can fill with blood and cause life-threatening symptoms. This is called an acute subdural hematoma. Its the most dangerous type of subdural hematoma.Acute subdural hematomas commonly form because of a severe head injury. They form quickly, and symptoms appear immediately.Approximately 20 to 30 percent of people regain full or partial brain function after having an acute subdural hematoma.About 50 to 90 percent of people who develop acute subdural hematomas die from the condition or its complications.Chronic subdural hematomas develop due to minor head injuries. Many people who are diagnosed with them dont even remember the exact event that caused the bleeding to start.Older adults have higher rates of chronic subdural hematomas. This may be because the brain shrinks as you age, leaving extra space in the skull and allowing the veins to be more easily damaged during a head injury.Symptoms of chronic subdural hematomas arent noticeable immediately and may not appear for several weeks. The most common symptom is headache, which is reported in up to 80 percent of cases.Chronic subdural hematomas are easier to treat than acute subdural hematomas. But they can still cause life-threatening complications.Acute subdural hematomas cause symptoms right away. Chronic subdural hematomas may not cause any symptoms at first but, over time, can lead to serious ones.Common symptoms of a subdural hematoma are:slurred speechloss of consciousness or comaloss of function on one side of the bodyseizuresnumbnessdrowsinesssevere headachesweaknesswalking problemsvisual problemsconfusionpersonality changesnausea or vomitingYou should go to the doctor or emergency department right away if you or someone youre caring for have any of these symptoms. These symptoms are also signs of other very serious health conditions. Symptoms of chronic subdural hematoma can be similar to the symptoms of dementia, stroke, tumors, or other problems in the brain.Acute subdural hematomas are usually caused by a:car accidentblow to the headviolent attackserious fallChronic subdural hematomas are typically caused by mild or repeated head injuries. Some chronic subdural hematomas form with no apparent cause.Acute subdural hematomas generally occur in people whove recently had a brain injury. Up to 20 percent of people with traumatic brain injuries are found to also have a subdural hematoma.Chronic subdural hematomas are most common in:older adults who repeatedly fall and hit their headspeople taking anticoagulant medication, otherwise known as blood thinnerspeople with a history of heavy drinking or alcohol misuseAn acute subdural hematoma can only be treated in an operating room.A surgical procedure called a craniotomy may be used to remove a large subdural hematoma. Its normally used to treat acute subdural hematomas but may be used to treat chronic subdural hematomas in some cases.In this procedure, your surgeon removes a part of your skull in order to access the clot or hematoma. They then use suction and irrigation to remove it.For an acute subdural hematoma, a craniotomy may be a necessary life-saving procedure. But it still has risks. In one study, 18 percent of patients died within 30 days of the surgery.A burr hole can be used to drain chronic subdural hematomas or acute ones that are smaller than 1 centimeter at the thickest point.During the procedure to create a burr hole, your surgeon creates small holes in your skull and then places rubber tubes in them. The blood from the hematoma drains out through these holes.Though recovery rates vary, 80 to 90 percent of patients experience significant brain function improvement after this procedure.Your doctor may prescribe anti-seizure medications to treat or prevent seizures that the subdural hematoma might cause.Medication may also be used to treat your brain injury. Corticosteroids are often prescribed to reduce inflammation in the brain.A subdural hematoma can be diagnosed using imaging tests, like a CT or MRI scan. These scans provide your doctor with an in-depth look at your:brainskullveinsother blood vesselsThese scans can also reveal if theres any blood on the surface of your brain.Your doctor may also order a blood test to check your complete blood count (CBC). A CBC test measures your red blood cell count, white blood cell count, and platelet count. A low level of red blood cells can mean youve had significant blood loss.Your doctor may also give you a physical exam to check your heart rate and blood pressure for evidence of internal bleeding.Complications of subdural hematomas may occur soon after the injury or sometime after the injury has been treated. These include:brain herniation, which puts pressure on your brain and can cause a coma or deathseizurespermanent muscle weakness or numbnessThe level of complications depends on how badly the brain was injured during whatever accident caused the hematoma.Other health issues may affect complications of either chronic or acute subdurals. People who take anticoagulants (blood thinners) are at higher risk of complications. People over the age of 65 also have a higher risk of complications, especially with chronic subdural hematomas.Complications from subdural hematomas, including seizures, can still occur even after theyve been removed and youve recovered from the immediate symptoms.Subdural hematomas can be very serious and even deadly. This is especially true if they happen after a severe accident when the brain was badly injured.Its possible to regain full brain function after a subdural hematoma, especially for younger individuals and those who receive treatment quickly and have less severe bleeding.Your overall outlook for recovery depends on the type of brain injury you have and where its located. Your doctor will create a treatment and recovery plan thats best for you.How long does it take for chronic subdural hematoma to resolve completely? Chronic subdural hematoma refers to gradual, slow bleeding in the brain that can be caused from getting hit in the head, but how long does it take for this condition to completely resolve?This varies. My mother experienced chronic subdural hematoma.Usually, chronic subdural hematoma is born when a person gets hit in the head, or bumps their head, but the risk is much higher in the elderly, especially if theyre on blood thinners.My mother was on two blood thinners at the time she fell in the bathroom and hit her head on the bathtub.The first symptom of this accident, other than the visible wound that I saw soon after I helped her to her bed after the fall, was a debilitating headache and lower body weakness six weeks after she fell.That day she was diagnosed with chronic subdural hematoma.Nine and a half weeks later, the neurosurgeon declared my mother completely clear of the chronic subdural hematoma.The CAT scan of her head was clean, normal, and she was discharged from his care.This doesnt mean that it typically takes nine weeks for a chronic subdural hematoma to resolve.In the case of my mother, there is strong reason to believe that a second fall caused a setback.One need not strike their head to cause a chronic subdural hematoma, or create a setback in a healing cSDH.If a fall or sudden motion (such as riding in a car in which the driver slams on the breaks) causes a jarring motion of the head in an elderly person, this can shake things up with the brains blood vessels.And if theres already a tear in a vein that caused a chronic subdural hematoma, than this jarring can cause more tearing, and hence, more bleeding.My mother had a recurrence of the cSDH; the symptoms of this began about 10 days after theburr hole drainingof the first chronic subdural hematoma.The neurosurgeon was not able to rule out that her second fall (in which she did not hit her head, but jarred it) didnt cause the recurrence, even though recurrence happens about 15 percent of the time after drainage.If a chronic subdual hematoma produces symptoms, it will almost always require surgical draining.The neurosurgeon will then follow the condition with CAT scans.CT scanner. Liz West, Boxborough, MA, CC Wikimedia CommonsThe CAT scan will show how much blood and cerebral spinal fluid is still in the brain, and how old the blood is.Over time, follow-up CAT scans should show a diminishing amount of blood.The surgical draining will not get rid of 100 percent of the blood, but is designed to get rid of enough to:1) relieve symptoms, and 2) promote the healing process, which is the body resorbing the fluid and the veins healing.While a patient is healing from chronic subdural hematoma, blood thinners will be off limits, and the patient must take vigilant precautions to avoid hitting their head or experiencing any jarring motions.Lorra Garrick has been covering medical, fitness and cybersecurity topics for many years, having written thousands of articles for print magazines and websites, including as a ghostwriter. Shes also a former ACE-certified personal trainer..Top image: Shutterstock/Photographee.eu As a leader in digital health publishing for more than 25 years, WebMD strives to maintain the most comprehensive and reliable source of health and medical information on the internet. We recognize the responsibility that comes along with being the most well-known and trusted health information platform and we take that responsibility seriously by:01Charging our content creators to practice journalistic principles of excellence and provide objective, accurate, and balanced reporting02Maintaining editorial independence and transparency into how we protect the integrity of our content03Regularly reviewing and updating our content by working with our network of more than 100 doctors and health expertsLearn more about our Editorial Process Bleeding in the brain, also called a brain hemorrhage, is a medical emergency caused by the rupture of an artery or vein due to abnormal pressure, trauma, and defect in the blood vessel. A brain bleed may be the result of high blood pressure, a brain tumor, a brain aneurys

can occur within the skull. Internal bleeding can lead to serious consequences, including brain damage and death.One type of internal bleeding in the skull is called subdural hematoma. People should be aware of the signs and symptoms of head trauma and seek treatment immediately if they or someone around them experience a head injury.Share on PinterestSubdural hematomas are the result of head injuries where the blood collects between the surface of the brain and the skull.A subdural hematoma occurs when a vein located beneath the skull ruptures and starts to bleed. The blood collects between the brain and the skull. As this space begins to fill with blood, the increasing pressure causes some of the symptoms of subdural hematoma.Subdural hematoma bleeding occurs in one of the layers of tissue between the brain and the skull called the meninges. The outermost layer is called the dura.If pressure continues to build against the brain, a subdural hematoma may lead to long-term health problems or life-threatening situations. In the worst case scenarios, untreated subdural hematomas can lead to unconsciousness or death.Subdural hematomas are a result of injury to the head. The severity of the injury determines how the subdural hematoma will be categorized.There are two types of subdural hematomas: acute and chronic.A subdural hematoma caused by a severe head injury is considered acute. Likely causes may include car accidents or a fall from a height.Cases of acute subdural hematoma are often harder to treat and more likely to lead to long-term consequences or death. The risk of death from an acute subdural hematoma is more than 50 percent.Chronic cases of subdural hematoma are either due to repeated or mild head injuries.Older adults are more likely to develop chronic subdural hematoma due to increased frequency of falls.Older adults are also at higher risk because a persons brain shrinks as they age, and this shrinkage causes the tiny veins on the surface of the brain to stretch, making them more vulnerable to tearingWhile chronic subdural hematomas are easier to treat, there is still the risk of death or long-term health consequences. The symptoms of subdural hematoma can vary from person to person. Common symptoms include:severe headachechange in mood or behaviorseizuresslurred speechloss of consciousness or passing outapathyweaknessvision problemsdizzinessvomitingconfusionSymptoms of an acute subdural hematoma occur quickly following the injury. In cases of chronic subdural hematoma, symptoms are more likely to develop slowly or may not develop at all.The symptoms occur at different rates due to the speed at which blood starts to pool and put pressure on the brain.In cases of chronic subdural hematoma, small veins on the outer surface of the brain may tear. The tears cause bleeding in the subdural layer of tissue. In these cases, symptoms may not appear for several days or even weeks.Other factors may influence a persons symptoms. A persons age or other medical conditions both play a role in how quickly symptoms start to develop.Share on PinterestWarfarin and other blood thinners may increase the chances of developing a subdural hematoma.The most common cause of a subdural hematoma is a severe injury to the head. Minor head injuries are a less common cause and more typical in older people.Sometimes, subdural hematomas may occur spontaneously as a result of another medical condition.Risk factors that increase a persons chances of developing subdural hematoma include:blood thinners, such as warfarin or aspirinmedical conditions that cause blood clotting issueslong-term alcohol use or abuserepeated head injuries, such as from falls or sportsvery young or very old ageIt is important to diagnose cases of acute subdural hematoma quickly so treatment can begin immediately. Rapid treatment may minimize the risk of death or long-term effects.Cases of chronic subdural hematoma may be more difficult to diagnose, as symptoms do not develop rapidly or may not have an obvious cause.To diagnose subdural hematoma, a doctor will usually use computed tomography (CT), or magnetic resonance imaging (MRI) scans to get a clear picture of the brain. The doctor will examine the scan for signs of bleeding.If the doctor identifies bleeding, they will determine the source of the bleeding and develop a plan of action to address the issue.The doctor may also check a persons blood pressure and heart rate, as well as order blood work to get blood cell and platelet counts. These screenings and tests are designed to look for internal bleeding and blood loss.Share on PinterestSurgery is generally carried out to remove the blood clot and any leaked blood.A person with a subdural hematoma will usually require surgery. For acute cases, the person will likely undergo a craniotomy.During this procedure, a surgeon first removes a portion of the persons skull near the site of the subdural hematoma. The surgeon will then remove the clot and will then use suction and irrigation techniques to remove any leaked blood.A craniotomy is a risky procedure. In some circumstances, however, it necessary to save a persons life.For chronic subdural hematomas or when an acute hematoma is smaller than 1 cm in diameter, a surgeon may use burr hole surgery. During this procedure, the surgeon drills a small hole into the persons skull and inserts a rubber tube to drain the blood.After surgery, a doctor will usually prescribe anti-seizure medication. A person may need to take the drugs for several months or years. Taking these medications can help prevent a seizure that could cause another subdural hematoma.Doctors typically prescribe medications to help reduce swelling around the brain, which may help prevent or reduce pressure in the skull in the days following surgery.Recovery times vary greatly between individuals. The speed of recovery often depends on the extent of damage the subdural hematoma has caused to the brain.Only between 20 and 30 percent of people can expect to see a full or nearly full recovery of brain functioning.Often, people treated quickly have the best chances of full recovery. Younger people and people whose swelling is controlled are more likely to see better results during recovery.Even after treatment, a subdural hematoma has the potential to lead to death or permanent brain damage. A quick medical response and care are essential to give a person the best chance of survival and full recovery.It is essential for a person to follow all recommendations for post-surgery treatment to increase the chances of a favorable outcome.Blood / HematologyEmergency MedicineNeurology / NeuroscienceMedical News Today has strict sourcing guidelines and relies on peer-reviewed studies, academic research institutions, and medical journals and associations. We only use quality, credible sources to ensure content accuracy and integrity. You can learn more about how we ensure our content is accurate and current by reading our editorial policy.Acute subdural hematomas. (n.d.) S. A., Farrokhyar, F., Hong, C., Alhazzani, W., Manoranjan, B., Singh, S. (2014, March). Chronic subdural hematoma management: A systematic review and meta-analysis of 34,829 patients. Annals of Surgery, 259(3), 449457 H., Choi, K.-S., Yi, H.-J., Chun, H.-J., Lee, Y.-J., & Kim, D.-w. (2017, October 25). Risk factors of delayed surgical intervention after conservatively treated acute traumatic subdural hematoma. Journal of Korean Neurosurgical Society, 60(6), 723729 A. M., Grant, R. A., Basques, B. A. Webb, M. L., Samuel, A. M., & Grauaer, J. N. (2016, March). Patient factors associated with 30-day morbidity, mortality, and length of stay after surgery for subdural hematoma: A study of the American College of Surgeons National Surgical Quality Improvement Program. Journal of Neurosurgery, 124(3), 760766 subdural hematoma (SDH) is a collection of blood below the inner layer of the dura but external to the brain and arachnoid membrane. Subdural hematoma is the most common type of traumatic intracranial mass lesion.Subdural hematoma occurs not only in patients with severe head injury but also in patients with less severe head injuries, particularly those who are elderly or who are receiving anticoagulants. Subdural hematoma may also be spontaneous or caused by a procedure, such as a lumbar puncture. Rates of mortality and morbidity can be high, even with the best medical and neurosurgical care.Subdural hematomas are usually characterized by their size and location and the amount of time elapsed since the inciting event age (i.e., whether they are acute, subacute, or chronic). When the inciting event is unknown, the appearance of the hematoma on neuroimaging studies can help determine when the hematoma occurred. These factors, as well as the neurologic and medical condition of the patient, determine the course of treatment and may also influence the outcome.Generally, acute subdural hematomas are less than 72 hours old and are hyperdense compared with the brain on CT scans. The subacute phase begins 3-7 days after acute injury. Chronic subdural hematomas develop over the course of weeks and are hypodense compared with the brain. However, subdural hematomas may be mixed in nature, such as when acute bleeding has occurred into a chronic subdural hematoma.Presentation varies widely in acute subdural hematoma. Many of these patients are comatose on admission. However, approximately 50% of patients with head injuries who require emergency neurosurgery present with head injuries that are classified as moderate or mild (Glasgow Coma Scale) scores 9-13 and 14-15, respectively). Many of these patients harbor intracranial mass lesions.In a large series of patients who developed intracranial hematomas requiring emergent decompression, more than half had lucid intervals and were able to make conversation between the time of their injury and subsequent deterioration. In a more comprehensive review of the literature on the surgical treatment of acute subdural hematomas, lucid intervals were noted in up to 38% of cases.These patients may be more likely to benefit from medical and surgical intervention when instituted in a timely fashion (i.e., before further neurological deterioration).Acute subdural hematoma is commonly associated with extensive primary brain injury. In one study, 82% of comatose patients with acute subdural hematomas had parenchymal contusions. The severity of the diffuse parenchymal injury shows a strong inverse correlation with the outcome of the patient.In recognition of this fact, a subdural hematoma that is not associated with an underlying brain injury is sometimes termed a simple or pure subdural hematoma. The term complicated has been applied to subdural hematomas in which a significant injury of the underlying brain has also been identified.Acute subdural hematoma is the most common type of traumatic intracranial hematoma, occurring in 24% of patients who present comatose. This type of head injury also is strongly associated with delayed brain damage, later demonstrated on CT scan. Such presentations portend devastating outcomes, and overall mortality rates are usually quoted at around 60%.Significant trauma is not the only cause of subdural hematoma. Chronic subdural hematoma can occur in the elderly after apparently insignificant head trauma. Often, the antecedent event is never recognized. Chronic subdural hematoma is a common treatable cause of dementia. A minority of chronic subdural hematoma cases derived from acute subdural hematomas that have matured (i.e., liquefied) because of lack of treatment.PathophysiologyThe usual mechanism that produces an acute subdural hematoma is a high-speed impact to the skull. This causes brain tissue to accelerate or decelerate relative to the fixed dural structures, tearing blood vessels.Often, the torn blood vessel is a vein that connects the cortical surface of the brain to a dural sinus (termed a bridging vein). In elderly persons, the bridging veins may already be stretched because of brain atrophy (shrinkage that occurs with age).Alternatively, a cortical vessel, either a vein or small artery, can be damaged by direct injury or laceration. An acute subdural hematoma due to a ruptured cortical artery may be associated with only minor head injury, possibly without an associated cerebral contusion. In one study, the ruptured cortical arteries were found to be located around the sylvian fissure.The head trauma may also cause associated brain hematomas or contusions, subarachnoid hemorrhage, and diffuse axonal injury. Secondary brain injuries may include edema, infarction, secondary hemorrhage, and brain herniation.Typically, low-pressure venous bleeding from bridging veins dissects the arachnoid away from the dura, and the blood layers out along the cerebral convexity. Cerebral injury results from direct pressure, increased intracranial pressure (ICP), or associated intraparenchymal insults.In the subacute phase, the clotted blood liquefies. Occasionally, the cellular elements layer can appear on CT imaging as a hematocrit-like effect. In the chronic phase, cellular elements have disintegrated, and a collection of serous fluid remains in the subdural space. In rare cases, calcification develops.Less common causes of subdural hematoma involve coagulopathies and ruptured intracranial aneurysms. Subdural hematomas have even been reported to be caused by intracranial tumors.It has been asserted that the primary brain injury associated with subdural hematoma plays a major role in mortality. However, most subdural hematomas are thought to result from torn bridging veins, as judged by surgery or autopsy. Furthermore, not all subdural hematomas are associated with diffuse parenchymal injury. As mentioned earlier, many patients who sustain these lesions are lucid before their condition deteriorates an unlikely scenario in patients who sustain diffuse damage.Acute subdural hematomaInvestigation of brain physiological and biochemical parameters in patients with acute traumatic subdural hematoma has suggested variables that might be associated with secondary injury to the brain.In a study of brain biochemical patterns after acute subdural hematoma evacuation, Hlatky et al. found that postsurgical patients who succumbed to their injury exhibited lower values of brain tissue oxygen tension and higher dialysate values of lactate and pyruvate in the brain underlying the hematoma. They suggested that identification of this brain biochemistry pattern after surgery might signify an evolving brain injury that warrants further evaluation or treatment.Cerebral blood flow (CBF) can become markedly reduced. Schroder et al. reported that in 2 patients with acute subdural hematoma requiring emergent craniotomy, the hemisphere ipsilateral to the subdural hematoma demonstrated lower CBF than the contralateral hemisphere. Furthermore, CBF in both hemispheres was lower than normal.Impressive increases in CBF and cerebral blood volume (CBV) that could not be attributed to pCO2 or blood pressure changes were noted immediately after surgery. The authors speculated that the decreased CBV caused by the subdural hematoma was a result of a compressed microcirculation, which was caused by increased ICP.HerniationLike other masses that expand within the skull, subdural hematomas may become lethal by increasing pressure within the brain, leading to pathologic shifts of brain tissue (brain herniations). Two common types of brain herniation are subfalcial (cingulate gyrus) herniation and transtentorial (uncal) herniation.Subfalcial herniation may cause a cerebral infarct via compression of the anterior cerebral artery, and transtentorial herniation may cause an infarct via compression of the posterior cerebral artery. Transtentorial herniation is also associated with pressure on the third cranial nerve, causing decreased reactivity and then dilation of the ipsilateral pupil.With progressive transtentorial herniation, pressure on the brainstem causes its downward migration. This tears critical blood vessels that supply the brainstem, resulting in Duret hemorrhages and death. Increased ICP may also decrease cerebral flood flow, possibly causing ischemia and edema; this further increases the ICP, causing a vicious circle of pathophysiologic events.Chronic subdural hematomaChronic subdural hematoma is commonly associated with cerebral atrophy. Cortical bridging veins are thought to be under greater tension as the brain gradually shrinks from the skull; even minor trauma may cause one of these veins to tear. Slow bleeding from the low-pressure venous system often enables large hematomas to form before clinical signs appear.Small subdural hematomas often spontaneously resorb. Larger collections of subdural blood usually organize and form vascular membranes that encapsulate the subdural hematoma. Repeated bleeding from small, friable vessels within these membranes may account for the expansion of some chronic subdural hematomas.Chronic subdural hematomas may also evolve from the liquefaction of an acute subdural hematoma, particularly one that is relatively asymptomatic. Liquefaction usually occurs after 1-3 weeks, with the hematoma appearing hypodense on a CT scan.Some chronic subdural hematomas may also enlarge from an osmotic gradient, drawing more fluid into the subdural space, or through the separate mechanism of calcification.As a subdural hematoma expands in the subdural space, it raises the ICP and deforms the brain. The rise in ICP is initially compensated by efflux of cerebrospinal fluid (CSF) toward the spinal axis and compression of the venous system, expediting venous drainage through the jugular veins. During this stage, ICP rises relatively slowly, because the intracranial compliance is relatively high; in other words, the initial changes in intracranial volume are associated with small changes in ICP.However, as the hematoma (and edema from associated parenchymal injury) expands, a limit is reached beyond which compensatory mechanisms fail. The intracranial compliance begins to decrease; small increases in intracranial volume are associated with larger increases in ICP. The ICP rises exponentially, leading to decreased cerebral perfusion and global cerebral ischemia. In a rapidly expanding hematoma, this whole process can happen in minutes.In patients with chronic subdural hematoma, blood flow to the thalamus and basal ganglia regions appears to be particularly affected compared to that to the rest of the brain. Tanaka et al. suggested that impaired thalamic function can lead to a spreading depression that impairs various cortical regions, thereby producing various clinical deficits. They found that a 7% decrease of CBF was commonly associated with headache, whereas a 35% decrease of CBF was associated with neurological deficit such as hemiparesis.Given that the pathophysiology of chronic subdural hematoma is often directly associated with cerebral atrophy, the fact that subdural hematomas are associated with conditions that cause cerebral atrophy (e.g., alcoholism, dementia) is not surprising. In a series reported by Foelholm and Waltimo, alcoholics constituted over half of the patient population. Most chronic subdural hematomas are probably caused by head injury; other causes and predisposing factors include coagulopathy, use of anticoagulants (including aspirin), seizure disorders, and CSF shunts.Herniation syndromesIn addition to increasing the ICP, the hematoma deforms and displaces the brain. Eventually, transtentorial or subfalcine herniation can develop as the brain is pushed past the dural folds of the tentorial incisura or falx, respectively.Tonsillar herniation through the foramen magnum may develop if the whole brain stem is forced down through the tentorial incisura by elevated supratentorial pressure. Although much less common than supratentorial subdural hematoma, infratentorial subdural hematoma can develop and cause tonsillar herniation and brainstem compression.Characteristic herniation syndromes may develop as the brain shifts. As the medial temporal lobe, or uncus, herniates past the tentorium, it can compress the ipsilateral posterior cerebral artery, oculomotor nerve, and cerebral peduncle. Clinically, the consequent oculomotor nerve palsy and cerebral peduncle compression are often manifested by an ipsilaterally dilated pupil and a contralateral hemiparesis.The patient also may develop a stroke of the posterior cerebral artery distribution. In approximately 5% of cases, the hemiparesis may be ipsilateral to the dilated pupil. This phenomenon is called the Kernohan notch syndrome and results when uncal herniation forces the midbrain to shift so that the contralateral cerebral peduncle is forced against the contralateral tentorial incisura.Subfalcine herniation caused by midline brain shift may result in compression of anterior cerebral artery branches against the fixed falx cerebri, leading to infarcts in an anterior cerebral artery distribution.Spontaneous subdural hematomaSpontaneous subdural hematoma is rare. The literature is limited to sporadic case reports. These cases often have an arterial source; they are usually associated with the same pathology as that involved in subarachnoid or intracerebral hemorrhage. The blood from a ruptured aneurysm may dissect through the brain parenchyma or subarachnoid space into the subdural space.Likewise, the blood released from a hypertensive intracerebral hemorrhage can dissect into the subdural space. In fact, a case has been reported of an acute spontaneous subdural hematoma precipitated by cocaine abuse.Coagulopathy, occasionally associated with malignancy, also has been associated with spontaneous subdural hematoma. Subdural hematoma also can be caused by bleeding from intracranial tumors. The treatment of spontaneous subdural hematoma is similar to subdural hematoma caused by trauma, but the underlying cause must be sought and treated.Subdural hygromaSome chronic subdural hematomas may be derived from subdural hygromas. Brain atrophy or loss of brain tissue due to any cause, such as alcoholism, or stroke, may provide either an increased space between the dura and the brain surface where a subdural hygroma can form (see the image below) or traction on bridging veins that span the gap between the cortical surface and dura or venous sinuses.Atrophy of the brain, resulting in a space between the brain surface and the skull, increases the risk of subdural hematoma (SDH).Hygromas probably form after a tear in the arachnoid allows CSF to collect in the subdural space. A subdural hygroma may therefore also occur after head trauma; they are frequently asymptomatic.EtiologyCauses of acute subdural hematoma include the following:Head traumaCoagulopathy or medical anticoagulation (e.g., warfarin [Coumadin], heparin, hemophilia, liver disease, thrombocytopenia)Nontraumatic intracranial hemorrhage due to cerebral aneurysm, arteriovenous malformation, or tumor (meningioma or dural metastases)Postsurgical (craniotomy, CSF shunting)Intracranial hypotension (e.g., after lumbar puncture, lumbar CSF leak, lumboperitoneal shunt, spinal epidural anesthesiaChild abuse or shaken baby syndrome (in the pediatric age group)Spontaneous or unknown (rare)Causes of chronic subdural hematoma include the following:Head trauma (may be relatively mild, e.g., in older individuals with cerebral atrophy)Acute subdural hematoma, with or without surgical interventionSpontaneous or idiopathicRisk factors for chronic subdural hematoma include the following:Chronic alcoholismEpilepsyCoagulopathyArachnoid cystsAnticoagulant therapy (including aspirin)Cardiovascular disease (e.g., hypertension, arteriosclerosis)ThrombocytopeniaDiabetes mellitusIn younger patients, alcoholism, thrombocytopenia, coagulation disorders, and oral anticoagulant therapy have been found to be more prevalent. Arachnoid cysts are more commonly associated with chronic subdural hematoma in patients younger than 40 years.In older patients, cardiovascular disease and arterial hypertension are found to be more prevalent. In one study, 16% of patients with chronic subdural hematomas were on aspirin therapy. Major dehydration is a less commonly associated condition and is found concurrently in only 2% of patients.EpidemiologyMortality/MorbidityAcute subdural hematomas have been reported to occur in 5-25% of patients with severe head injuries, depending on the study. The annual incidence of chronic subdural hematoma has been reported to be 1-5.3 cases per 100,000 population. More recent studies have shown a higher incidence, probably because of better imaging techniques.Sex- and age-related differences in incidenceOverall, subdural hematomas are more common in men than in women, with a male-to-female ratio of approximately 3:1. Men also have a higher incidence of chronic subdural hematoma. The male-to-female ratio has been reported to be 2:1.The incidence of chronic subdural hematoma appears to be highest in the fifth through seventh decades of life. One retrospective study reported that 56% of cases were in patients in their fifth and sixth decades; another study noted that more than half of all cases were seen in patients older than 60 years. The highest incidence, 7.35 cases per 100,000 population, occurs in adults aged 70-79 years.Adhesions existing in the subdural space are absent at birth and develop with aging; therefore, bilateral subdural hematomas are more common in infants. Interhemispheric subdural hematomas are often associated with child abuse.PrognosisThe mortality associated with acute subdural hematoma has been reported to range from 36-79%. Many survivors do not regain previous levels of functioning, especially after an acute subdural hematoma severe enough to require surgical drainage. Favorable outcome rates after acute subdural hematoma range from 14-40%.Several series have shown an increase in favorable outcome in younger patients.Age younger than 40 years was associated with a mortality rate of 20%, whereas age 40-80 years was associated with a mortality rate of 65%. Age older than 80 years carried a mortality rate of 88%.Ultimate prognosis is related to the amount of associated direct brain damage and the damage resulting from the mass effect of the hematoma. Simple acute subdural hematoma (i.e., without parenchymal injury) accounts for about half of all cases and is associated with a mortality rate of about 20%. Complicated subdural hematoma (e.g., with accompanying contusion or laceration of a cerebral hemisphere) is associated with a mortality rate of about 60%.Findings on CT scan or MRI may help indicate prognosis. Such findings may include the following:Thickness or volume of the hematomaDegree of midline shiftPresence of associated traumatic intraparenchymal lesionsCompression of the brainstem or basal cisternsThe first CT scan may underestimate the size of parenchymal contusions.In general, a poor preoperative neurologic status may be a harbinger of a poor outcome. In addition to factors discussed above, poor prognostic indicators for acute subdural hematoma have been reported to include the following:Low initial (< 8) and post-resuscitation (< 8) Glasgow coma scaleLow Glasgow coma scale motor score on admission (< 5)Pupillary abnormalitiesAlcohol useInjury by motorcycle accidentIschemic damageHypoxia or hypotensionDifficulty in controlling ICPElevated ICP postoperatively indicates a poor prognosis and may indicate the severity of the underlying brain injury (e.g., trauma, secondary infarction).In a retrospective review of 109 consecutive patients with head injury with a CT scan diagnosis of acute traumatic subdural hematoma, Phuenpathom et al found that poor outcome was strongly correlated with the best sum GCS score within the first 24 hours of head injury and pupillary inequality. Age and pupillary reaction to light also correlated well with the outcome.The mortality in the whole series was 50%, and mortality for all 37 patients with a GCS score of 3 was 100% (this rate decreased as the GCS increased). The mortality for those with unequal pupils was 64%, versus 40% for those with equal pupils. The mortality associated with one nonreactive pupil was 48%, versus 88% with bilateral nonreactive pupils. The outcome status of the patients with bilateral nonreactive pupils who survived was not noted.Wilberger et al. also found an 88% mortality associated with fixed, dilated pupils and noted a 7% functional recovery in survivors with this finding. This study found that neurologic presentation and postoperative ICP (which was not evaluated by Phenpatham et al.) were strong predictors of outcome. Wilberger et al. also found a trend of increasing mortality rate with age, although it was not statistically significant.A review by Sakas et al. of 1-year outcomes following craniotomy for traumatic hematomas in patients with fixed, dilated pupils suggested that the presence of an acute subdural hematoma was the single most important predictor of a negative outcome. Patients with subdural hematomas had a mortality of 64%, compared with a mortality of 18% in patients with extradural hematomas.Seelig et al. also showed that neurologic examination findings and postoperative ICP were important prognostic factors. The peak ICP was less than 20 mm Hg in 53% of patients with acute traumatic subdural hematoma (similar to 59% of patients with other types of head injuries), but this group accounted for 79% of the patients with functional recoveries.All patients with uncontrollably elevated ICP (>60 mm Hg) died. These authors claimed a 25% functional recovery rate (defined by the Glasgow Outcome Scale) in patients presenting with fixed, dilated pupils.Acute subdural hematomas that would otherwise be considered operative by imaging criteria may resolve on their own, although this is rare. A series of 4 such patients was reported by Kapsalaki et al.No clear prognostic factors are associated with chronic subdural hematoma. While some authors have found an association with preoperative level of neurological function and outcome, others have not. Early diagnosis before significant neurologic deterioration may correlate with a more favorable prognosis. No correlation has been found between preoperative CT scan findings and postoperative outcome.The mortality within 30 days of surgery is 3.2-6.5%. Eighty percent of patients resume their pre-hematoma level of function. Sixty-one percent of patients aged 60 years or younger and in 76% of patients older than 60 years have favorable outcomes. In a relatively recent series, 89.4% of patients with chronic SDH who were treated with a closed drainage system had a good recovery and 2.2% worsened.Mori et al. found that old age, pre-existing cerebral infarction, and subdural air after surgery correlated with poor brain expansion.Stanisic et al. reported a 14.9% postoperative recurrence rate; various factors were associated with this.The morbidity and mortality rates associated with surgical treatment of chronic subdural hematoma have been estimated at 11% and 5%, respectively. Between 86% and 90% of patients with chronic subdural hematoma are adequately treated after one surgical procedure.HistoryAcute traumatic subdural hematoma often results from falls, violence, or motor vehicle accidents. Suspect acute subdural hematoma whenever the patient has experienced moderately severe to severe blunt head trauma. The clinical presentation depends on the location of the lesion and the rate at which it develops. Often, patients are rendered comatose at the time of the injury. A subset of patients remains conscious; others deteriorate in a delayed fashion as the hematoma expands.Patients found to have an acute subdural hematoma are usually older than other patients with trauma. In one study, the average age of a patient with trauma but without acute subdural hematoma was 26 years, while the average age of patients with an acute subdural hematoma was 41 years. Therefore, older patients appear to be at greater risk for developing an acute subdural hematoma after head injury. This is believed to stem from older patients having more brain atrophy, which allows more shear force against bridging veins immediately after impact.Subacute subdural hematomas are defined arbitrarily as those that present between 4 and 21 days after injury. Chronic subdural hematomas are arbitrarily defined as those hematomas presenting 21 days or more after injury. These numbers are not absolute, and a more accurate classification of a subdural hematoma usually is based on imaging characteristics.Chronic subdural hematomaOne quarter to one half of patients with chronic subdural hematoma have no identifiable history of head trauma. If a patient does have a history of head trauma, it is usually mild.Of patients who have sustained head injury, symptoms develop after 1-4 weeks in 25%. Another 25% experience symptoms from 5 weeks to 3 months before their hospital admission. Only one third of patients have no asymptomatic period.Clinical presentation for chronic subdural hematoma is often insidious, with symptoms that include the following:Decreased level of consciousnessHeadacheDifficulty with gait or balanceCognitive dysfunction or memory lossPersonality changeMotor deficit (e.g., hemiparesis)AphasiaChronic subdural hematoma may have a presentation similar to Parkinson disease. An acute presentation is also possible, as in the case of a patient who presents with a seizure.Headache and confusion appear to be the most common presenting features, occurring in as many as 90% and 56% of cases, respectively. In 75% of cases, the headache had at least one of the following characteristics:Sudden onsetSevere painAccompanying nausea and vomitingExacerbation by coughing, straining, or exerciseOther common symptoms include weakness, seizures, and incontinence.Hemiparesis and decreased level of consciousness are common, occurring in approximately 58% and 40%, respectively. Hemiparesis was ipsilateral to the hematoma in 40% of cases in one series. Gait dysfunction is another common finding.When signs of chronic subdural hematoma in different age groups are compared, somnolence, confusion, and memory loss are significantly more common in elderly patients (aged 60-79 y). Signs of increased intracranial pressure (ICP), such as headache and vomiting, are more likely to be seen in younger patients. Fluctuating signs or symptoms occur in as many as 24% of cases.Risk factorsAny degree or type of coagulopathy should heighten suspicion of subdural hematoma. Hemophiliacs can develop subdural hematoma after seemingly trivial head trauma. An aggressive approach to diagnosis and immediate correction of the factor deficiency to 100% activity is paramount.Alcoholics are prone to thrombocytopenia, prolonged bleeding times, and blunt head trauma. Maintain a high level of suspicion in this population. Promptly obtain a computed tomography (CT) scan of the head when the degree of trauma is severe, focal neurologic signs are noted, or intoxication does not resolve as anticipated. In alcoholics, more than any other cohort, acute or chronic subdural hematomas can be due to the deadly combination of repetitive trauma and alcohol-associated coagulopathies.Patients on anticoagulants can develop subdural hematoma with minimal trauma and warrant a lowered threshold for obtaining a head CT scan.Physical ExaminationPhysical examination of patients with head trauma should emphasize assessment of neurologic status using the Glasgow Coma Scale (GCS). The initial neurologic examination provides an important baseline that should be used to follow the patients clinical course. When recorded in the form of the GCS score, it also provides important prognostic information.Patients with serious head injuries often are intubated quickly and given trauma-oriented care. However, because of its prognostic significance, a brief neurologic examination quantified by using the GCS is an essential component of the secondary assessment and takes less than 2 minutes to complete. The GCS focuses on the patients ability to produce intelligible speech, open the eyes, and follow commands. During the initial evaluation, the patient should be assessed for the ability to open the eyes spontaneously or in response to voice or to pain.The patients speech and mentation should be characterized as oriented, confused, inappropriate, incomprehensible, or none. The patients motor function is determined by the patients ability to follow commands on both the left and right sides. If the patient is unable to follow commands, note his or her ability to localize painful stimuli or to exhibit normal flexion on either side in response to the pain.Decorticate and decerebrate posturing or lack of any motor function should also be recorded. Assess the size and reactivity of both pupils. Signs of external trauma should alert the physician to the expected location of coup or contrecoup injuries on CT scan.A GCS score less than 15 after blunt head trauma in a patient with no intoxicating substance use (or impaired mental status baseline) warrants consideration of an urgent CT scan. Search for any focal neurologic deficits or signs of increased ICP. Any abnormality of mental status that cannot be explained completely by alcohol intoxication or the presence of another mind-altering substance should increase suspicion of subdural hematoma in the patient with blunt head trauma.The presence of a focal neurologic sign following blunt head trauma is ominous and requires an emergent explanation. Patients with possible subdural hematoma should be examined for related injuries (using guidelines established by the American College of Surgeons Committee on Trauma), such as cervical spine fracture, spinal cord injury, or long-bone fractures.The clinical presentation of a patient with an acute subdural hematoma depends on the size of the hematoma and the degree of any associated parenchymal brain injury. Symptoms associated with acute subdural hematoma include the following:HeadacheNauseaConfusionPersonality changeDecreased level of consciousnessSpeech difficultiesOther change in mental statusImpaired vision or double visionWeaknessOf course, such symptoms could also be caused by other conditions.Neurologic findings associated with acute subdural hematoma may include the following:Altered level of consciousnessA dilated or nonreactive pupil ipsilateral to the hematoma (or earlier, a pupil with a more limited range of reaction)Hemiparesis contralateral to the hematomaA host of findings could be associated with these, such as brisk or abnormal reflexes, aphasia (usually with a left-sided hematoma), upper-extremity drift, or impairment of cortical sensory function. Less common findings include papilledema and unilateral or bilateral cranial nerve VI palsy. Some of the above may occur later in the clinical course; for instance, coma with a dilated fixed pupil usually indicates unilateral transtentorial herniation. Lack of a finding (e.g., papilledema) cannot rule out subdural hematoma.Less commonly, the hemiparesis may be ipsilateral to the hematoma, possibly due to direct parenchymal injury or compression of the cerebral peduncle contralateral to the hematoma against the edge of the tentorium cerebelli (the Kernohan notch phenomenon). Therefore, if the findings are conflicting, the most reliable indicator (by examination) of the side of the hematoma is a dilated or nonreactive pupil, which appears on the same side as the hematoma.Patients may have a lucid interval after developing a traumatic subdural hematoma. In addition, initial CT scan findings may be negative (i.e., delayed intracranial hemorrhage).Acute subdural hematomas most often occur over the cerebral hemispheres (convexity). However, they may also be found between the hemispheres along the falx (interhemispheric subdural hematoma), along the tentorium, or in the posterior fossa.Interhemispheric subdural hematomas may be asymptomatic or manifest as headache,impaired consciousness, or hemiparesis or monoparesis (more likely to affect the contralateral leg than arm). Interhemispheric subdurals are usually managed conservatively unless neurologic deterioration is found.Look for signs of a basilar skull fracture. These include bilateral periorbital ecchymoses (raccoon eyes) and retroauricular ecchymoses (Battle sign). Note the presence or absence of cerebrospinal (CSF) rhinorrhea or otorrhea.Areas surrounding lacerations should be shaved and inspected. Patients with severe head injuries should be assumed to have a cervical spine (C-spine) injury; immobilize the patient until clinical and radiographic studies can prove otherwise.Chronic subdural hematomaNeurologic examination for chronic subdural hematoma may demonstrate any of the following:Mental status changesPapilledemaHyperreflexia or reflex asymmetryHemianopsiaHemiparesisThird or sixth cranial nerve dysfunctionSuch findings may also be associated with other entities. In patients aged 60 years or older, hemiparesis and reflex asymmetry are common presenting signs. In patients younger than 60 years, headache is a common presenting symptom.Chronic subdural hematomas have been reported to be bilateral in 8.7-32% of cases.Diagnostic ConsiderationsThe differential diagnosis of an acute traumatic subdural hematoma is the same as that for any traumatic, intracranial mass lesion. This includes intracerebral hematoma and contusion.Because of its variable course and presentation, including the frequent lack of a history of head trauma, as many as 72% of cases of chronic subdural hematoma were misdiagnosed in the precomputed tomography (CT) era. Prior to the availability of CT, common misdiagnoses included the following:DementiaStrokeTransient ischemic attackTumorSubarachnoid hemorrhageMeningitisEncephalitisDifferential DiagnosesChild AbuseElder AbuseEmergent Management of Subarachnoid HemorrhageEpidural Hematoma in Emergency MedicineHemorrhagic Shock in Emergency MedicineIschemic Stroke in Emergency MedicineMeningitisApproach ConsiderationsAn emergent computed tomography (CT) scan of the head needs to be performed when an acute subdural hematoma is suspected. It should be obtained immediately after the patient is stabilized using standard Advanced Trauma Life Support (ATLS) guidelines. CT scanning is also the initial imaging modality of choice for chronic subdural hematoma.The trauma team and neurosurgeon must determine quickly which lesions warrant immediate evacuation, and CT is the imaging modality of choice to facilitate this decision. Modern CT devices can produce appropriate images in about 5 minutes, and the scans are highly sensitive to acute blood. Although magnetic resonance imaging (MRI) is superior for demonstrating the size of an acute subdural hematoma and its effect on the brain, noncontrast head CT is the primary means of making a diagnosis and suffices for immediate management purposes.A worsening of the Glasgow Coma Scale by 2 or more points should prompt repeat imaging in salvageable patients. A cervical spine radiograph series is important in evaluating the possibility of concomitant cervical spine fracture.Initial blood tests include the following:Complete blood countHemoglobin or hematocritCoagulation profileBasic metabolic panelType and screen/crossmatchIn addition, drug and alcohol screenings may be important for correlating the neurologic examination with the imaging studies.Detection of electrolyte abnormalities is important because they can exacerbate brain injury and therefore require correction in a timely manner. For example, hyponatremia (5-12% estimated incidence in patients with head injury) can potentiate brain edema and cause seizures.Coagulation ProfileCoagulation profiles are particularly important for patients taking anticoagulants and for alcoholics, who may have an associated coagulopathy placing them at high risk for subdural hematoma. Their altered mental status may be from the hematoma rather than ethanol.In addition, the prevalence of coagulation abnormalities has long been recognized as unusually high in patients with head injuries. These abnormalities are believed to result from the release of thromboplastic materials by damaged brain tissue.Stein et al. showed that the presence of coagulopathy and the development of delayed brain injury are strongly associated. In a review of 253 patients with head injury who required serial CT scans, the risk of developing a delayed brain insult as seen on CT scan increased from 31% in patients with coagulation study findings within reference range to almost 85% in patients with abnormal findings on prothrombin time (PT), activated partial thromboplastin time (aPTT), or platelet count.Subdural hematomas themselves were associated with disease progression; 26 of 35 patients with subdural hematoma had expansion of their hematoma or a delayed brain injury seen on a follow-up CT scan. Therefore, all patients with head injury should have at least a basic coagulation panel (PT, aPTT, and platelet count). Fresh frozen plasma or platelets should be given as needed. However, awaiting the results of these studies should not delay emergency surgery.Computed TomographyOn non-contrast CT scan, an acute subdural hematoma appears as a hyperdense (white), crescent-shaped mass between the inner table of the skull and the surface of the cerebral hemisphere (see the images below). Subdural hematomas are concave toward the brain and unlimited by suture lines, as opposed to epidural hematomas, which are convex toward the brain and restricted by suture lines. Rarely, a subdural hematoma appears lens shaped (i.e., more like an epidural hematoma). Acute subdural hematomas are usually unilateral.Acute right-sided subdural hematoma associated with significant midline shift (i.e., subfalcine herniation) shown on CT scan.An acute subdural hematoma (SDH) as a complication of a craniotomy. Note the significant mass effect with midline shift.Acute subdural hematomas occur most commonly over the cerebral convexity in the parietal region (see the image below). The second most common site is above the tentorium cerebelli.Acute subdural hematoma. Note the bright (white) image properties of the blood on this non-contrast cranial CT scan. Note also the midline shift. Image courtesy of J. Stephen Huff, MDSubdural hematomas are relatively uncommon in the posterior fossa since the cerebellum undergoes little movement, which is protective of its bridging cortical veins. Subdural hematomas that do occur in that location are usually a result of parenchymal cerebellar injury.A small acute subdural hematoma may be difficult to appreciate because of the appearance of the overlying skull. Use of the bone window setting may aid in discrimination.A subdural hematoma may also be located along the falx cerebri (i.e., interhemispheric), along the tentorium, or in the posterior fossa. Interhemispheric subdural hematoma causes the falx cerebri to appear thickened and irregular and often is associated with child abuse.All or part of an acute subdural hematoma may appear hypodense or isodense to brain if the patients hematocrit is low, if the clot is hyperacute (e.g., < 1 hour old), if the subdural space contains active bleeding, if coagulopathy is present, or if the CSF is creating a dilutional effect.

brain from this condition can be life-threatening. While some may stop on their own and suddenly go away, others need surgical drainage. Sometimes, they are called intracranial hematomas or subdural hemorrhages.In a subdural hematoma, blood collects between the layers of tissue that surround the brain. The outermost layer is called the dura. When bleeding occurs between the dura and the next layer, the arachnoid membrane, it's called a subdural hematoma.This bleeding occurs under the skull and outside the brain, not in the brain itself. As blood pools, however, it puts more pressure on the brain causing symptoms. If pressure inside the skull rises to a very high level, a subdural hematoma can lead to unconsciousness and death.Subdural vs. epidural hematomaLike a subdural hematoma, an epidural hematoma occurs when blood pools in the cranial tissue outside the brain. But in an epidural hematoma, the blood collects outside the dura, the outermost layer of this tissue. It usually requires a more forceful blow to the head to create this type of injury. Epidural hematomas are less common than subdural hematomas and most often occur in young adults.Epidural hematomas also tend to be more sudden than subdural bleeds. If you have an epidural hematoma, you will probably briefly loseconsciousness. Other symptoms include headaches, drowsiness, vomiting and seizures. One of your pupils may alsodilate, or become larger, a symptom known as a blown pupil. It is very important to get treatment for an epidural hematoma as quickly as possible, as the condition can become life-threatening or even fatal as it progresses. A subdural hematoma is a collection of blood outside the brain. (Photo credit: Image Source/Getty Images) Symptoms of a subdural hematoma mostly depend on the rate of bleeding.In head injuries with sudden, serious bleeding that causes a subdural hematoma, a person may pass out right away or even go into a coma.But other times, a person may appear normal for days after a head injury, only to slowly become confused and then pass out several days later. This results from a slower rate of bleeding, causing a slowly enlarging subdural hematoma. In very slow-growing subdural hematomas, there may be no noticeable symptoms for more than 2 weeks after the bleeding starts.The general symptoms of a subdural hematoma include:HeadacheConfusionChange in behaviorDizzinessNausea and vomitingLethargy or excessive drowsinessWeaknessApathySeizuresUnequal pupil sizeLoss of movement on the opposite side of your body as the head injuryEnlarged head in babiesMemory lossSlurred speechVision changesWorseningsymptoms of subdural hematomas can include:ParalysisSeizuresBreathing problemsLoss of consciousnessComa The symptoms and their severity will vary depending on your age, underlying medical conditions, how large the bleed is, and what type of subdural hematoma you have.Acute subdural hematomaAcute subdural hematomas are most often associated with head trauma. After a blow to the skull, veins below the dura matter might rupture, causing pressure on the brain. Symptoms such as confusion, dizziness, nausea, or loss of consciousness appear within hours or even minutes of the injury. People with acute subdural hematomas need medical attention as quickly as possible.Subacute subdural hematomaIn people with subacute subdural hematomas, bleeding under the dura matter is more gradual. These bleeds are usually caused by a head injury, but the symptoms, such as vomiting and intense headaches, emerge over days or even weeks, rather than in the immediate aftermath. The condition is still dangerous and may require treatment, but it is not as deadly as an acute subdural hematoma.Chronic subdural hematomaChronic subdural hematomas are most likely to occur in older adults who experience natural brain atrophy. As you age, your brain shrinks slightly, which can cause the blood vessels under the dura membrane to weaken. These delicate vessels might begin to leak slowly on their own, after a minor blow to the head, or as a side effect of taking certain medications.Symptoms of chronic subdural hematomas usually develop slowly. They can be subtle and easily mistaken for other conditions, such as brain tumor, stroke, or dementia in older people. The symptoms include confusion, difficulty swallowing, trouble walking, drowsiness, and numbness in your arms, legs, or face. In some cases, you may not experience any symptoms at all. If you think you might have a chronic subdural hematoma, you should have your doctor check for one, as the condition will not go away on its own and can be life-threatening if left untreated.Lucid intervalSome people who have a subdural hematoma may undergo a period of apparently normal functioning between the initial head injury and the onset of symptoms. During this time, blood continues to pool in the cranial tissue. This is known as the lucid interval, and it was once believed to only occur in cases of epidural hematoma. But now it's recognized as part of many people's subdural hematoma experience. Unlike the lucid interval in epidural hematomas, which typically lasts 4 hours or less, there is no upper limit to how long it can last in subdural hematoma cases.Subdural hematomas are usually caused by a head injury from a fall, motor vehicle collision, or an assault. The sudden blow to the head tears blood vessels that run along the surface of the brain. This is referred to as an acute subdural hematoma. People who play contact sports, such as (American) football, boxing, or mixed martial arts (MMA) are especially at risk for this condition. Newborn infants are also at risk, as their skulls are still soft and pliable. They may experience subdural hematoma as a result of a traumatic birth or in cases of shaken baby syndrome.People with a bleeding disorder or those who take blood thinners are also more likely to develop a subdural hematoma. A relatively minor head injury can cause the condition in people with a bleeding tendency. Finally, people with alcohol use disorder have a higher risk of developing a subdural hematoma, as alcohol can cause the brain to shrink, weakening the blood vessels in the tissues surrounding it.In a chronic subdural hematoma, small veins on the outer surface of the brain may tear, causing bleeding in the subdural space. Symptoms may not show up for several days or weeks.Elderly people are at a higher risk for chronic subdural hematoma because natural age-related brain shrinkage causes these tiny veins to stretch and become more vulnerable to tearing.People who getmedical attention after a head injury often undergo head imaging, usually with computed tomography (CT scan) or magnetic resonance imaging (MRI scan). These tests create images of the interior of the skull, usually detecting any subdural hematoma present. MRI is slightly better than CT at detecting subdural hematoma, but CT is faster and more readily available.Rarely, angiography may be used to diagnose subdural hematoma. During angiography (angiogram), a catheter is inserted through an artery in the groin and threaded into the arteries of the neck and brain. A special dye is then injected, and an X-ray screen shows blood flow through the arteries and veins.Treatment of subdural hematomas depends on their severity. Treatment can range from watchful waiting to brain surgery.In small subdural hematomas with mild symptoms, doctors may recommend no specific treatment other than observation. They often perform repeated head imaging tests to monitor whether the subdural hematoma is improving.People with severe subdural hematomas are often seriously ill, requiring machine-supported breathing and other forms of life support. More dangerous subdural hematomas require surgery to reduce the pressure on the brain. Surgeons can use various techniques to treat subdural hematomas:Burr hole trephination. A hole is drilled in the skull over the area of the subdural hematoma, and the blood is suctioned out through the hole.Craniotomy. A larger section of the skull is removed to allow better access to the subdural hematoma and reduce pressure. The removed skull is replaced shortly after the procedure.Craniectomy. A section of the skull is removed for an extended period to allow the injured brain to expand and swell without permanent damage. Craniectomy is not often used to treat subdural hematoma. Although they are often lifesaving, these decompression surgeries still carry risks. Some potential complications include blood clots, water on the brain (hydrocephalus), and an increased risk of cranial bleeding or infection, such as meningitis. If a person has a bleeding problem or is taking blood thinners, doctors may take measures to improve blood clotting. This can include prescribing medicines or administering blood products, and the reversal of any blood thinners, when possible. They may also prescribe other medications to help reduce swelling or pressure in the brain or control seizures.Can you survive a subdural hematoma without surgery?The short answer is, yes. If you have a very small subdural hematoma, even an acute one, your doctor may recommend letting it heal on its own with careful observation. That's because any type of brain procedure carries risks, and in some cases, the risk ofoperating may be greater than allowing your body to mend itself. But you should always let an expert make this call.Some subdural hematomas can bring on serious complications, including coma or even death. This can happen if the hematoma is not treated, or even sometimes after treatment. Possible complications include:Brain herniation. Pressure in your brain can move tissue away from where its supposed to be. This can lead to death.More bleeding events. If youre older, youre at a high risk of another hemorrhage as you recover from the first one, especially if you have a head injury.Seizures. You may have seizures, even if youve treated your hematoma.Your health outlook after a subdural hematoma depends on how old you are, how severe your head injury was, and how quickly you got treatment. The younger you are, the higher your chance of survival.The survival rate for subdural hematomas varies widely, depending on the type. Acute subdural hematomas tend to be the most dangerous, with average mortality rates somewhere around 66%. One study on life expectancy after subdural hematoma found that after a year, the mortality rate for chronic subdural hematoma was up to 32%. This could be due to other factors, such as age.Your prognosis is best if your subdural hematoma is chronic, you deal with few symptoms, and you didnt lose consciousness after your initial head injury.Most of your recovery occurs within 3-6 months of injury. While some additional recovery is possible after that, you may never completely recover from a subdural hematoma, especially a severe acute one. Many people continue to experience neurologic symptoms and have a higher risk of seizures. However, going to occupational and physical therapy and joining a local support group can help you maintain a high quality of life.Older adults are at the highest risk of another brain bleed after a subdural hematoma. Older brains dont expand and fill the space left after a hematoma. With more space between the brain and skull, your chance of bleeding goes up, even with a minor injury to the head.The best way to prevent a subdural hematoma is to prevent head injuries. This can mean taking some of the following steps:Wearing a helmet when riding a bike or motorcycleWearing appropriate head protection when participating in contact sports, such as football or boxingKeeping your seatbelt buckled when riding in a carAvoiding and removing tripping hazards in your homeResting after a potential concussionDrinking responsiblyTalking to your health care provider about whether yourprescriptions put you at higher risk of getting a subdural hematomaSubdural hematomas are potentially life-threatening and should be taken very seriously. If you experience a head injury, especially one that causes you to loseconsciousness, seek medical evaluation right away. Continue to watch for symptoms for days or weeks after a blow to the head whether your doctor finds an initial bleed or not.What is the survival rate of a subdural hematoma?The survival rate for people who experience a subdural hematoma can vary depending on what type of bleed they have. If you have an acute subdural hematoma, your chances of survival are 10%-50%, depending on how soon you get treatment. You have a higher chance of surviving a chronic subdural hematoma, but this type of bleed comes with a higher chance of recurring. What is the most common cause of a subdural hematoma?Most subdural hematomas are caused by head injuries. The easiest ways to prevent them are to avoid high-impact sports and take appropriate safety measures when driving or riding a bike.A subdural hematoma is a collection of blood outside the brain. It is usually caused by serious head injuries. The bleeding and added pressure on the brain from this condition can be life-threatening. While some may stop on their own and suddenly go away, others need surgical drainage. Sometimes, they are called intracranial hematomas or subdural hemorrhages.In a subdural hematoma, blood collects between the layers of tissue that surround the brain. The outermost layer is called the dura. When bleeding occurs between the dura and the next layer, the arachnoid membrane, it's called a subdural hematoma.This bleeding occurs under the skull and outside the brain, not in the brain itself. As blood pools, however, it puts more pressure on the brain causing symptoms. If pressure inside the skull rises to a very high level, a subdural hematoma can lead to unconsciousness and death.Subdural vs. epidural hematomaLike a subdural hematoma, an epidural hematoma occurs when blood pools in the cranial tissue outside the brain. But in an epidural hematoma, the blood collects outside the dura, the outermost layer of this tissue. It usually requires a more forceful blow to the head to create this type of injury. Epidural hematomas are less common than subdural hematomas and most often occur in young adults.Epidural hematomas also tend to be more sudden than subdural bleeds. If you have an epidural hematoma, you will probably briefly loseconsciousness. 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In very slow-growing subdural hematomas, there may be no noticeable symptoms for more than 2 weeks after the bleeding starts.The general symptoms of a subdural hematoma include:HeadacheConfusionChange in behaviorDizzinessNausea and vomitingLethargy or excessive drowsinessWeaknessApathySeizuresUnequal pupil sizeLoss of movement on the opposite side of your body as the head injuryEnlarged head in babiesMemory lossSlurred speechVision changesWorseningsymptoms of subdural hematomas can include:ParalysisSeizuresBreathing problemsLoss of consciousnessComa The symptoms and their severity will vary depending on your age, underlying medical conditions, how large the bleed is, and what type of subdural hematoma you have.Acute subdural hematomaAcute subdural hematomas are most often associated with head trauma. After a blow to the skull, veins below the dura matter might rupture, causing pressure on the brain. Symptoms such as confusion, dizziness, nausea, or loss of consciousness appear within hours or even minutes of the injury. People with acute subdural hematomas need medical attention as quickly as possible.Subacute subdural hematomaIn people with subacute subdural hematomas, bleeding under the dura matter is more gradual. These bleeds are usually caused by a head injury, but the symptoms, such as vomiting and intense headaches, emerge over days or even weeks, rather than in the immediate aftermath. The condition is still dangerous and may require treatment, but it is not as deadly as an acute subdural hematoma.Chronic subdural hematomaChronic subdural hematomas are most likely to occur in older adults who experience natural brain atrophy. As you age, your brain shrinks slightly, which can cause the blood vessels under the dura membrane to weaken. These delicate vessels might begin to leak slowly on their own, after a minor blow to the head, or as a side effect of taking certain medications.Symptoms of chronic subdural hematomas usually develop slowly. They can be subtle and easily mistaken for other conditions, such as brain tumor, stroke, or dementia in older people. The symptoms include confusion, difficulty swallowing, trouble walking, drowsiness, and numbness in your arms, legs, or face. In some cases, you may not experience any symptoms at all. If you think you might have a chronic subdural hematoma, you should have your doctor check for one, as the condition will not go away on its own and can be life-threatening if left untreated.Lucid intervalSome people who have a subdural hematoma may undergo a period of apparently normal functioning between the initial head injury and the onset of symptoms. During this time, blood continues to pool in the cranial tissue. This is known as the lucid interval, and it was once believed to only occur in cases of epidural hematoma. But now it's recognized as part of many people's subdural hematoma experience. Unlike the lucid interval in epidural hematomas, which typically lasts 4 hours or less, there is no upper limit to how long it can last in subdural hematoma cases.Subdural hematomas are usually caused by a head injury from a fall, motor vehicle collision, or an assault. The sudden blow to the head tears blood vessels that run along the surface of the brain. This is referred to as an acute subdural hematoma. People who play contact sports, such as (American) football, boxing, or mixed martial arts (MMA) are especially at risk for this condition. Newborn infants are also at risk, as their skulls are still soft and pliable. They may experience subdural hematoma as a result of a traumatic birth or in cases of shaken baby syndrome.People with a bleeding disorder or those who take blood thinners are also more likely to develop a subdural hematoma. A relatively minor head injury can cause the condition in people with a bleeding tendency. Finally, people with alcohol use disorder have a higher risk of developing a subdural hematoma, as alcohol can cause the brain to shrink, weakening the blood vessels in the tissues surrounding it.In a chronic subdural hematoma, small veins on the outer surface of the brain may tear, causing bleeding in the subdural space. Symptoms may not show up for several days or weeks.Elderly people are at a higher risk for chronic subdural hematoma because natural age-related brain shrinkage causes these tiny veins to stretch and become more vulnerable to tearing.People who getmedical attention after a head injury often undergo head imaging, usually with computed tomography (CT scan) or magnetic resonance imaging (MRI scan). These tests create images of the interior of the skull, usually detecting any subdural hematoma present. MRI is slightly better than CT at detecting subdural hematoma, but CT is faster and more readily available.Rarely, angiography may be used to diagnose subdural hematoma. During angiography (angiogram), a catheter is inserted through an artery in the groin and threaded into the arteries of the neck and brain. A special dye is then injected, and an X-ray screen shows blood flow through the arteries and veins.Treatment of subdural hematomas depends on their severity. Treatment can range from watchful waiting to brain surgery.In small subdural hematomas with mild symptoms, doctors may recommend no specific treatment other than observation. They often perform repeated head imaging tests to monitor whether the subdural hematoma is improving.People with severe subdural hematomas are often seriously ill, requiring machine-supported breathing and other forms of life support. More dangerous subdural hematomas require surgery to reduce the pressure on the brain. Surgeons can use various techniques to treat subdural hematomas:Burr hole trephination. A hole is drilled in the skull over the area of the subdural hematoma, and the blood is suctioned out through the hole.Craniotomy. A larger section of the skull is removed to allow better access to the subdural hematoma and reduce pressure. The removed skull is replaced shortly after the procedure.Craniectomy. A section of the skull is removed for an extended period to allow the injured brain to expand and swell without permanent damage. Craniectomy is not often used to treat subdural hematoma. Although they are often lifesaving, these decompression surgeries still carry risks. Some potential complications include blood clots, water on the brain (hydrocephalus), and an increased risk of cranial bleeding or infection, such as meningitis. If a person has a bleeding problem or is taking blood thinners, doctors may take measures to improve blood clotting. This can include prescribing medicines or administering blood products, and the reversal of any blood thinners, when possible. They may also prescribe other medications to help reduce swelling or pressure in the brain or control seizures.Can you survive a subdural hematoma without surgery?The short answer is, yes. If you have a very small subdural hematoma, even an acute one, your doctor may recommend letting it heal on its own with careful observation. That's because any type of brain procedure carries risks, and in some cases, the risk ofoperating may be greater than allowing your body to mend itself. But you should always let an expert make this call.Some subdural hematomas can bring on serious complications, including coma or even death. This can happen if the hematoma is not treated, or even sometimes after treatment. Possible complications include:Brain herniation. Pressure in your brain can move tissue away from where its supposed to be. This can lead to death.More bleeding events. If youre older, youre at a high risk of another hemorrhage as you recover from the first one, especially if you have a head injury.Seizures. You may have seizures, even if youve treated your hematoma.Your health outlook after a subdural hematoma depends on how old you are, how severe your head injury was, and how quickly you got treatment. The younger you are, the higher your chance of survival.The survival rate for subdural hematomas varies widely, depending on the type. Acute subdural hematomas tend to be the most dangerous, with average mortality rates somewhere around 66%. One study on life expectancy after subdural hematoma found that after a year, the mortality rate for chronic subdural hematoma was up to 32%. This could be due to other factors, such as age.Your prognosis is best if your subdural hematoma is chronic, you deal with few symptoms, and you didnt lose consciousness after your initial head injury.Most of your recovery occurs within 3-6 months of injury. While some additional recovery is possible after that, you may never completely recover from a subdural hematoma, especially a severe acute one. Many people continue to experience neurologic symptoms and have a higher risk of seizures. However, going to occupational and physical therapy and joining a local support group can help you maintain a high quality of life.Older adults are at the highest risk of another brain bleed after a subdural hematoma. Older brains dont expand and fill the space left after a hematoma. With more space between the brain and skull, your chance of bleeding goes up, even with a minor injury to the head.The best way to prevent a subdural hematoma is to prevent head injuries. This can mean taking some of the following steps:Wearing a helmet when riding a bike or motorcycleWearing appropriate head protection when participating in contact sports, such as football or boxingKeeping your seatbelt buckled when riding in a carAvoiding and removing tripping hazards in your homeResting after a potential concussionDrinking responsiblyTalking to your health care provider about whether yourprescriptions put you at higher risk of getting a subdural hematomaSubdural hematomas are potentially life-threatening and should be taken very seriously. If you experience a head injury, especially one that causes you to loseconsciousness, seek medical evaluation right away. Continue to watch for symptoms for days or weeks after a blow to the head whether your doctor finds an initial bleed or not.What is the survival rate of a subdural hematoma?The survival rate for people who experience a subdural hematoma can vary depending on what type of bleed they have. If you have an acute subdural hematoma, your chances of survival are 10%-50%, depending on how soon you get treatment. You have a higher chance of surviving a chronic subdural hematoma, but this type of bleed comes with a higher chance of recurring. What is the most common cause of a subdural hematoma?Most subdural hematomas are caused by head injuries. The easiest ways to prevent them are to avoid high-impact sports and take appropriate safety measures when driving or riding a bike.Spinal infection may be defined as an infectious condition that affects the vertebralSystemic thrombolysis, specifically using recombinant tissue plasminogen activator (rtPA),Stroke is a devastating complication of both coronary artery bypass grafting (CABG) surgeryJurors handed down a $75 million verdict against two Georgia physicians, after findingA jury found in favor of a man who was permanently paralyzed following spinal cord surgery. OnNeurological disorders can be some of the most difficult conditions to diagnose. SymptomsHematoma usually associated with traumatic brain injuryMedical conditionSubdural hematomaOther namesSubdural haematoma, subdural haemorrhageSubdural hematoma as marked by the arrow with significant midline shiftSpecialtyNeurosurgery, NeurologyCausesHead injury, alcohol use disorder, reduction in cerebrospinal fluid pressure[1][2]Risk factorsSenescence, long-term excessive alcohol consumption, dementia, and cerebrospinal fluid leak[3][4]A subdural hematoma (SDH) is a type of bleeding in which a collection of bloodusually but not always associated with a traumatic brain injurygathers between the inner layer of the dura mater and the arachnoid mater of the meninges surrounding the brain. It usually results from rips in bridging veins that cross the subdural space.Subdural hematomas may cause an increase in the pressure inside the skull, which in turn can cause compression of and damage to delicate brain tissue. Acute subdural hematomas are often life-threatening. Chronic subdural hematomas have a better prognosis if properly managed.In contrast, epidural hematomas are usually caused by rips in arteries, resulting in a build-up of blood between the dura mater and the skull. The third type of brain hemorrhage, known as a subarachnoid hemorrhage (SAH), causes bleeding into the subarachnoid space between the arachnoid mater and the pia mater. SAHs are often seen in trauma settings or after rupture of intracranial aneurysms.[citation needed]The symptoms of a subdural hematoma have a slower onset than those of epidural hematomas because the lower-pressure veins involved bleed more slowly than arteries. Signs and symptoms of acute hematomas may appear in minutes, if not immediately,[5] but can also be delayed as much as two weeks.[6] Symptoms of chronic subdural hematomas are usually delayed more than three weeks after injury.[1]If the bleeds are large enough to put pressure on the brain, signs of increased intracranial pressure or brain damage will be present.[3] Other symptoms of subdural hematoma can include any combination of the following:[7]Loss of consciousness or fluctuating levels of consciousnessIrritabilitySeizuresPainNumbnessHeadache (either constant or fluctuating)DizzinessDisorientationAmnesiaWeakness or lethargyNausea or vomitingLoss of appetitePersonality changesInability to speak or slurred speechAtaxia, or difficulty walkingLoss of muscle controlAltered breathing patternsHearing loss or ringing in the ears (tinnitus)Blurred visionDeviated gaze, or abnormal movement of the eyes.[3]Subdural hematomas are most often caused by head injury, in which rapidly changing velocities within the skull may stretch and tear small bridging veins. Much more common than epidural hemorrhages, subdural hemorrhages generally result from shearing injuries due to various rotational or linear forces.[3][2] There are claims that they can occur in cases of shaken baby syndrome, although there is no scientific evidence for this.[8]They are also commonly seen in the elderly and in people with an alcohol use disorder who have evidence of cerebral atrophy.[1] Cerebral atrophy increases the length the bridging veins have to traverse between the two meningeal layers, thus increasing the likelihood of shearing forces causing a tear.[9] It is also more common in patients on anticoagulants or antiplatelet medications, such as warfarin and aspirin, respectively.[1] People on these medications can have a subdural hematoma after a relatively minor traumatic event. Another cause can be a reduction in cerebrospinal fluid pressure, which can reduce pressure in the subarachnoid space, pulling the arachnoid away from the dura mater and leading to a rupture of the blood vessels.[10]Factors increasing the risk of a subdural hematoma include being very young or very old age. As the brain shrinks with age, the subdural space enlarges and the veins that traverse the space must cover a wider distance, making them more vulnerable to tears. The elderly also have more brittle veins, making chronic subdural bleeds more common.[11] Infants, too, have larger subdural spaces and are more predisposed to subdural bleeds than are young adults.[3] It is often claimed that subdural hematoma is a common finding in shaken baby syndrome, although there is no science to support this.[8] In juveniles, an arachnoid cyst is a risk factor for subdural hematoma.[12]Other risk factors include taking blood thinners (anticoagulants), long-term excessive alcohol consumption, dementia, and cerebrospinal fluid leaks.[4]Acute subdural hematoma is usually caused by external trauma that creates tension in the wall of a bridging vein as it passes between the arachnoid and dural layers of the brain's liningi.e., the subdural space. The circumferential arrangement of collagen surrounding the vein makes it susceptible to such tearing.[citation needed]Intracerebral hemorrhage and ruptured cortical vessels (blood vessels on the surface of the brain) can also cause subdural hematoma. In these cases, blood usually accumulates between the two layers of the dura mater. This can cause ischemic brain damage by two mechanisms: one, pressure on the cortical blood vessels,[13] and two, vasoconstriction due to the substances released from the hematoma, which causes further ischemia by restricting blood flow to the brain.[14] When the brain is denied adequate blood flow, a biochemical cascade known as the ischemic cascade is unleashed, and may ultimately lead to brain cell death.[15]Subdural hematomas grow continually larger as a result of the pressure they place on the brain: As intracranial pressure rises, blood is squeezed into the dural venous sinuses, raising the dural venous pressure and resulting in more bleeding from the ruptured bridging veins. They stop growing only when the pressure of the hematoma equalizes with the intracranial pressure, as the space for expansion shrinks.[13]Micrograph of a chronic subdural hematoma, as demonstrated by thin strands of collagen and neovascularization. HPS stainIn chronic subdural hematomas, blood accumulates in the dural space as a result of damage to the dural border cells.[16] The resulting inflammation leads to new membrane formation through fibrosis and produces fragile and leaky blood vessels through angiogenesis, permitting the leakage of red blood cells, white blood cells, and plasma into the hematoma cavity. Traumatic tearing of the arachnoid mater also causes leakage of cerebrospinal fluid into the hematoma cavity, increasing the size of the hematoma over time. Excessive fibrinolysis also causes continuous bleeding.[citation needed]Pro-inflammatory mediators active in the hematoma expansion process include Interleukin 1 (IL1A), Interleukin 6, and Interleukin 8, while the anti-inflammatory mediator is Interleukin 10. Mediators that promote angiogenesis are angiopoietin and vascular endothelial growth factor (VEGF). Prostaglandin E2 promotes the expression of VEGF. Matrix metalloproteinases remove surrounding collagen, providing space for new blood vessels to grow.[16]Craniotomy for unruptured intracranial aneurysm is another risk factor for the development of chronic subdural hematoma. The incision in the arachnoid membrane during the operation causes cerebrospinal fluid to leak into the subdural space, leading to inflammation. This complication usually resolves on its own.[17]A subdural hematoma demonstrated by CTChronic subdural after treatment with burr holesA person must receive medical assessment, including a complete neurological examination, after any head trauma. A CT scan or MRI scan will usually detect significant subdural hematomas.[citation needed]Subdural hematomas occur most often around the tops and sides of the frontal and parietal lobes.[3][2] They also occur in the posterior cranial fossa, and near the falx cerebri and tentorium cerebelli.[3] Unlike epidural hematomas, which cannot expand past the sutures of the skull, subdural hematomas can expand along the inside of the skull, creating a concave shape that follows the curve of the brain, stopping only at dural reflections like the tentorium cerebelli and falx cerebri.[citation needed]On a CT scan, subdural hematomas are classically crescent-shaped, with a concave surface away from the skull. However, they can have a convex appearance, especially in the early stages of bleeding. This may cause difficulty in distinguishing between subdural and epidural hemorrhages. A more reliable indicator of subdural hemorrhage is its involvement of a larger portion of the cerebral hemisphere. Subdural blood can also be seen as a layering density along the tentorium cerebelli. This can be a chronic, stable process, since the feeding system is low-pressure. In such cases, subtle signs of bleedingsuch as effacement of sulci or medial displacement of the junction between gray matter and white mattermay be apparent.[citation needed]AgeAttenuation (HU)First hours+75 to +100[18]After 3 days+65 to +85[18]After 1014 days+35 to +40[19]Fresh subdural bleeding is hyperdense, but becomes more hypodense over time due to dissolution of cellular elements. After 314 days, the bleeding becomes isodense with brain tissue and may therefore be missed.[20] Subsequently, it will become more hypodense than brain tissue.[21]Subdural hematomas are classified as acute, subacute, or chronic, depending on the speed of their onset.[22]Acute bleeds often develop after high-speed acceleration or deceleration injuries. They are most severe if associated with cerebral contusions.[3] Though much faster than chronic subdural bleeds, acute subdural bleeding is usually venous and therefore slower than the arterial bleeding of an epidural hemorrhage. Acute subdural hematomas due to trauma are the most lethal of all head injuries and have a high mortality rate if they are not rapidly treated with surgical decompression.[23] The mortality rate is higher than that of epidural hematomas and diffuse brain injuries because the force required to cause subdural hematomas tends to cause other severe injuries as well.[24]Chronic subdural bleeds develop over days to weeks, often after minor head trauma, though a cause is not identifiable in 50% of patients.[11] They may not be discovered until they present clinically months or years after a head injury.[25] The bleeding from a chronic hematoma is slow and usually stops by itself.[2][26] Because these hematomas progress slowly, they can more often be stopped before they cause significant damage, especially if they are less than a centimeter wide. In one study, only 22% of patients with chronic subdural bleeds had outcomes worse than "good" or "complete recovery".[3] Chronic subdural hematomas are common in the elderly.[25]Comparison of epidural and subdural hematomas vteCompared qualityEpiduralSubduralLocationBetween the skull and the inner meningeal layer of the dura mater or between outer endosteal and inner meningeal layer of dura materBetween the meningeal layers of dura mater and the Arachnoid materInvolved vesselTemporoparietal locus (most likely) Middle meningeal arteryFrontal locus anterior ethmoidal arteryOccipital locus transverse or sigmoid sinusesVertex locus superior sagittal sinusBridging veinsSymptoms (depending on the severity)[27]Lucid interval followed by unconsciousnessGradually increasing headache and confusionCT scan appearanceBiconvex lensCrescent-shapedTreatment of a subdural hematoma depends on its size and rate of growth. Some small subdural hematomas can be managed by careful monitoring as the blood clot is eventually resorbed naturally. Others can be treated by inserting a small catheter through a hole drilled through the skull and sucking out the hematoma.[citation needed]Large or symptomatic hematomas require a craniotomy. A surgeon opens the skull and then the dura mater; removes the clot with suction or irrigation; and identifies and controls sites of bleeding.[28][29] The injured vessels must be repaired. Postoperative complications can include increased intracranial pressure, brain edema, new or recurrent bleeding, infection, and seizures. In patients with a chronic subdural hematoma but no history of seizures, it is unclear whether anticonvulsants are harmful or beneficial.[30]Those with chronic subudural haematoma (CSDH) with few or no symptoms or have high risk of complication during surgery may be treated conservatively with medications such as atorvastatin, dexamethasone,[31] and mannitol, although supporting conservative treatment is still weak.[32] HMG-CoA reductase inhibitor such as Atorvastatin can reduce the haematoma volume and improving neurological function in eight weeks.[33] HMG-CoA reductase inhibitor may also reduce risk of recurrences in CSDH.[34] Dexamethasone, when used together with surgical drainage, may reduce the recurrence rate of subdural haematoma.[35] Even with surgical evacuation of chronic subdural haematoma, the recurrence rate is high, ranging from 7 to 20%.[32]Acute subdural hematomas have one of the highest mortality rates of all head injuries, with 50 to 90 percent of cases resulting in death, depending on the underlying brain injury. About 20 to 30 percent of patients recover brain function.[36] Higher Glasgow Coma Scale score, younger age and responsive pupils are associated with better outcomes in acute subdural hematomas, while the time between the injury and the surgical evacuation, or the type of surgery, do not have a statistically significant impact on the outcomes.[37] Additionally, chronic subdural hematomas (CSDHs) have a relatively high mortality rate (up to 16.7% in patients over the age of 65); however, they have an even higher rate of recurrence (as mentioned in the previous section).[38] For the aforementioned reasons, researchers have developed predictive grading scales to identify patients at high risk of CSDH recurrence, one of which is the Puerto Rico Recurrence Scale developed by Mignucci-Jimnez et al.[38]ConcussionDiffuse axonal injuryExtra-axial hemorrhageIntra-axial hemorrhage^ a b c d Ko BS, Lee JK, Seo BR, Moon SJ, Kim JH, Kim SH (January 2008). 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between the brain and skull, your chance of bleeding goes up, even with a minor injury to the head.The best way to prevent a subdural hematoma is to prevent head injuries. This can mean taking some of the following steps:Wearing a helmet when riding a bike or motorcycleWearing appropriate head protection when participating in contact sports, such as football or boxingKeeping your seatbelt buckled when riding in a carAvoiding and removing tripping hazards in your homeResting after a potential concussionDrinking responsiblyTalking to your health care provider about whether yourprescriptions put you at higher risk of getting a subdural hematomaSubdural hematomas are potentially life-threatening and should be taken very seriously. If you experience a head injury, especially one that causes you to loseconsciousness, seek medical evaluation right away. Continue to watch for symptoms for days or weeks after a blow to the head whether your doctor finds an initial bleed or not.What is the survival rate of a subdural hematoma?The survival rate for people who experience a subdural hematoma can vary depending on what type of bleed they have. If you have an acute subdural hematoma, your chances of survival are 10%-50%, depending on how soon you get treatment. You have a higher chance of surviving a chronic subdural hematoma, but this type of bleed comes with a higher chance of recurring. What is the most common cause of a subdural hematoma?Most subdural hematomas are caused by head injuries. The easiest ways to prevent them are to avoid high-impact sports and take appropriate safety measures when driving or riding a bike. Subdural hematoma, a serious medical condition, occurs when blood collects between the layers of tissue that surround the brain. This condition can be caused by a traumatic head injury or as a result of certain medical conditions. Understanding what subdural hematoma is and its potential consequences is crucial for both medical professionals and individuals seeking to educate themselves on this topic. A subdural hematoma occurs when blood vessels rupture, leading to bleeding within the skull. The pooling of blood puts pressure on the brain, potentially causing neurological symptoms and impairing its normal functioning. Common causes include falls, motor vehicle accidents, assaults, and sports-related injuries. Recognizing the signs and symptoms of subdural hematoma is essential for early detection and prompt treatment. Symptoms may vary depending on the severity of the condition but can include headaches, confusion, dizziness, nausea or vomiting, seizures, weakness or numbness in limbs, slurred speech, and changes in behavior or personality. Prompt medical attention is crucial when dealing with subdural hematomas as delays in diagnosis and treatment can lead to severe complications such as permanent brain damage or even death. Treatment options may include surgery to remove the accumulated blood and relieve pressure on the brain. If you suspect you or someone else is experiencing Subdural hematoma, it is crucial to seek immediate medical attention by calling emergency services or consult with a Neurologist. Understanding the causes of subdural hematoma is crucial in recognizing and preventing this potentially life-threatening condition. Subdural hematoma occurs when blood collects between the brain and its outermost protective layer, the dura mater. There are several common causes of subdural hematoma, with head trauma being one of the primary culprits. This can occur due to falls, car accidents, sports injuries, or any other forceful impact to the head. The sudden and violent movement of the brain within the skull can tear blood vessels, leading to bleeding and subsequent hematoma formation. Another cause of subdural hematoma is age-related atrophy or shrinkage of brain tissue. As individuals age, their brains naturally shrink and become more susceptible to injury. Even a minor bump or fall may be enough to cause bleeding in these cases. Certain medical conditions that affect blood clotting ability can also increase the risk of developing a subdural hematoma. These conditions include hemophilia, liver disease, or taking medications that thin the blood. In some instances, no apparent trauma or underlying medical condition is present. This type of subdural hematoma is known as spontaneous or chronic subdural hematoma and often occurs in older adults due to minor head injuries that go unnoticed initially. Several risk factors contribute to the development of subdural hematoma. One significant factor is advanced age, as older adults tend to have weaker blood vessels that are more prone to rupture. Additionally, individuals who have a history of head trauma or previous episodes of subdural hematomas are at a higher risk. Certain medical conditions can also increase the likelihood of developing a subdural hematoma. These include coagulation disorders, such as hemophilia or thrombocytopenia, which affect blood clotting mechanisms and make bleeding more likely. Chronic alcohol abuse and substance misuse are additional risk factors that can weaken blood vessels and increase the chances of bleeding into the brain. It is important to note that not everyone with these risk factors will develop a subdural hematoma, but being aware of them allows healthcare professionals to monitor high-risk individuals closely and intervene promptly if necessary. By understanding these risk factors, we can work towards preventing and managing this condition effectively for better patient outcomes. A subdural hematoma can be a serious medical condition with potentially life-threatening consequences. Understanding the symptoms associated with this condition is crucial for early detection and prompt treatment. One of the primary symptoms of a subdural hematoma is a headache. This headache may be severe and persistent, often worsening over time. Other common symptoms include dizziness, confusion, and changes in behavior or personality. In some cases, individuals may experience seizures or loss of consciousness. It's important to note that the severity and presentation of symptoms can vary depending on the size and location of the hematoma. Therefore, it is essential to seek immediate medical attention if you or someone you know experiences any concerning symptoms. Early diagnosis and intervention are key in managing subdural hematomas effectively. By recognizing the warning signs associated with this condition, individuals can seek appropriate medical care to prevent further complications and ensure optimal recovery. Need an Appointment? Accurate and timely diagnosis is crucial when it comes to subdural hematoma, a potentially life-threatening condition. By understanding the various diagnostic methods available, medical professionals can ensure prompt intervention and improve patient outcomes. One common diagnostic tool for subdural hematoma is neuroimaging, which includes techniques such as computed tomography (CT) scans and magnetic resonance imaging (MRI). These imaging modalities allow doctors to visualize the brain and identify any abnormal collections of blood that may be indicative of a subdural hematoma. In addition to neuroimaging, clinical evaluation plays a vital role in diagnosing this condition. Physicians will assess the patient's medical history, symptoms, and conduct a thorough physical examination. They will look for signs such as altered consciousness, neurological deficits, or evidence of head trauma that may suggest the presence of a subdural hematoma. Furthermore, laboratory tests may be conducted to rule out other potential causes or complications. Blood tests can help evaluate clotting factors and assess overall blood cell counts. This information aids in determining the severity of the subdural hematoma and guides treatment decisions. It is important to note that early diagnosis is essential in managing subdural hematomas effectively. Prompt recognition allows for timely interventions such as surgical evacuation or non-surgical management strategies like close monitoring or medication administration. When it comes to the treatment of subdural hematoma, prompt medical intervention is crucial. Subdural hematoma refers to a condition where blood collects between the layers of tissue surrounding the brain. This can occur due to a head injury or as a result of certain medical conditions. The treatment approach for subdural hematoma depends on various factors such as the size and severity of the hematoma, the patient's overall health, and any underlying medical conditions. In some cases, observation and monitoring may be sufficient if the hematoma is small and not causing significant symptoms. However, in more severe cases or when symptoms worsen over time, surgical intervention may be necessary. The main goal of surgery is to remove or drain the accumulated blood from around the brain, relieving pressure and preventing further damage. There are different surgical techniques that can be employed depending on the specific situation. These include burr holes, craniotomy, or minimally invasive procedures such as endoscopic surgery. The choice of procedure will be determined by factors such as the location and size of the hematoma. Following surgery, close monitoring and rehabilitation may be required to ensure optimal recovery. This may involve physical therapy to regain strength and coordination, occupational therapy to improve daily functioning skills, and cognitive therapy to address any cognitive impairments that may have resulted from the injury. It is important for individuals with subdural hematomas to seek immediate medical attention in order to receive appropriate treatment. Timely intervention can greatly improve outcomes and reduce potential complications associated with this condition. One of the most important prevention strategies is to prioritize safety measures in daily activities. This includes wearing appropriate protective gear during high-risk activities such as sports or construction work. Wearing helmets while riding bicycles or motorcycles can significantly reduce the risk of head injuries that could lead to subdural hematoma. Another crucial aspect of prevention is maintaining a safe environment. This involves identifying and addressing potential hazards in the home or workplace that could result in falls or head trauma. Installing handrails on staircases, using non-slip mats in bathrooms, and keeping floors clear of clutter are simple yet effective ways to minimize the risk of accidents. Regular exercise and maintaining good overall health are also essential for preventing subdural hematoma. Engaging in physical activity helps improve balance, coordination, and muscle strength, reducing the likelihood of falls that could result in head injuries. Lastly, it's crucial to be aware of any existing medical conditions or medications that may increase the risk of subdural hematoma. Individuals with conditions such as epilepsy or blood clotting disorders should work closely with their healthcare providers to manage their condition effectively. By adopting these preventive measures and being mindful of potential risks, individuals can take control over their well-being and significantly reduce the chances of developing a subdural hematoma. Remember, prevention is always better than cure when it comes to protecting ourselves from this serious head injury. When it comes to subdural hematoma, there are certain do's and don'ts that can make a significant difference in the recovery process. It is crucial to understand these guidelines to ensure the best possible outcome for the patient. Do's Don't Seek immediate medical attention if you experience symptoms such as severe headaches, confusion, nausea, vomiting, weakness, seizures, or loss of consciousness. Don't delay seeking medical help if you suspect a head injury or experience symptoms associated with a subdural hematoma. Follow the treatment plan prescribed by your healthcare professional, which may include medications, rest, observation, or surgery. Avoid vigorous physical activities or activities that could result in head trauma or further injury. Monitor any changes in symptoms and report them to your healthcare provider promptly. Don't ignore persistent or worsening symptoms, as they could indicate complications or the need for additional medical intervention. Take prescribed medications as directed by your healthcare provider. Avoid self-medicating or altering your prescribed medication regimen without consulting your healthcare provider. Follow up with scheduled appointments and imaging tests as recommended by your healthcare provider to monitor the hematoma's progression or resolution. Don't skip follow-up appointments or imaging tests, as they are essential for tracking your recovery and ensuring proper treatment. Engage in activities that promote overall health, such as maintaining a balanced diet, staying hydrated, and getting adequate rest. Avoid excessive alcohol consumption or activities that could increase the risk of falls or head injuries. Use protective gear, such as helmets, when engaging in activities that pose a risk of head injury, such as biking, skating, or contact sports, once cleared by your healthcare provider. Don't engage in high-risk activities without proper protective gear or clearance from your healthcare provider. If you suspect you or someone else is experiencing Subdural hematoma, it is crucial to seek immediate medical attention by calling emergency services or consult with a Neurologist. Its common for parents of severely autistic kids to worry whos going to take care of them after were gone? [] In 1943, Austrian-American psychiatrist Dr. Leo Kanner published a groundbreaking paper titled Autistic Disturbances of Affective Contact in the journal Nervous Child. [] The concept of autism as we understand it today began to take shape in the early 20th century. [] In 1944 just a year after Dr. Leo Kanners landmark paper, Australian pediatrician Dr. Hans Asperger published his observations. [] The 1960s marked a turning point in autism research. [] In 1980, the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) was released by the American Psychiatric Association. [] In 1994, the DSM-IV introduced a new diagnosis under the umbrella of Pervasive Developmental Disorders (PDDs): Asperger syndrome. [] In 2013 the DSM-5 introduced a major revision to how autism was diagnosed. [] Over the last two decades (as of 2025), research has shown early intervention can significantly improve outcomes for autistic kids. [] Autism Spectrum Disorder is recognized across the globe. [] Research is increasingly focused on identifying biological markers that could lead to earlier and more objective autism diagnoses. [] Concerned about muscle loss from a GLP-1? [] Had I been a D1 college athlete in volleyball, my mental health wouldve relished the experience; I wouldve flourished as a libero and loved every moment. [] Can inflammation in the brain from obesity cause an autistic child to have worse behaviors than if they were at a healthy weight? [] In recent years morbidly obese women have taken to social media promoting that extreme levels of body fat fall under the umbrella of natural body diversity. [] To deny this is to deny reality. Call it what you wish (moralizing), but the hardcore fact is that some foods are good while others are just plain bad. [] Super morbidly obese women are claiming that natural body diversity includes a significant level of overweight. Just where do we draw the line? [] Confidence in ones large body wont neutralize obesitys relation to over a dozen cancers. [] Dont take eye contact for granted. How and when you make eye contact is more important than you think. [] Do you toss and turn in your sleep, have trouble falling asleep or, once you wake in the middle of the night, cant get back to sleep and are left feeling awful when its time [...] Evidence has revealed that even modest levels of physical activity below the official health guidelines can significantly increase longevity. [] Insomnia may help explain why adults with ADHD traits often report a lower quality of life. [] Creatine has long been popular among muscle building athletes for enhancing strength and building muscle mass. [] Here are 5 signs in your child that point to possible autism that youd never think could be a feature of being autistic. [] Prostate cancer doesnt have to kill; when caught early its very curable. [] Why are some mens prostate cancer diagnosed at an advanced stage? Did they ignore symptoms? Did a core biopsy miss it? Whats really going on as to why this disease often gets diagnosed only when [...] Joe Biden, with the best medical access in the world, still ended up getting his prostate cancer diagnosis in late stage (4) after itd already spread to his bones. [] Does age influence how fast prostate cancer bone mets grow? [] Its terrifying when one learns their prostate cancer is now in their bones. [] Its a fair question: How did Joe Biden, active on his bicycle and with a trim build, end up getting prostate cancer? [] Joe Bidens diagnosis of stage 4 prostate cancer is very serious. [] I was inspired to cover this topic when my weed man said there was no way he could pull my many big weeds from their roots: Im 52, he said. [] Heres what to do if the physical therapy office cant get you in soon for your trigger thumb or finger. [] Autistic Pride Day is more than just a date on the calendar its a global celebration of neurodiversity, self-acceptance and the unique perspectives and talents of autistic individuals. [] Its easy: Just make a point of regularly eating these flavonoid foods and you can live a longer, healthier life. [] Youve heard of a SPIN: special interest. Youve heard of a stim: stimming or repetitive, self-stimulatory behavior. [] Some people leap out of bed ready to tackle the day, while others take their time easing into the morning. [] Its unbelievable how many parents wont get their young autistic kids swimming lessons to prevent drowning. [] Id like to post your story about your rare disease on this medical site to increase awareness. [] Food cravings are often blamed for derailing weight loss efforts, with many people feeling like theyre in a constant fight to avoid their favorite foods. []A subdural hematoma is a collection of blood outside the brain. It is usually caused by serious head injuries. The bleeding and added pressure on the brain from this condition can be life-threatening. While some may stop on their own and suddenly go away, others need surgical drainage. Sometimes, they are called intracranial hematomas or subdural hemorrhages.In a subdural hematoma, blood collects between the layers of tissue that surround the brain. The outermost layer is called the dura. When bleeding occurs between the dura and the next layer, the arachnoid membrane, it's called a subdural hematoma.This bleeding occurs under the skull and outside the brain, not in the brain itself. As blood pools, however, it puts more pressure on the brain causing symptoms. If pressure inside the skull rises to a very high level, a subdural hematoma can lead to unconsciousness and death.Subdural vs. epidural hematomaLike a subdural hematoma, an epidural hematoma occurs when blood pools in the cranial tissue outside the brain. But in an epidural hematoma, the blood collects outside the dura, the outermost layer of this tissue. It usually requires a more forceful blow to the head to create this type of injury. Epidural hematomas are less common than subdural hematomas and most often occur in young adults.Epidural hematomas also tend to be more sudden than subdural bleeds. If you have an epidural hematoma, you will probably briefly loseconsciousness. Other symptoms include headaches, drowsiness, vomiting and seizures. One of your pupils may alsodilate, or become larger, a symptom known as a blown pupil. It is very important to get treatment for an epidural hematoma as quickly as possible, as the condition can become life-threatening or even fatal as it progresses. A subdural hematoma is a collection of blood outside the brain. (Photo credit: Image Source/Getty Images) Symptoms of a subdural hematoma mostly depend on the rate of bleeding.In head injuries with sudden, serious bleeding that causes a subdural hematoma, a person may pass out right away or even go into a coma.But other times, a person may appear normal for days after a head injury, only to slowly become confused and then pass out several days later. This results from a slower rate of bleeding, causing a slowly enlarging subdural hematoma. In very slow-growing subdural hematomas, there may be no noticeable symptoms for more than 2 weeks after the bleeding starts.The general symptoms of a subdural hematoma include:HeadacheConfusionChange in behaviorDizzinessNausea and vomitingLethargy or excessive drowsinessWeaknessApathySeizuresUnequal pupil sizeLoss of movement on the opposite side of your body as the head injuryEnlarged head in babiesMemory lossSlurred speechVision changesWorseningsymptoms of subdural hematomas can include:ParalysisSeizuresBreathing problemsLoss of consciousnessComa The symptoms and their severity will vary depending on your age, underlying medical conditions, how large the bleed is, and what type of subdural hematoma you have.Acute subdural hematomaAcute subdural hematomas are most often associated with head trauma. After a blow to the skull, veins below the dura matter might rupture, causing pressure on the brain. Symptoms such as confusion, dizziness, nausea, or loss of consciousness appear within hours or even minutes of the injury. People with acute subdural hematomas need medical attention as quickly as possible.Subacute subdural hematomaIn people with subacute subdural hematomas, bleeding under the dura matter is more gradual. These bleeds are usually caused by a head injury, but the symptoms, such as vomiting and intense headaches, emerge over days or even weeks, rather than in the immediate aftermath. The condition is still dangerous and may require treatment, but it is not as deadly as an acute subdural hematoma.Chronic subdural hematomaChronic subdural hematomas are most likely to occur in older adults who experience natural brain atrophy. As you age, your brain shrinks slightly, which can cause the blood vessels under the dura membrane to weaken. These delicate vessels might begin to leak slowly on their own, after a minor blow to the head, or as a side effect of taking certain medications.Symptoms of chronic subdural hematomas usually develop slowly. They can be subtle and easily mistaken for other conditions, such as brain tumor, stroke, or dementia in older people. The symptoms include confusion, difficulty swallowing, trouble walking, drowsiness, and numbness in your arms, legs, or face. In some cases, you may not experience any symptoms at all. If you think you might have a chronic subdural hematoma, you should have your doctor check for one, as the condition will not go away on its own and can be life-threatening if left untreated.Lucid intervalSome people who have a subdural hematoma may undergo a period of apparently normal functioning between the initial head injury and the onset of symptoms. During this time, blood continues to pool in the cranial tissue. This is known as the lucid interval, and it was once believed to only occur in cases of epidural hematoma. But now it's recognized as part of many people's subdural hematoma experience. Unlike the lucid interval in epidural hematomas, which typically lasts 4 hours or less, there is no upper limit to how long it can last in subdural hematoma cases.Subdural hematomas are usually caused by a head injury from a fall, motor vehicle collision, or an assault. The sudden blow to the head tears blood vessels that run along the surface of the brain. This is referred to as an acute subdural hematoma. People who play contact sports, such as (American) football, boxing, or mixed martial arts (MMA) are especially at risk for this condition. Newborn infants are also at risk, as their skulls are still soft and pliable. They may experience subdural hematoma as a result of a traumatic birth or in cases of shaken baby syndrome.People with a bleeding disorder or those who take blood thinners are also more likely to develop a subdural hematoma. A relatively minor head injury can cause the condition in people with a bleeding tendency. Finally, people with alcohol use disorder have a higher risk of developing a subdural hematoma, as alcohol can cause the brain to shrink, weakening the blood vessels in the tissues surrounding it.In a chronic subdural hematoma, small veins on the outer surface of the brain may tear, causing bleeding in the subdural space. Symptoms may not show up for several days or weeks.Elderly people are at a higher risk for chronic subdural hematoma because natural age-related brain shrinkage causes these tiny veins to stretch and become more vulnerable to tearing.People who getmedical attention after a head injury often undergo head imaging, usually with computed tomography (CT scan) or magnetic resonance imaging (MRI scan). These tests create images of the interior of the skull, usually detecting any subdural hematoma present. MRI is slightly better than CT at detecting subdural hematoma, but CT is faster and more readily available.Rarely, angiography may be used to diagnose subdural hematoma. During angiography (angiogram), a catheter is inserted through an artery in the groin and threaded into the arteries of the neck and brain. A special dye is then injected, and an X-ray screen shows blood flow through the arteries and veins.Treatment of subdural hematomas depends on their severity. Treatment can range from watchful waiting to brain surgery.In small subdural hematomas with mild symptoms, doctors may recommend no specific treatment other than observation. They often perform repeated head imaging tests to monitor whether the subdural hematoma is improving.People with severe subdural hematomas are often seriously ill, requiring machine-supported breathing and other forms of life support. More dangerous subdural hematomas require surgery to reduce the pressure on the brain. Surgeons can use various techniques to treat subdural hematomas:Burr hole trephination. A hole is drilled in the skull over the area of the subdural hematoma, and the blood is suctioned out through the hole.Craniotomy. A larger section of the skull is removed to allow better access to the subdural hematoma and reduce pressure. The removed skull is replaced shortly after the procedure.Craniectomy. A section of the skull is removed for an extended period to allow the injured brain to expand and swell without permanent damage. Craniectomy is not often used to treat subdural hematoma. Although they are often lifesaving, these decompression surgeries still carry risks. Some potential complications include blood clots, water on the brain (hydrocephalus), and an increased risk of cranial bleeding or infection, such as meningitis. If a person has a bleeding problem or is taking blood thinners, doctors may take measures to improve blood clotting. This can include prescribing medicines or administering blood products, and the reversal of any blood thinners, when possible. They may also prescribe other medications to help reduce swelling or pressure in the brain or control seizures.Can you survive a subdural hematoma without surgery?The short answer is, yes. If you have a very small subdural hematoma, even an acute one, your doctor may recommend letting it heal on its own with careful observation. That's because any type of brain procedure carries risks, and in some cases, the risk ofoperating may be greater than allowing your body to mend itself. But you should always let an expert make this call.Some subdural hematomas can bring on serious complications, including coma or even death. This can happen if the hematoma is not treated, or even sometimes after treatment. Possible complications include:Brain herniation. Pressure in your brain can move tissue away from where its supposed to be. This can lead to death.More bleeding events. If youre older, youre at a high risk of another hemorrhage as you recover from the first one, especially if you have a head injury.Seizures. You may have seizures, even if youve treated your hematoma.Your health outlook after a subdural hematoma depends on how old you are, how severe your head injury was, and how quickly you got treatment. The younger you are, the higher your chance of survival.The survival rate for subdural hematomas varies widely, depending on the type. Acute subdural hematomas tend to be the most dangerous, with average mortality rates somewhere around 66%. One study on life expectancy after subdural hematoma found that after a year, the mortality rate for chronic subdural hematoma was up to 32%. This could be due to other factors, such as age.Your prognosis is best if your subdural hematoma is chronic, you deal with few symptoms, and you didnt lose consciousness after your initial head injury.Most of your recovery occurs within 3-6 months of injury. While some additional recovery is possible after that, you may never completely recover from a subdural hematoma, especially a severe acute one. Many people continue to experience neurologic symptoms and have a higher risk of seizures. However, going to occupational and physical therapy and joining a local support group can help you maintain a high quality of life.Older adults are at the highest risk of another brain bleed after a subdural hematoma. Older brains dont expand and fill the space left after a hematoma. With more space between the brain and skull, your chance of bleeding goes up, even with a minor injury to the head.The best way to prevent a subdural hematoma is to prevent head injuries. This can mean taking some of the following steps:Wearing a helmet when riding a bike or motorcycleWearing appropriate head protection when participating in contact sports, such as football or boxingKeeping your seatbelt buckled when riding in a carAvoiding and removing tripping hazards in your homeResting after a potential concussionDrinking responsiblyTalking to your health care provider about whether yourprescriptions put you at higher risk of getting a subdural hematomaSubdural hematomas are potentially life-threatening and should be taken very seriously. If you experience a head injury, especially one that causes you to loseconsciousness, seek medical evaluation right away. Continue to watch for symptoms for days or weeks after a blow to the head whether your doctor finds an initial bleed or not.What is the survival rate of a subdural hematoma?The survival rate for people who experience a subdural hematoma can vary depending on what type of bleed they have. If you have an acute subdural hematoma, your chances of survival are 10%-50%, depending on how soon you get treatment. You have a higher chance of surviving a chronic subdural hematoma, but this type of bleed comes with a higher chance of recurring. What is the most common cause of a subdural hematoma?Most subdural hematomas are caused by head injuries. The easiest ways to prevent them are to avoid high-impact sports and take appropriate safety measures when driving or riding a bike.

**Hematoma subdural. Can you have a subdural hematoma without trauma. Can you have a subdural hematoma for months. What happens if a subdural hematoma is not treated. Subdural hematoma vs subarachnoid hemorrhage. Can subdural hematoma occur without injury. Subdural hematoma symptoms. How long does it take for a subdural hematoma to show symptoms.**