

# Two-Page Summaries of Common Medical Conditions

Based on TMT's web-based questionnaires (<http://masterdocs.org>), this document provides short summaries of key medical information on 20 common medical conditions, with particular emphasis on diagnosis. Each summary can be provided to patients on a single 2-sided printed page. The summaries are highly condensed versions of publicly available review articles provided by the USA National Institutes of Health, as supplemented by medical literature available as of January, 2006.

The information in this document should not be considered medical advice and is not intended to replace consultation with a qualified health care professional.

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The summaries below are for:

- The commonest causes of chronic pain (approximately in order of frequency): headache, lower back pain/sciatica, knee pain, shoulder pain, hip pain, toothache, chest pain, jaw pain, peripheral neuropathy, hand/wrist pain.
- Differentiation between the different types of pain (nociceptive, neuropathic, visceral, psychogenic, mixed).
- Common symptoms seen in general medical practice (dizziness, edema, feeling ill, fever, sleeping problems).
- Diseases (BPH, depression, influenza, visual field defects).

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# HEADACHE

**CLASSIFICATION OF HEADACHES:** Different headache experts use different classification systems for headache. The system used here describes four types of headache – vascular, muscle contraction (tension), traction, and inflammatory. Muscle contraction headaches are the commonest type and appear to involve the tightening or tensing of facial and neck muscles. Migraine is a vascular headache usually characterized by severe pain on one or both sides of the head, an upset stomach, and, at times, disturbed vision. Both of these types are commoner in women. "Cluster" headaches are vascular headaches causing repeated episodes of intense pain and are commoner in men. Traction and inflammatory headaches are symptoms of other disorders, ranging from stroke to sinus infection.

## CAUSES OF HEADACHE:

**Primary Headache Disorders:** Tension headache, migraine, cluster headache.

**Infections:** e.g., Sinusitis, Meningitis, Infection anywhere in body that causes fever, Tooth/Eye/Ear/Mouth/Throat/Nose/Face/Scalp infection, Shingles, Brain abscess.

**Inflammatory disease:** Trigeminal neuralgia, Temporal arteritis.

**Brain Disease:** e.g., Head injury, Brain tumor, Stroke/TIA, Subdural hematoma, Subarachnoid hemorrhage, Subdural hemorrhage, Post-Ictal headache.

**Other:** Spine/Neck Disease, Spinal tap, Temporomandibular Joint Disorders/TMJ, Hypoglycemia, Hypertension, Glaucoma, Depression, Other mental, psychiatric or psychological disorders.

**Medications:** e.g., Alcohol. Nicotine. Caffeine, Birth control pills. Amphetamines.

**Chemical Agents:** Dry-cleaning agents. Tar fumes. Diesel fumes. Carbon monoxide poisoning.

**Acute Triggers:** Stress/Anxiety. Muscle tension. Missed meal. Weather changes. Eye strain. Infections. Head injury. Strong sunlight. Glaring/flickering lights. Stuffy/smoky/noisy surroundings. Excess alcohol/tobacco. Certain foods. Chemical agents. Holding chin down while reading. Prolonged writing in poor light. Gum chewing.

**Headache Worse With:** Leaning head forward without bending neck (suggests sinusitis). Bending head forward at neck plus fever (suggests meningitis). Noise.

**Headache More Frequent With:** Insufficient/disturbed sleep. Family /work stress. Starting/stopping medication. Spring/Fall. Menstrual periods.

**FACTORS GIVING ACUTE RELIEF:** Lie down in quiet darkened room. Go to sleep. Press temporal artery. Cold packs. Honey. Oxygen by mask. Aspirin. Caffeine. Acetaminophen (Paracetamol). Ergotamine. Sumatriptan. Dihydroergotamine injections. Steroids (oral/IM corticosteroids).

**FACTORS REDUCING FREQUENCY:** Avoid oversleeping. Regular exercise. Stress reduction. Biofeedback. Avoid certain foods. Small, frequent meals. Dental treatment. Antibiotics. Methysergide. Amitriptyline. Beta blockers. Anticonvulsants. Calcium channel blockers. Lithium carbonate.

**PRODROMAL SYMPTOMS:** Symptoms 10-30 minutes before a **migraine** headache can include: Visual disturbances. Spreading numbness. Speech difficulty. Weakness of part of the body. Tingling of face or hands. Confusion. Vertigo (a feeling of the room spinning). Symptoms 30 minutes to several hours before a **tension** headache can include: Mental fuzziness. Mood changes. Fatigue. Fluid retention.

**SYMPTOMS ASSOCIATED WITH HEADACHE: General:** Difficulty sleeping or sleeping less than normal. Nausea and vomiting. Dull pain and tenderness around eyes & cheekbones (worse on leaning forwards without bending the neck – suggestive of sinusitis). Fever (meningitis or infections). Sweating of face. Swelling in the affected area. Diarrhea. Increased urination. **Neurological:** Unusual drowsiness. Vertigo (a feeling of the room going round and round). Dizziness (lightheadedness). Poor muscular coordination. Seizures. **Visual:** Blurred vision. Double vision. Tearing of eye. Red eye. Droopy eyelid. Cloudy vision with halos appearing around lights. **Nose/Ear:** Stuffy nose. Runny nose. Ringing in the ears. Hearing loss.

**TYPES OF HEADACHE:** One person can have more than one type of headache and the basis for classification is doubtful for certain types of headache.

## 1) MUSCLE-CONTRACTION HEADACHE

This type accounts for 90% of all headaches and feels like steady pressure applied to both sides of the head or neck (rather than throbbing). Tension headache is a short-lasting, mild to moderate form. Chronic muscle-contraction headaches can last for weeks to years. There can be nausea and increased light/sound sensitivity. Stress, depression, anxiety, degenerative arthritis of the neck, and temporomandibular joint dysfunction (TMJ) may be underlying causes. Treatment can include: Hot shower. Moist heat to back of neck. Cervical collar. Physical therapy. Massage. Painkillers. Biofeedback. Relaxation training. Counseling. Cognitive restructuring. Progressive relaxation therapy.

## 2) VASCULAR HEADACHES:

**MIGRAINE:** Migraine may be associated with severe pain on one or both sides of the head, an upset stomach, and at times disturbed vision (e.g., sensitivity to light). It may be frequent (several times a week) or only every few years. Attacks in some people may be precipitated during the immediate period after prolonged emotional stress or in relation to menstrual periods. Migraine tends to run in families. **Classical migraine** has an “aura” (flashing lights, zig-zag lines, transient loss of vision, speech difficulty, weakness of an arm or leg, tingling of the face or hands, or confusion) 10-30 minutes before the headache. Headache is intense, throbbing, or pounding and is felt in the forehead, temple, ear, jaw, or around the eye. The headache starts on one side of the head but may spread to the other side later in the attack which may last for 1-2 days. **Common migraine** is more frequent than classical migraine. There is no aura before the attack but there may be vague symptoms for some hours before (e.g., mental fuzziness, mood changes, fatigue, and unusual retention of fluids). The headache phase may last for 3-4 days and may be associated with diarrhea, increased urination, nausea or vomiting. The headache may be confined to only one side of the head. It may be made worse by slight exertion such as climbing stairs. It may be felt as throbbing or pulsating. Migraine attacks may be “triggered” several hours or days after emotional stress (sometimes waking the person up in the middle of the night), other normal emotions, fatigue, glaring or flickering lights, or changes in the weather. Certain foods such as yogurt, nuts, and lima beans may trigger migraine soon after eating. There are a number of unusual forms of migraine (hemiplegic, visual/vertigo, ophthalmoplegic, basilar artery, benign exertional headache, status migrainosus, headache-free migraine).

**OTHER:** Other forms of vascular headache include: toxic headache with fever, chemical headache, cluster headache, and hypertension headache.

**TREATMENT:** Treatment depends on the underlying cause and can include: Cold packs to the head. Press temporal artery. Medication (e.g., aspirin, caffeine or acetaminophen at start of mild attack; ergotamine or sumatriptan at start of severe attack; preventive therapy with methysergide, amitriptyline, propranolol, valproic acid, or verapamil). Biofeedback training. Stress reduction. Avoid certain foods. Small frequent meals. Honey or caffeine for hang-over. Avoid oversleeping at weekends. Regular exercise. Stress reduction.

## 3) INFLAMMATORY & 4) TRACTION HEADACHE

Traction and inflammatory headaches are symptoms of other disorders causing inflammation (usually from infection such as a sinus infection) or traction (pulling on tissues in the head, e.g. by pressure exerted by a tumor or blood from bleeding in the brain). Treatment is the treatment of the underlying disease combined with supportive therapy of the symptoms. **Inflammatory headache** can be caused by: Sinusitis. Meningitis. Oral and Dental Disorders. Trigeminal neuralgia. Shingles. Temporal arteritis. Common cold. Flu. Throat infection. Ear infection. Nose infection. Brain Abscess. **Traction headache** can be caused by: Head Injury. Brain tumor. Stroke. TIA (“mini-stroke”). Disease of spine or neck. Subdural hematoma. Subarachnoid hemorrhage. Subdural hemorrhage. Spinal tap.

**5) OTHER CAUSES OF HEADACHE:** Temporomandibular Joint Disorders (TMJ or TMD). Hypoglycemia. Glaucoma. Depression. Post-Ictal headache. Various mental, psychiatric or psychological disorders.

## SITUATIONS REQUIRING PROMPT MEDICAL CARE FOR HEADACHE:

Severe and of sudden onset. Associated with any of the following: stiff neck, fever, convulsions, confusion, loss of consciousness, pain in the eye or ear. Following a blow on the head. Persistent in a person who was previously headache free. Interferes with normal life. Recurring (if in a child).

The above summary deals with headache in adults. However, many of the causes of headache in adults can cause headache in children. Headache problems increase during adolescence (about ½ of schoolchildren).

The information above should not be considered medical advice and is not intended to replace consultation with a qualified health care professional. It is based largely on the following NIH articles (last updated November 2005):  
[http://www.ninds.nih.gov/disorders/headache/detail\\_headache.htm](http://www.ninds.nih.gov/disorders/headache/detail_headache.htm)  
<http://www.ninds.nih.gov/disorders/headache/headache.htm>.

To answer TMT's Headache questionnaire, go to <https://www.masterdocs.com/headache/start.php>

# LOWER BACK PAIN & SCIATICA

## CAUSES

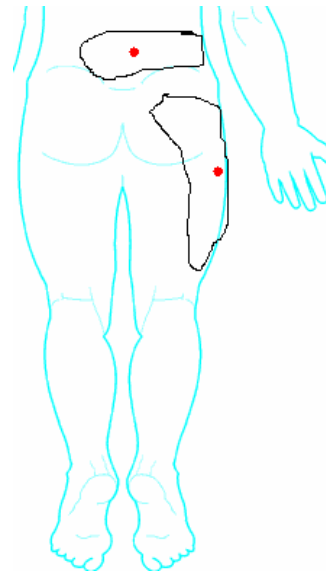
Pain in the lower back may come from the spine, muscles, nerves or other structures in the lower back. It may also radiate from structures outside the lower back, such as the mid/upper back, groin, testicles or ovaries. Lower back pain is very common – it is the second commonest reason that Americans see their doctor. It accounts for over one-third of all patients with chronic pain seen in a primary care setting. The actual structures involved are rarely identified, but can involve muscle spasm, small fractures to the spine from osteoporosis, ruptured or herniated disks, etc. Unusual but important causes of lower back pain include cancer, infection, kidney stone, torsion of the testis (twisted testicle), or problems of the uterus or ovaries.

About one half of cases of chronic lower back pain are accompanied by sciatica. Most cases of sciatica are caused by irritation of the L5 or S1 nerve roots as they exit the lower spine. Uncommon causes of sciatica include traumatic injury to the buttocks or thigh, or pressure from a tumor, abscess or local bleeding. Sciatica-type symptoms can occasionally come from irritation of the nerves lower down or from other structures in the leg. Most cases of sciatica are confined to the lateral buttocks and the back/outside of the thigh above the knee; rarely, sciatica can also be felt below the knee and even down to the toes.

Most lower back pain is “nociceptive” pain and usually represents pain signals coming from muscle spasm, damaged or inflamed intervertebral disks, small fractures to the spine from osteoporosis, or other soft tissue injuries. Sciatica pain is “neuropathic” pain and represents pain signals coming directly from irritated nerves, usually at the nerve roots in the lower back; it mainly occurs in the buttocks and back/outside of the thigh (although it can occasionally occur in the back itself or further down the leg and foot). It is important to distinguish between nociceptive and neuropathic pain because different drugs are effective in each type of pain.

## SYMPTOMS

Symptoms often begin after you lift a heavy object, move suddenly, sit in one position for a long time, or have a traumatic injury in the area. Lower back pain (“nociceptive” pain) and sciatica (“neuropathic” pain) usually have different qualities. Lower back pain can vary from intermittent discomfort through continuous severe pain and the pain may be dull or sharp. Sciatica pain may be associated with pins & needles, a hot/burning feeling, numbness, a feeling like electric shocks, or pain that is made worse with the touch of clothing or bedsheets. The figure to the right is a pain diagram of pain outlines and points of worst pain (red spots) from a patient with lower back pain and L5 root sciatica in a large web-based study with computer-generated composite images of pain patterns. ([http://masterdocs.com/drawing\\_analysis.htm](http://masterdocs.com/drawing_analysis.htm))

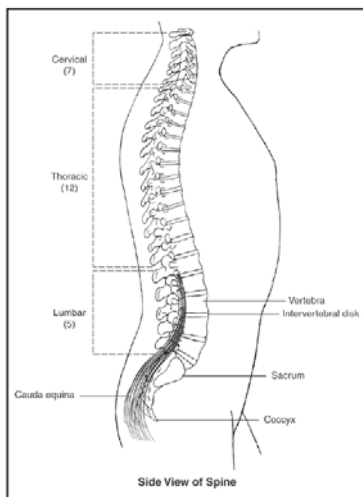


## **MANAGEMENT**

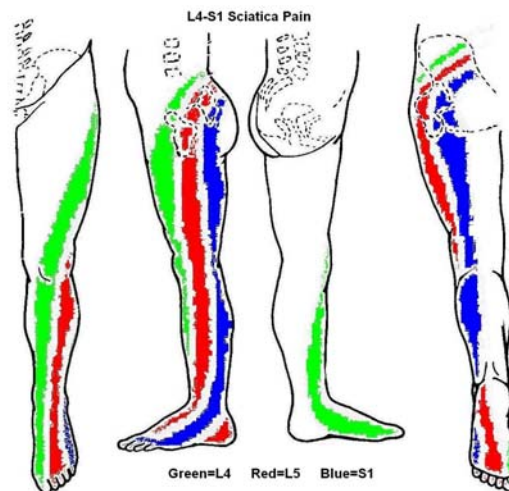
Most cases respond to conservative treatment - reducing physical activity for a few days; ice for 24-72 hours, then heat for a few days; over-the-counter painkillers; sleeping curled up with a pillow between your legs. Recent (Jan 2006) work from Johns Hopkins suggests low-level heat wrap therapy (e.g., ThermaCare HeatWrap) as an adjunct or alternative to painkillers in acute lower back pain. After symptoms largely resolve, your doctor may suggest stretching and strengthening exercises and after 2-3 weeks gradual resumption of your normal exercise. You should avoid activities that involve heavy lifting or twisting of the back for the first 6 weeks, and should try to avoid in the future those activities that have given you back pain/sciatica episodes in the past.

## **SYMPTOMS THAT REQUIRE MORE URGENT MANAGEMENT**

Call 911 (in America) if you have lost bowel or bladder control in association with your lower back pain/sciatica. You should promptly contact your doctor if your symptoms include: unexplained fever with back pain; back pain after a severe blow or fall; redness or swelling on the back or spine; pain traveling down your legs below the knee; weakness or numbness in buttocks, thigh, leg, foot, or pelvis; burning with urination or blood in your urine; worse pain when you lie down or pain that awakens you at night; very sharp pain; or unintentional loss of weight. Also call your doctor if you are on steroids or intravenous drugs, if this is your first episode of back pain, if this episode is significantly worse than last time, or if it has lasted longer than four weeks.



**Anatomy of Lower Back**



**L4, L5 & S1 Sciatica Distribution**

The information above is based in part on the following articles provided by National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) of the US Government's National Institutes of Health:

<http://www.nlm.nih.gov/medlineplus/ency/article/003108.htm>,

[http://www.ninds.nih.gov/disorders/backpain/detail\\_backpain.htm](http://www.ninds.nih.gov/disorders/backpain/detail_backpain.htm),

<http://www.nlm.nih.gov/medlineplus/ency/article/000686.htm>.

To answer TMT's Lower Back/Sciatica Questionnaire, go to

<https://www.masterdocs.com/backsciaticapain/start.php>

# KNEE PAIN

## ***SYMPTOMS WITH VARIOUS KNEE DISORDERS***

The same symptom may occur in several knee diseases, and not all symptoms typical of a particular disease may be present in an individual person with the condition. In the following descriptions, "below" the knee means towards the lower leg, and "underneath" means further inside the body:

**ARTHRITIS** (usually osteoarthritis): Pain. Swelling. Decrease in knee motion. Morning Stiffness (lessens as person moves around). Joint locks or clicks when knee is bent or straightened.

**CHONDROMALACIA** (softening of knee cap cartilage): Dull pain around or under the knee cap that worsens when walking down stairs or hills. Pain when climbing stairs. Pain when knee bears weight as it straightens.

**MENISCUS INJURY** (tearing of cartilage on inside or outside of knee): Injury occurred when twisting (rotating) knee while bearing weight. Pain particularly when knee is straightened. Swelling. Clicking of knee. Locking of knee. Knee feels weak.

**COLLATERAL LIGAMENT INJURIES** (ligaments on inside and outside of knee): Injury occurred from blow to outside of knee (medial collateral ligament injury). Popping sound on injury. Knee buckles sideways. Swelling.

**TENDINITIS** (inflammation of a tendon that connects muscle and bone; sometimes spelled "tendonitis"): Problem developed after repeated dancing, cycling or running. Problem developed after repeated jumping (e.g., playing basketball). Tenderness at point where tendon meets bone. Pain during running, hurried walking or running. Difficulty bending, straightening or lifting the leg. One type of tendinitis (called iliotibial band syndrome) may result in an ache or burning feeling on the outside of knee during activity, pain radiating up the outside of the thigh, and a snap when the knee is bent and then straightened.

**BURSITIS** (inflammation of the fluid-filled sac (bursa) that lies between a tendon and skin, or between a tendon and bone): The commonest knee bursitis is prepatellar bursitis (commonly known as "housemaid's knee") in which kneeling on the floor causes pain in the knee; there may be obvious swelling between the knee cap and the skin.

**CRUCIATE LIGAMENT INJURIES** (ligaments on front or back of knee): Injury occurred with sudden twisting motion (e.g., feet planted one way and knees turned another) – anterior cruciate ligament. Injury from direct impact (e.g., auto accident or football tackle) – posterior cruciate ligament. Popping sound on injury. Leg buckles when you try to stand on it.

**TENDON TEAR:** Injury occurred while trying to break a fall. Pain above the knee cap (quadriceps tendon). Pain below the knee cap (patellar tendon).

**BAKER'S CYST:** Discomfort/Pain and swelling at the back of the knee. If the cyst (swelling) ruptures, pain in the back of the knee can travel down the calf.

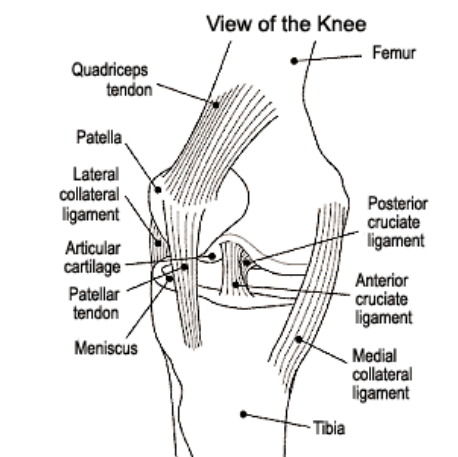
**DISLOCATION OF KNEE CAP:** Pain, tenderness and swelling of the knee. The knee cap (the patella, a triangular bone at the front of your knee) is displaced to the outside of the knee. The knee cap can be moved excessively from side to side.

**OSTEOCHONDRITIS DISSECANS** (loss of blood supply to bone beneath a joint): Family history of same condition. Weakness of knee. Sharp pain in knee. Locking of knee joint.

**PLICA SYNDROME** (irritation of synovial membrane bands around a joint): Swelling. Weakness of knee. Locking of knee joint. Clicking sensation.

The knees provide stable support for the body and allow the legs to bend and straighten. There are two general kinds of knee problems: mechanical (e.g., from injury) and inflammatory (e.g., from rheumatoid arthritis).

**ANATOMY:** The point at which two or more bones are connected is called a joint. In a joint, cartilage acts as padding, ligaments are bands that join bones to each other, tendons connect muscle to bone, and muscles bend and straighten joints. The knee joint is the junction of three bones: the femur (thigh bone or upper leg bone), the tibia (shin bone or larger bone of the lower leg), and the patella (knee cap). The patella is 2 to 3 inches wide and 3 to 4 inches long. It sits over the other bones at the front of the knee joint and slides when the leg moves. It protects the knee and gives leverage to muscles. The ends of the bones are covered with cartilage. The medial and lateral menisci are pads that separate the tibia and the femur and act as shock absorbers. Two groups of knee muscles (quadriceps and hamstrings) are at the front and back of the thigh. The collateral and cruciate ligaments connect the femur and tibia and strengthen the knee.



**DIAGNOSIS:** The patient is questioned about the pain, associated symptoms, knee injury, and any conditions that may cause knee pain. A physical examination checks knee movement and knee tenderness. Additional tests can include x-ray, CT scan, bone scan, MRI, arthroscopy, or biopsy. Extensive injuries and diseases of the knees are usually treated by an orthopaedic surgeon. Nonsurgical treatment of arthritis of the knee is usually done by a rheumatologist.

**PREVENTION OF KNEE PROBLEMS:** Many knee problems can be avoided by maintaining a healthy weight, wearing shoes that fit and are in good condition, and using orthotics (shoe inserts) to correct flat or overpronated feet. Many people recommend warming up and doing stretches before exercise, doing exercises to strengthen the knee muscles, and avoiding sudden changes in the intensity of exercise.

### **SUITABLE EXERCISE FOR PEOPLE WITH KNEE PROBLEMS:**

**Range-of-motion exercises** help maintain normal joint movement and relieve stiffness. This type of exercise helps maintain or increase flexibility.

**Strengthening exercises** help keep or increase muscle strength. Strong muscles help support and protect joints affected by arthritis.

**Aerobic or endurance exercises** improve function of the heart and circulation and help control weight.

This summary is based largely on the following article provided by the U.S. Government's National Institutes of Health (NIH): and you are advised to read this article for definitive information on this subject: <http://www.niams.nih.gov/hi/topics/knee probs/kneeqa.htm>.

To answer TMT's Knee Pain questionnaire, go to <https://www.masterdocs.com/paininknee/start.php>

# SHOULDER PAIN

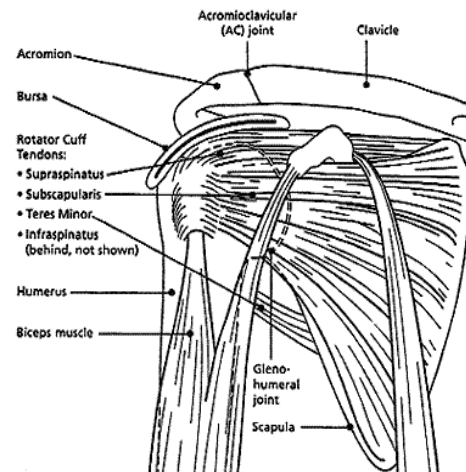
## CAUSES OF SHOULDER PAIN

Pain in your shoulder may come from the shoulder joint, muscles, nerves or other structures in or around your shoulder, or may radiate from structures outside your shoulder. Some of the causes are:

- **Rotator cuff tendinitis** (the most common cause) in which the tendons get trapped under the bony arch of the shoulder and become inflamed. This can occur from general wear and tear as you get older, from constant shoulder use (e.g., baseball pitching), or an injury. It is sometimes called impingement syndrome. The shoulder has four "rotator cuff" tendons that attach muscles to bone and stabilize the shoulder (the most mobile joint in the body) and allow a wide range of motion in the shoulder. When these tendons become inflamed or torn, or when bony changes occur around them, they may cause pain on trying to move your arm above your head, behind the back, or straight out in front.
- **Arthritis** (gradual narrowing of the joints and loss of protective cartilage).
- **Bursitis** (inflammation of a fluid-filled sac over or underneath a tendon).
- **Fractures** of shoulder bones.
- **Frozen Shoulder** (adhesive capsulitis - shoulder is stiff and movement painful and difficult).
- **Biceps Tendinitis** (tendinitis of biceps tendon).
- **Dislocation** of the shoulder (ball-shaped head of the humerus comes out of its socket).
- **Separation** of the shoulder (torn ligaments at the joint where the collarbone [clavicle] meets the shoulder blade [scapula] can allow the outer end of the clavicle to slip out of place).
- **Other Trauma** to the shoulder (e.g. torn rotator cuff).
- **Heart Attack:** An unusual but important cause of shoulder pain is referred pain from a heart attack (in which there may also be pain in the chest, jaw or neck, and shortness of breath, dizziness or sweating).
- **Abdominal Conditions:** Gall bladder disease may cause pain at the tip of the right shoulder. Other abdominal conditions may cause shoulder pain (e.g., liver abscess, abdominal bleeding, diaphragmatic irritation or ectopic pregnancy). Shoulder pain from a heart attack or abdominal conditions is "referred" pain, which is pain felt in a part of the body far from the location of the condition causing the pain.
- **Fibromyalgia** Patients with fibromyalgia may have pain in the shoulder as well as many other parts of the body.

## SHOULDER ANATOMY

The shoulder has bones, cartilage, ligaments, tendons, and muscles. The three bones of the shoulder are the clavicle (collarbone), scapula (shoulder blade), and humerus (upper arm bone). The acromioclavicular (AC) joint is between the acromion (part of the scapula that forms the highest point of the shoulder) and the clavicle. The glenohumeral joint (shoulder joint), is a ball-and-socket joint that allows forward and backward at the shoulder, and the arm to rotate and hinge out and up away from the body. (The "ball" is the top, rounded portion of the upper arm bone or humerus; the "socket," or glenoid, is a dish-shaped part of the outer edge of the scapula into which the ball fits.) The capsule is a soft tissue envelope lined by a thin smooth synovial membrane that encircles the glenohumeral joint. (see diagram).



## **SYMPTOMS WITH SHOULDER PAIN**

Shoulder pain is commoner with increased wear and tear of the shoulder as you get older. Onset of symptoms is usually gradual unless there is a traumatic injury to the shoulder area. The pain may get worse if the arm is raised overhead or lifted away from the body. Pain localized to the front, side or top of the shoulder may reflect damage or inflammation of the structures in that part of the shoulder. Pain that is also felt far from the shoulder or in other joints suggests something other than purely shoulder disease. Symptoms that may be associated with specific conditions include:

- **ROTATOR CUFF TENDINITIS, OTHER TENDINITIS & BURSITIS:** These conditions may occur alone or in combination and be associated with gradual onset of pain in the upper shoulder or upper third of the arm that is worse on lifting the arm above the head or away from the side of the body. Note that rotator cuff tendinitis is sometimes called impingement syndrome. Tendinitis is sometimes spelled tendonitis. Tendinitis of the biceps tendon may result in pain on the front or side of the shoulder that may extend to the forearm that is made worse when the arm is forcefully pushed upward overhead.
- **FROZEN SHOULDER (Adhesive Capsulitis):** Shoulder is tight and stiff and movement is very difficult and the range of motion is very limited. Symptoms may be worse at night.
- **ARTHRITIS:** Pain is worst at the top of the shoulder (where the clavicle meets the scapula). Limited range of motion. Swelling around the joint. Other joints may be involved.
- **DISLOCATION:** Pain following a backward pull on the arm. Arm appears out of position. Muscle spasm, swelling, numbness, weakness and bruising may develop.
- **SEPARATION:** Blow to shoulder or falling on outstretched hand followed by pain, tenderness and swelling where the clavicle meets the scapula.
- **TORN ROTATOR CUFF:** Pain over the deltoid muscle (top and outer side of shoulder) on raising arm above the head or out from the side. Shoulder feels weak. Click or pop when shoulder is moved.
- **FRACTURE:** Severe pain after an injury. Bones may appear out of position. Redness and bruising.

## **MANAGEMENT OF SHOULDER PAIN**

For acute shoulder pain, try ice wrapped in a cloth and applied for 15 minutes every half hour for several hours. Continue 15-minute ice applications 3-4 times a day for 2-3 days if symptoms persist. Avoid strenuous use of the shoulder for a few days and then work on strengthening your shoulder muscles (e.g. lifting light weights). Over-the-counter painkillers may help during an acute episode.

## **SYMPTOMS THAT REQUIRE MORE URGENT MANAGEMENT**

Call 911 (in America) if you have sudden pressure or crushing pain in the shoulder, especially if it is also present in the chest, jaw or neck, or if it is accompanied by shortness of breath, dizziness or sweating (since this might indicate a heart attack). Emergency treatment is also needed if you have swelling, bruising or bleeding after a direct blow to the shoulder. You should contact your doctor if your shoulder pain is accompanied by unexplained fever, redness or swelling around the shoulder, or if the pain persists for more than 1-2 weeks.

The information above is based in part on the following articles provided by the US Government's National Institutes of Health: <http://www.nlm.nih.gov/medlineplus/ency/article/003171.htm> and <http://www.niams.nih.gov/hi/topics/shoulderprobs/shoulderqa.htm> . You can read about the many causes of chronic pain at: [http://masterdocs.com/pain\\_diagnoses.htm](http://masterdocs.com/pain_diagnoses.htm).

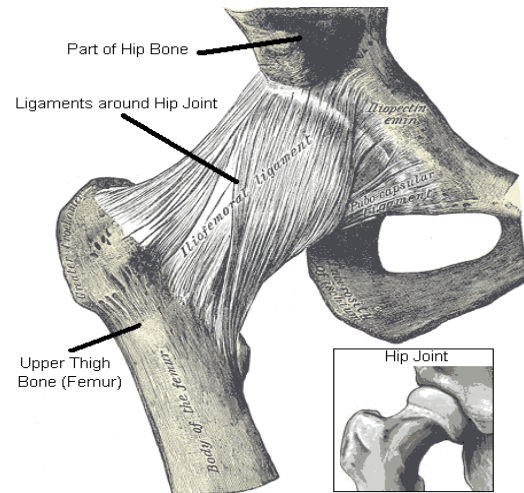
To answer TMT's Shoulder Pain questionnaire, go to <https://www.masterdocs.com/shoulderpain/start.php>

# HIP PAIN

Hip pain involves any pain in or around the hip joint and is a common complaint. The diagnosis in an individual case depends on such factors as age (e.g., osteoarthritis in older people), acute injury (e.g., impact sports), or chronic overuse (e.g., high intensity physical training). Finding the cause of hip pain can be difficult because the multiple structures in the hip can produce similar pain syndromes, and because hip pain can come from deep structures that can't be felt by the examiner.

Pain arising from the hip may be felt directly over the hip or sometimes in the middle of your thigh. Some pain felt in the hip may arise from a back problem, male and female sexual organs, the intestinal tract, the urinary tract or vascular structures.

The hip is a ball-and-socket joint that connects the acetabulum (parts of the ischium, ilium and pubis bones that make up the pelvis) and the head of the femur (thigh bone). It is surrounded by cartilage, tendons, bursae, muscles, nerves and other structures.



## CAUSES

**Arthritis:** Osteoarthritis commonly affects the hip and is often felt in the front of the thigh as well as in the area of the hip joint. It is the most common cause of hip pain in patients over 50 years of age. Fairly steady pain on activity becomes more severe as the disease advances, and a limp may develop. Pain is worse on internal rotation and extension of the hip, and the range of hip motion becomes reduced.

**Fracture of the neck of the femur:** This most commonly results from a fall in an elderly woman. In people with osteoporosis, a hip fracture can result from everyday activities. If a hip fracture is suspected (e.g., if you have fallen or injured your hip, if the hip is misshapen, badly bruised, or bleeding, or if you are unable to move your hip or bear any weight) you urgently need medical evaluation. Less than half of those with hip fractures return to their former level of activity. In the days or weeks following a hip fracture, mobility is reduced and the patient is at risk of complications such as pneumonia and leg thrombosis and pulmonary embolism.

**Trochanteric bursitis:** This is inflammation of the bursa that sits outside the hip joint. Characteristically, pain from this condition occurs on getting up from a chair. Activities such as walking, climbing stairs and driving can also cause pain.

**Referred pain:** Pain arising in the lower back can cause pain in the hip area, e.g., from sciatica.

**Chronic Tendinitis:** As with tendinitis (inflammation of a tendon) in other joints, chronic overuse of the hip can cause pain from tendinitis. Chronic tendonitis may develop gradually with increasing activity intolerance in a setting of relative overuse. There may be local swelling, loss of flexibility during passive stretch, and pain and weakness during muscle contraction against resistance. In iliopsoas tendonitis ("snapping hip"), a "snap" or "clunk" may be heard over the tendon at the hip flexor crease as the hip moves from flexion to extension.

**Stress fractures:** These can occur in athletes such as distance runners, jumpers, ballet and aerobic dancers, and triathletes who undergo high levels of training. Stress fractures can also be secondary to steroid therapy, or deficiencies of calcium, vitamin D, or estrogen (postmenopausal, athletic amenorrhea). Femoral

stress fractures can progress to displacement and osteonecrosis of the femoral head. Athletes with these injuries usually have pain in the hip or front of the thigh that occurs late in the training activity, and as it progresses limits activity and occurs with any weight-bearing or at rest. Pain and limitation on internal rotation of the hip and pain on hopping may progress to limping and night pain.

**Aseptic Necrosis:** This results from a defective blood supply to the hip. It is more common with long term steroid therapy, sickle cell anemia, high alcohol intake and previous injury to the hip.

**Acute Soft Tissue Injury to Hip Area:** Strain of a muscle (especially the rectus abdominis, iliopsoas, adductor longus and rectus femoris muscles), sprain (of a ligament) or contusion (bruising) can result from acute injuries to the hip area. Acute muscle contraction or stretch injuries generally present abruptly with pain that increases with continued activity, swelling and bruising. The affected muscle or tendon can be identified based on the anatomic location of the pain, and the pain and weakness on muscle testing. These injuries should improve with rest and conservative treatment.

**Inflammation & Infection:** Hip pain may be the presenting complaint in inflammatory diseases (e.g., ankylosing spondylitis, Reiter's syndrome, psoriatic arthropathy, enteropathic arthropathy, gout, pseudogout, rheumatoid arthritis) and infections such as viral or septic arthritis. Hip pain tends to be worse in the morning and improves with activity. There may be other joint involvement, tendon pain, pain at the site of muscle insertion, skin disease, eye problems, sexually transmitted diseases, inflammatory bowel disease and a family history of inflammatory disease.

**Meralgia Paresthetica:** This is caused by compression of the lateral femoral cutaneous nerve and causes numbness and burning pain over the outside of the thigh. It can be related to pregnancy, tight clothing or belts, and obesity.

**Hernias:** Some femoral and inguinal hernias can be felt. Other hernias ("sports hernias") cannot be felt and may cause chronic groin pain in athletes such as soccer, rugby and ice-hockey players.

**Iliotibial Band Syndrome:** Pain or aching on the outer side of the knee and hip.

Other causes of hip pain include **nerve entrapment** (with pain/numbness in the distribution of a nerve – e.g., obturator or ilioinguinal nerve). **acetabular labral cartilage tear** (pain in the groin and front of thigh on physical activity and is made worse by extending the hip; hip can "catch" or "give way"). **osteitis pubis** involves erosion of the symphysis pubis bone with midline pubic pain that radiates to the hip and is worse with striding and pivoting. Unusual causes of hip pain include **piriformis syndrome** (dull pain in the back of the hip that may mimic sciatica; history of track competition or prolonged sitting), **dislocation of the hip** (potentially serious complications), **sacroiliac joint syndrome**, **osteoid osteoma** (benign bone tumor) and **transient osteoporosis of the hip**.

## **TREATMENT & PREVENTION:**

Hip pain can be lessened for many people by avoiding those activities that cause the pain, and by taking pain killers such as acetaminophen. Where pain is only present in one hip, it may help to sleep on the non-painful side with a pillow between the legs. After the pain improves, gradual exercise (e.g., working with a physical therapist) or swimming is helpful. You can reduce the chance of having hip problems by avoiding walking or running on an uneven surface, stretching exercises before and after exercise, avoiding falls, wearing hip pads for contact sports, and reducing your risk for osteoporosis. In some cases, more intensive medical therapy or even surgery such as hip replacement may be required.

The preceding information is based in part on the following hip pain article provided by the US Government's National Institutes of Health (<http://www.nlm.nih.gov/medlineplus/ency/article/003179.htm>).

*To answer TMT's Hip Pain questionnaire, go to <https://www.masterdocs.com/hippain/start.php>*

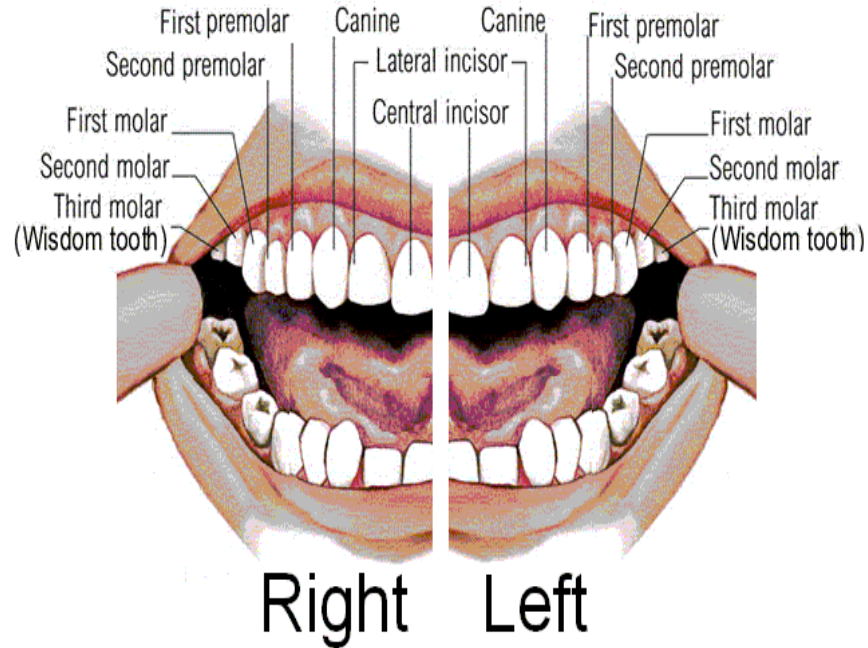
# TOOTHACHE

Toothache is pain in or around a tooth. It is usually caused by tooth decay. Other causes are infection (e.g., tooth abscess) and referred pain from a disorder in other locations (e.g., earache, jaw or mouth injury, heart attack or sinusitis).

Tooth decay is often caused by poor dental hygiene but a tendency to tooth decay may also be inherited. Good oral hygiene (regular flossing, fluoride toothpaste, regular professional cleaning) helps to prevent tooth decay. A low sugar diet, sealants and fluoride applications by the dentist may be recommended.

While waiting to see your dentist for dental pain, pain killers may help.

## ***ANATOMY OF THE MOUTH AND TEETH:***



## **7 QUESTIONS ABOUT TOOTHACHE**

The following seven questions (Yes or No answers) are used at the UK NHS website to suggest the underlying cause of toothache:

Question 1: Toothache is severe and worse with biting:

Question 2: Toothache is intermittent and relieved with painkillers:

Question 3: Toothache is affected by sweet foods:

Question 4: You have had a recent dental filling:

Question 5: Toothache is sensitive to hot and cold:

Question 6: Toothache is worse with coughing:

Question 7: You have a foul smell in the mouth:

## **SUGGESTED CAUSES BASED ON ANSWERS TO THE 7 QUESTIONS**

**YES to Question 1:** You may have an abscess beneath the tooth and may need antibiotics to relieve the infection, or you may have fractured a tooth or filling. Call your dentist.

**YES to Question 2 & NO to Question 1:** You probably have decay in a tooth or under a filling which is affecting the nerve in the tooth. Call your dentist.

**YES to Question 3 & NO to Questions 1 & 2:** You probably have a decay or a leaking filling. Call your dentist for an appointment.

**YES to Question 5 & NO to Questions 1 - 3:** You are probably suffering from tooth sensitivity. Try using a toothpaste for sensitive teeth. If the problem does not go away in 2-3 weeks of use, call your dentist for an appointment.

**YES to Question 4 and NO to Questions 1 - 3 & 5:** Some slight discomfort may occur after a filling. It should not be necessary to take painkillers. If pain is severe or persistent or you feel the bite on the tooth is “high” call your dentist to ask him/her to review the filling.

**YES to Question 6 & NO to Questions 1 – 5:** You may have sinusitis, an infection in the spaces in the bones of your face. Sometimes painkillers and an inhalant help. If the pain persists for more than a few days call your dentist or your doctor.

**YES to Question 7 & NO to Questions 1-6:** Bad breath (halitosis) is usually caused by gum disease (but may be caused by other conditions such as sinus problems and intestinal disorders). Do not just mask the problem with mouthwashes and breath fresheners.

**NO to Questions 1-7 (all Questions):** Take painkillers according to the manufacturer’s instructions (READ THESE). Avoid drinks that are too hot or too cold until your dentist has examined your teeth. Avoid food and drinks that contain sugar. Avoid hard and tough foods if biting are uncomfortable. Contact your dentist as soon as possible.

If you answer YES to question 1, your dentist may ask you if heat but not cold increases the pain (in which case a root canal or even extraction may be needed). If you need antibiotics, your dentist may also recommend endodontic treatment to remove an abscess.

Do not use the above information as medical or dental advice. The information is derived from the recommendations of the UK National Health Service and may not include the cause of your own pain. Only your dentist or health care provider can provide a reliable diagnosis and recommend appropriate treatment.

The preceding information is based on toothache articles provided by the US Government's National Institutes of Health (<http://www.nlm.nih.gov/medlineplus/ency/article/003067.htm> - updated August 12, 2005), and the UK National Health Service (<http://www.nhsdirect.nhs.uk/selfhelp/symptoms/toothache/start.asp>).

To answer TMT's Toothache questionnaire, go to <https://www.masterdocs.com/toothache/start.php>

# CHEST PAIN

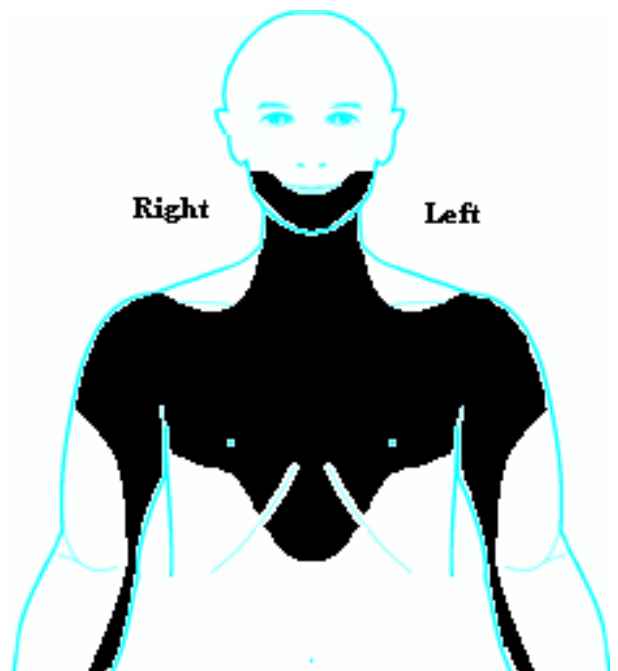
Chest pain is discomfort or pain that you feel anywhere along the front of your body between your neck and upper abdomen. There are many possible causes of chest pain. Some causes are mildly inconvenient, while other causes (such as a heart attack) can be life-threatening. Any organ or tissue in your chest can be the source of pain, including your heart, lungs, esophagus, breast, muscles, ribs, tendons, or nerves.

## **SOME OF THE CAUSES OF CHEST PAIN**

- **Digestive Causes:** indigestion, heartburn, gastroesophageal reflux (when acid from your stomach backs up into your esophagus), peptic ulcer (burns if your stomach is empty and feels better with food), gallbladder disease (pain often gets worse after a fatty meal).
- **Musculo-Skeletal Causes:** strain or inflammation of the muscles and tendons between the ribs (chest wall is often tender when you press a finger in the painful area; can often be treated at home with painkillers, ice, heat, and rest).
- **Cardiac Causes:** stable angina (heart-related chest pain that usually begins at a predictable level of activity), unstable angina (heart-related chest pain that happens unexpectedly after light activity, occurs at rest or is of recent onset), or heart attack (see below).
- **Respiratory Causes:** asthma, pneumonia, pulmonary embolism, pneumothorax or pleurisy (lung-related chest pain that often worsens when you take a deep breath or cough and usually feels sharp).
- **Emotional Causes:** panic attacks, or anxiety with rapid breathing.

## **LOCATION OF CHEST PAIN WITH CORONARY DISEASE**

Chest pain because of coronary disease (e.g., heart attack or angina) may be felt in the areas shown in black in the diagram to the right. It is most typically felt **beneath the lower and middle of the breast bone**, but may be felt in other areas: **front of chest, neck, jaw, teeth, shoulder/inside of arm** (most commonly on the left), and upper middle **abdomen**. Occasionally, chest pain from coronary disease is felt **between the shoulder blades**. A 2006 advisory from the “*Act in Time to Heart Attack Signs*” National Heart, Lung, and Blood Institute public awareness campaign encourages those with unusual or persistent pain or discomfort in those areas to seek medical treatment as quickly as possible and to utilize 911. Prompt action is particularly important in those with known coronary disease, risk factors for coronary disease, or in the coronary-prone age group (especially over 50 years of age).



## **WHEN URGENT MEDICAL ATTENTION IS NEEDED**

- Sudden onset of chest pain that lasts longer than 5 minutes or so, and has one or more of the following characteristics: a) is crushing, squeezing, tightening, or a feeling of pressure, b) radiates to the jaw, left arm, or between the shoulder blades, or c) is accompanied by nausea, dizziness, sweating, a racing heart, or shortness of breath. (Could be a **heart attack**)
- Chest pain, in someone known to have angina, that suddenly becomes more intense, that starts being brought on by lighter activity or at rest, or lasts longer than usual. (Could be **unstable angina**)
- Sudden sharp chest pain with shortness of breath, especially when the person's movement has been limited for a few days. (Could be **pulmonary embolism** resulting from a blood clot in the leg)

In the USA, almost 5 million people go to Emergency Rooms each year complaining of chest pain. Of those 5 million, about 2 million are admitted to rule out acute coronary disease. Of the 2 million admitted, about 40% are found on evaluation to be free of coronary disease. It is often difficult to identify without special tests if chest pain felt under the breastbone is caused by coronary disease or gastroesophageal reflux disease (GERD), since the symptoms may be similar and both diseases often exist in the same person. In people in whom a coronary event has been excluded but in whom chest pain of unclear cause continues, doctors sometimes use the “PPI test” in which fairly high dose protein pump inhibitor therapy is given twice a day for eight weeks to reduce secretion of stomach acid and the effect on chest pain symptoms noted.

## **CHEST PAIN FROM HEART DISEASE IS LESS LIKELY WITH:**

- Normal weight.
- Control of high blood pressure, high cholesterol, and diabetes.
- Avoidance of cigarette smoking and second-hand smoke.
- Eating a diet low in saturated and hydrogenated fats and cholesterol, and high in starches, fiber, fruits, and vegetables.
- Exercising 3 hours per week or more (such as 30 minutes per day, several days a week - even ordinary walking done regularly is good.).
- Reducing stress.

The preceding information is based on chest pain articles provided by the US Government's National Institutes of Health

(<http://www.nlm.nih.gov/medlineplus/ency/article/003079.htm>, and [http://www.nhlbi.nih.gov/health/dci/Diseases/Angina/Angina\\_WhatIs.html](http://www.nhlbi.nih.gov/health/dci/Diseases/Angina/Angina_WhatIs.html)).

*To answer TMT's Chest Pain questionnaire, go to*  
<https://www.masterdocs.com/chestpain/start.php>

# **JAW PAIN & TMJ (TEMPOROMANDIBULAR JOINT DISORDER)**

TMJ is the common name for a group of conditions, often painful, that affect the jaw joint (temporomandibular joint, or TMJ) and the muscles that control chewing. Another name used is "TMD", which stands for temporomandibular disorders. Generally, discomfort from TMJ is occasional and temporary, often occurring in cycles, and the pain eventually goes away with little or no treatment. Only a small percentage of people with TMJ pain develop significant, long-term symptoms. TMJ affects about twice as many women as men.

## ***ANATOMY***

The temporomandibular joint connects the mandible (lower jaw) to the temporal bone (at the side of the head). If you place your fingers just in front of your ears and open your mouth, you can feel the joint on each side of your head. The normal jaw can move smoothly up and down and side to side, enabling us to talk, chew and yawn. Muscles attached to and surrounding the jaw joint control its position and movement. When we open our mouths, the rounded ends of the lower jaw, called condyles, glide along the joint socket of the temporal bone. The condyles slide back to their original position when we close our mouths. To keep this motion smooth, a soft disc lies between the condyle and the temporal bone. This disc absorbs shocks to the TMJ from chewing and other movements.

## ***TMJ CATEGORIES***

A person may have one or more of these three TMJ categories at the same time.

- **Myofascial pain**, the most common form of TMJ, which is discomfort or pain in the muscles that control jaw function and the neck and shoulder muscles.
- **Internal derangement of the joint**, meaning a dislocated jaw or displaced disc, or injury to the condyle.
- **Degenerative joint disease**, such as osteoarthritis or rheumatoid arthritis in the jaw joint.

## ***CAUSES OF TMJ***

- **Injury to the Jaw or Temporomandibular Joint:** This is the most clearly established cause of TMJ.
- **Mental or Physical Stress:** Some experts believe that mental or physical stress may cause or worsen TMJ.
- **Other Causes:** Other causes of TMJ are less clear. The latest evidence suggests that TMJ is not caused by a bad bite (malocclusion), orthodontic treatment (e.g., braces and headgear), gum chewing, or jaw clicking or popping.

## ***SIGNS & SYMPTOMS***

- **Pain**, particularly in the chewing muscles and/or jaw joint, is the most common symptom.
- **Limited movement or locking of the jaw.**
- **Radiating pain in the face, neck or shoulders.**

- **Painful clicking, popping or grating sounds in the jaw** joint when opening or closing the mouth.
- **A sudden, major change in the way the upper and lower teeth fit together.**
- **Headaches, earaches, dizziness, hearing problems and other symptoms** may sometimes be related to TMJ.
- However, occasional discomfort in the jaw joint or chewing muscles is quite common and is generally not a cause for concern. Researchers are working to clarify TMJ symptoms, with the goal of developing easier and better methods of diagnosis and improved treatment.

## **DIAGNOSIS**

Because the exact causes and symptoms of TMJ are not clear, there is no widely accepted, standard diagnostic test. However, a simple physical examination of the face and jaw usually provides useful diagnostic information. Checking the patient's dental and medical history is very important. Regular dental X-rays and TMJ x-rays (transcranial radiographs) are not generally useful for diagnosis. Other x-ray techniques such as arthrography, MRI or tomography are only occasionally needed. Get a second opinion before any expensive diagnostic test.

## **TREATMENT**

The key words to keep in mind about TMJ treatment are "conservative" and "reversible." Conservative treatments are as simple as possible and are used most often because most patients do not have severe, degenerative TMJ. Conservative treatments do not invade the tissues of the face, jaw or joint. Reversible treatments do not cause permanent, or irreversible, changes in the structure or position of the jaw or teeth. Because most TMJ problems are temporary and do not get worse, simple treatment is all that is usually needed to relieve discomfort. Self-care practices, for example, eating soft foods, applying heat or ice packs, and avoiding extreme jaw movements (such as wide yawning, loud singing and gum chewing) are useful in easing TMJ symptoms. Learning special techniques for relaxing and reducing stress may also help patients deal with pain that often comes with TMJ problems. Other conservative, reversible treatments include physical therapy you can do at home, which focuses on gentle muscle stretching and relaxing exercises, and short-term use of muscle-relaxing and anti-inflammatory drugs. Short-term use of a splint (bite plate) may sometimes help. Although more studies are needed on the safety and effectiveness of most TMJ treatments, scientists strongly recommend using the most conservative, reversible treatments possible before considering invasive treatments.

The preceding information is based in part on the following articles provided by the US Government's National Institute of Dental and Craniofacial Research (<http://www.nlm.nih.gov/medlineplus/temporomandibularjointdysfunction.html>) and by the TMJ Association (<http://www.tmj.org/>).

*To answer TMT's Jaw Pain/TMJ questionnaire, go to <https://www.masterdocs.com/tmj/start.php>*

# PERIPHERAL NEUROPATHY

Peripheral neuropathy is a disorder of the nerves that lie outside the brain and spinal cord. It can cause pain, loss of sensation, and inability to control muscles (sensory and motor nerve disease), as well as abnormal blood pressure, digestion problems, and loss of other basic body processes (disease of the autonomic nerves that control blood vessels, intestines, and other organs). Damage may be to a single nerve/nerve group (mononeuropathy) or multiple nerves (polyneuropathy).

## CAUSES

Peripheral neuropathy can be caused by many diseases:

- **Diabetes** most commonly causes symmetrical, bilateral (both left and right sided) pain in the feet, ankles and lower leg. This commonly begins in both feet and moves progressively up each leg as the disease progresses and symptoms become more severe.
- **Lower back disorders** can cause sciatica pain from damage to the sciatic nerve as it exits the spine.
- **Carpal tunnel syndrome** involves compression of the median nerve in the wrist and results in pain and other symptoms in the hand and wrist.
- **Chronic, excessive alcohol intake** can also cause symmetrical, bilateral pain in the feet, ankles and lower leg.
- **Other causes of peripheral neuropathy (in alphabetic order) include:** AIDS, Amyloid disorders, Cancer, Charcot-Marie-Tooth disease, Colorado tick fever, Dietary deficiencies (especially vitamin B-12), Diphtheria, Exposure to toxic compounds, Friedreich's ataxia, Guillain-Barre syndrome, Heavy metals such as lead, arsenic, mercury, Hepatitis, Hereditary disorders, HIV infection without development of AIDS, Industrial agents -- especially solvents, Infectious or inflammatory conditions, Ischemia (decreased oxygen/decreased blood flow), Leprosy, Lyme disease, Medication-induced neuropathy, Miscellaneous causes, Nitrous oxide, Polyarteritis nodosa, Post-herpetic neuralgia, Prolonged exposure to cold temperature, Prolonged pressure on a peripheral nerve, Rheumatoid arthritis, Sarcoidosis, Sjogren's syndrome, Sniffing glue, Syphilis, Systemic lupus erythematosus, Systemic or metabolic disorders, Traumatic injury to a nerve, Uremia (kidney failure).

## SYMPTOMS

The possible symptoms depend on which type of nerve is affected.

- **Sensory Nerve Symptoms:** Pins and needles, hot/burning, numb, like electric shocks, worsening with the touch of clothing or bedsheets.
- **Motor Nerve Symptoms:** Weakness, loss of muscle bulk, loss of dexterity, cramps, lack of muscle control, paralysis, muscle twitching, difficulty breathing or swallowing, falling from legs buckling or tripping over toes, lack of dexterity such as being unable to button a shirt.
- **Autonomic Nerve Symptoms:** Blurred vision, decreased sweating, dizziness/fainting on standing up, heat intolerance with exertion, nausea or vomiting after meals, abdominal bloating, feeling full after a small meal, diarrhea, constipation, unintentional weight loss, urinary incontinence, feeling of incomplete bladder emptying, difficulty starting urination, male impotence.

## CALCULATION OF A NEUROPATHY SCORE

The Neuropathy Symptom Score (Portenoy et al, 2005) is calculated by assigning a value of +1 to each "Yes" answer to five pain characteristics (pins&needles, hot/burning, numb, like electric shocks, worse with touch of clothing/bedsheets) and a value of -1 to a "Yes" answer to the question about whether pain is limited to the joints. A score of 4 or 5 means "Strongly Consider" Neuropathy. A score of 2 or 3 means "Consider" Neuropathy. A score of 0 or 1 means Neuropathy is "Less Likely". A score of -1 means Neuropathy is "Not Likely". See Portenoy et al, Presentation at American Pain Society 2005 Annual Meeting, "A New Validated Patient-Completed Neuropathic Pain Screening Tool for Use in the Primary Care Setting".

## **MEDICAL TESTING**

Tests that your doctor may do may include electromyography (EMG), nerve conduction tests, nerve biopsy, and blood or other screening blood tests to screen for medical conditions that can cause peripheral neuropathy.

## **MANAGEMENT OF PERIPHERAL NEUROPATHY**

The symptoms and functional disabilities of peripheral neuropathy can be hard to relieve.

- **General care** can include: treat the underlying medical problem (e.g., diabetes or alcohol intake), physical therapy, occupational therapy, orthopedic interventions, wheelchairs, braces, splints, prevent infection of feet and other affected areas, orthotics devices, safety measures (e.g., railings, various appliances, remove obstacles such as loose rugs, adequate lighting during the day and night lights, test water temperature before bathing, use protective shoes (no open toes or high heels), check shoes often for grit or rough spots that can injure the feet, avoid prolonged pressure on affected areas (e.g., leaning on elbows, crossing knees), adjust your position frequently, pad vulnerable areas, use frames to keep bedclothes off tender body parts, healthy habits (optimal weight, avoid exposure to toxins, physician-supervised exercise program, eat a balanced diet, correct vitamin deficiencies, limit or avoid alcohol consumption).
- **Medications** can provide partial relief of sensory symptoms: Over-the-counter painkillers such as acetaminophen that are effective in the more common musculo-skeletal (nociceptive) pain usually have little effect in neuropathic pain. However, there are other medications can reduce neuropathic pain and symptoms. These include anticonvulsants (e.g., gabapentin, pregabalin, phenytoin, carbamazepine) and tricyclic antidepressants (e.g., amitriptyline, desipramine, nortriptyline).
- **Autonomic nerve problems** are especially hard to treat. The main autonomic problems and possible treatments include:
  - Postural hypotension:* elastic stockings, sleep with head elevated, fludrocortisone.
  - Reduced gastric motility:* metoclopramide, eat small frequent meals, sleep with head elevated.
  - Bladder problems:* pressing over the bladder with the hands to express urine, intermittent catheterization, or bethanechol medication.
  - Diarrhea:* prevent dehydration, loperamide (Imodium), bismuth subsalicylate (Pepto-Bismol)
  - Constipation:* high-fiber diet, bulking agents such as Metamucil, enemas, stool softeners
  - Male Impotence:* sildenafil (Viagra) and similar drugs, counseling.

## **OTHER PAIN TYPES**

Neuropathic pain can coexist with other types of pain (nociceptive, visceral, or psychogenic). Identification of the pain type(s) in a given person is important for both diagnosis and treatment.

- **Nociceptive pain** is the commonest type of pain and arises when small tissue structures called nociceptors are stimulated to send pain signals to the brain. Most nociceptive pain is of musculoskeletal origin, e.g., traumatic injuries, inflammation from infection or arthritis, and myofascial pain. Nociceptive pain is typically well localized, constant, with an aching or throbbing quality.
- **Visceral pain** involves the internal organs such as the gut and tends to be spasmodic and poorly localized.
- **Psychogenic pain** can occur in pure form with no obvious physical cause, but is very frequently an important contributor to pain that does have a clear physical cause.
- **Mixed pain** in which several pain types coexist is common. For example, migraine headaches probably represent a mixture of neuropathic and nociceptive pain. Myofascial pain is probably secondary to nociceptive input from the muscles, but the abnormal muscle activity may be the result of neuropathic conditions.

Additional information on chronic pain is available at [http://masterdocs.com/pain\\_diagnoses.htm](http://masterdocs.com/pain_diagnoses.htm).

The above information on peripheral neuropathy is derived largely from the work of Portenoy et al and publications by the National Institutes of Health (e.g.,

<http://www.ninds.nih.gov/disorders/peripheralneuropathy/peripheralneuropathy.htm>).

To answer TMT's Peripheral Neuropathy questionnaire, go to <https://www.masterdocs.com/peripheralneuropathy/start.php>

# WRIST/CARPAL TUNNEL PROBLEMS

This summary is for adults who have hand/wrist/carpal tunnel problems – it does not apply to children. Carpal tunnel syndrome occurs when the median nerve becomes compressed as it passes through the carpal tunnel (a rigid tunnel that passes through the ligaments and bones at the wrist) and causes symptoms in the hand. Compression of the median nerve at the wrist causes symptoms in discrete parts of the hand and fingers (see diagram below showing the median and ulnar nerve distribution in the hand).



## SYMPTOMS

Initial symptoms of carpal tunnel syndrome are intermittent numbness and tingling in the median nerve distribution of the hand. They are usually more pronounced at night (and can wake you up). Later, these symptoms may be continuous. Late symptoms can include burning, cramping, weakness of the hand grip (objects may be dropped), shooting pains in forearm, and even wasting of hand muscles. Possible symptoms include:

- Gradual onset (over weeks or months) of numbness or tingling in your hand.
- Burning sensation
- Cramping sensation
- Weakness of your hand grip
- You tend to drop objects held in your hands
- Clumsy and swollen feeling in your fingers
- Symptoms are worse at night
- Symptoms sometimes wake you up from sleep
- When you wake up in the morning, you feel a need to “shake out” your hand or wrist
- You find it difficult to form a fist
- You find it difficult to grasp small objects
- You have noticed some wasting of the muscles at the base of the thumb on the affected side(s)
- You have difficulty distinguishing in your hand between hot and cold
- Your fingers or hands are discolored
- Certain movements at the wrist reliably reproduce the symptoms
- Symptoms are confined or largely confined to your dominant hand (e.g., your right hand if you are right-handed)
- Symptoms either developed first, or are only present in your dominant hand
- You sleep with your wrists flexed

## SELF-TESTS

- **Tinel Test:** Tap the center of the front of your wrist (i.e., over the median nerve). Do you get a tingling sensation in your fingers or hand? (In a Harvard study, this finding was a good predictor of the presence of carpal tunnel syndrome when the test was performed by a physician).
- **Phalen Test:** Bend the wrist forward (i.e., in the same direction as the fingers bend) for 60 seconds. Do you get numbness, tingling or pain in your fingers or hand?

- **Cotton Wool Test:** Take a piece of cotton wool and touch the different parts of your fingers and both hands. Do you have areas where you can't feel the touch of the cotton wool?
- **Pin Prick Test:** Take a clean pin (such as a safety pin) and gently prick the different parts of your fingers and both hands. Do you have areas where you can't feel the prick?

## **HIGH RISK OCCUPATIONS/ACTIVITIES**

People at higher risk of carpal tunnel syndrome include those who:

- Do assembly line or similar work (e.g., manufacturing, sewing, furniture finishing, house/office cleaning, and meat, poultry, or fish packing).
- Frequently use vibrating hand tools.

## **OTHER RISK FACTORS FOR CARPAL TUNNEL SYNDROME**

The risk of carpal tunnel syndrome is higher with women (3 times as often), pregnancy, menopause, diabetes, obesity, rheumatoid arthritis, previous wrist dislocation or fracture, an underactive thyroid, an overactive pituitary, and a cyst or tumor in the wrist. Some people just have a small carpal tunnel. The condition almost always occurs in adults and is unusual in those under 40. There is little evidence that long-term, intensive typing can cause carpal tunnel syndrome.

## **OTHER CAUSES OF HAND/WRIST SYMPTOMS**

- **Injury:** Wrist injury can cause pain, bruising, swelling, misshapen joints and inability to move the wrist, hand, or a finger. These can be caused by fracture, sprain, strain, tendinitis, and bursitis.
- **Arthritis:** Arthritis (e.g., osteoarthritis, rheumatoid arthritis, psoriatic arthritis) can cause wrist pain, swelling, and stiffness. Infectious arthritis is a medical emergency and is suggested by redness and warmth of the wrist, fever above 100°F, and recent illness.
- **Gout & Pseudogout:** These can cause pain, redness and swelling of the joints. In gout, your body produces too much uric acid and this can form crystals in your joints. In pseudogout, calcium deposits occur in your joints (usually the wrists or knees).
- **Ulnar Tunnel Syndrome:** This is an uncommon condition that affects the ulnar rather than the median nerve. Symptoms occur in the little finger, the outer part of the ring finger and palm, and may shoot to the outer part of the forearm. It can occur by itself or together with median nerve carpal tunnel syndrome. It usually is the result of damage to the elbow or use of crutches.

## **PREVENTION & TREATMENT OF CARPAL TUNNEL SYNDROME**

Some of the following may be useful in preventing or treating carpal tunnel syndrome:

1. Avoid or reduce activities that reproduce the symptoms.
2. Adjust the height of your computer keyboard.
3. Switch hands frequently during tasks and take breaks from activities.
4. Use fingerless gloves to keep hands warm and flexible.
5. Don't work with your hands too close to or too far from your body.
6. Don't rest wrist on hard surfaces for long periods.
7. Avoid bending or twisting at the wrist for long periods.
8. Don't use tools that are too large for your hands.
9. Lose weight if you are overweight.
10. Treat any arthritis.
11. Use a wrist splint/brace.
12. Try ice packs for acute relief.
13. Over-the-counter painkillers, diuretics ("water pills"), or vitamin B6 (pyridoxine).
14. Yoga (may reduce pain and improve grip strength).
15. The utility of acupuncture and chiropractics has not been established.
16. Stretching and strengthening exercises after symptoms improve.
17. In more severe cases, a steroid or lidocaine injection into the wrist, oral steroids, or even surgery may be needed.

The above summary is largely based on an article provided by the US Government's National Institutes of Health ([http://www.ninds.nih.gov/disorders/carpal\\_tunnel/detail\\_carpal\\_tunnel.htm](http://www.ninds.nih.gov/disorders/carpal_tunnel/detail_carpal_tunnel.htm)).

To answer TMT's Wrist/Carpal Tunnel questionnaire, go to [https://www.masterdocs.com/carpal\\_tunnel/start.php](https://www.masterdocs.com/carpal_tunnel/start.php)

# DIFFERENTIATION BETWEEN DIFFERENT PAIN TYPES

## **PAIN TYPES**

Pain can be nociceptive, neuropathic, visceral, or psychogenic. Any one person can have a mixture of several pain types. Identification of the pain type (or pain types) in a given person is important for both diagnosis and treatment.

**Nociceptive pain** is the commonest type of pain. This type of pain arises when small tissue structures called nociceptors are stimulated to send pain signals to the brain. Most nociceptive pain is of musculoskeletal origin; examples include sprains, strains, fractures, burns, bruises, inflammation (from infection or arthritis), and myofascial pain. Nociceptive pain is typically well localized, constant, and often has an aching or throbbing quality.

**Neuropathic pain** arises directly from irritation or injury to the peripheral nerves. Examples include peripheral neuropathy (e.g. from diabetes or chronic alcohol use), post herpetic neuralgia (post-shingles), trauma to a nerve, and entrapment neuropathy (e.g., carpal tunnel syndrome). However, there may be a neuropathic component to many types of chronic pain (e.g., cancer pain). Neuropathic pain tends to be characterized by numbness, pins & needles, a hot/burning feeling, and a sensation like electric shocks, and may be made worse by the touch of clothing or bedsheets. Rarely, symptoms can include muscle wasting, paralysis, poor digestion of food, inability to maintain safe levels of blood pressure, abnormal sweating, abnormal sexual function, difficulty breathing, or organ failure.

**Visceral pain** involves the internal organs such as the gut and tends to be spasmodic and poorly localized.

**Psychogenic pain** can occur in pure form with no obvious physical cause, but is very frequently an important contributor to pain that does have a clear physical cause.

**Mixed pain** in which several pain types coexist is common. For example, migraine headaches probably represent a mixture of neuropathic and nociceptive pain. Myofascial pain is probably secondary to nociceptive input from the muscles, but the abnormal muscle activity may be the result of neuropathic conditions. Additional information on chronic pain is available at [http://masterdocs.com/pain\\_diagnoses.htm](http://masterdocs.com/pain_diagnoses.htm).

## **CALCULATION OF A NEUROPATHY SCORE:**

The Neuropathy Symptom Score (Portenoy et al, 2005) is calculated by assigning a value of +1 to each "Yes" answer to five pain characteristics (pins&needles, hot/burning, numb, like electric shocks, worse with touch of clothing/bedsheets) and a value of -1 to a "Yes" answer to the question about whether pain is limited to the joints. See Portenoy et al,

Presentation at American Pain Society 2005 Annual Meeting, "A New Validated Patient-Completed Neuropathic Pain Screening Tool for Use in the Primary Care Setting".

The US Government's NIH (National Institutes of Health) gives the following information on chronic pain (extracted from [http://www.ninds.nih.gov/disorders/chronic\\_pain/chronic\\_pain.htm](http://www.ninds.nih.gov/disorders/chronic_pain/chronic_pain.htm)):

While acute pain is a normal sensation triggered in the nervous system to alert you to possible injury and the need to take care of yourself, chronic pain is different. Chronic pain persists. Pain signals keep firing in the nervous system for weeks, months, even years. There may have been an initial mishap -- sprained back, serious infection, or there may be an ongoing cause of pain -- arthritis, cancer, ear infection, but some people suffer chronic pain in the absence of any past injury or evidence of body damage.

Many chronic pain conditions affect older adults. Common chronic pain complaints include headache, low back pain, cancer pain, arthritis pain, neurogenic pain (pain resulting from damage to the peripheral nerves or to the central nervous system itself), psychogenic pain (pain not due to past disease or injury or any visible sign of damage inside or outside the nervous system).

Medications, acupuncture, local electrical stimulation, and brain stimulation, as well as surgery, are some treatments for chronic pain. Some physicians use placebos, which in some cases has resulted in a lessening or elimination of pain. Psychotherapy, relaxation and medication therapies, biofeedback, and behavior modification may also be employed to treat chronic pain.

Many people with chronic pain can be helped if they understand all the causes of pain and the many and varied steps that can be taken to undo what chronic pain has done.

This information on pain types is derived largely from publications by the National Institutes of Health and from the work of Portenoy et al.

*To answer TMT's Pain Types questionnaire, go to*  
<https://www.masterdocs.com/paintypes/start.php>

# DIZZINESS

Dizziness is an imprecise term that has different meanings for different people: such as feeling light-headed, dazed, confused, woozy, far away, or heavy-headed; unsteadiness or loss of balance; feeling faint (feeling that you might pass out) or fainting (actually passing out); vertigo (a feeling that the room is spinning around you). If you see your doctor about dizziness, make sure you say what YOU mean by it. Most dizziness is not serious and either quickly resolves or is easily treated. Dizziness is one of the most common reasons older adults visit their doctors. Various causes of dizziness are described below.

## ***DIZZINESS WITHOUT VERTIGO***

### ***Minor Causes:***

**Common Postural Drop in Blood Pressure:** Dizziness after standing up suddenly or after getting up after a few days in bed.

**Flu, Common Cold or Allergies:** Often associated with lightheadedness.

**Middle Ear Infection:** Dizziness, earache, fullness in ear, deafness, ringing in ears.

**Medications:** Dizziness may result from blood pressure lowering medication that was started recently or for which the dose was recently increased. Other medications may cause dizziness (some but not all of which also reduce blood pressure).

**Hyperventilation:** Dizziness comes on just after breathing very deeply or rapidly.

**Emotional Stress:** Dizziness comes on after a very stressful event.

**Bifocals:** Dizziness comes on after raising or turning your head when you are wearing bifocals, trifocals or eyeglasses with progressive lenses.

**Motion Sickness:** Any type of transportation can cause motion sickness. It can strike suddenly as a feeling of uneasiness progressing to cold sweat, dizziness and vomiting.

### ***Major Causes:***

**Cardiac Problems:** A ***Heart Attack*** can cause dizziness associated with chest pain.

***Major Cardiac Arrhythmias*** or ***Aortic Stenosis*** can cause dizziness during vigorous exercise and may be accompanied by shortness of breath. ***Heart Block*** or ***Serious Cardiac Arrhythmias*** can cause dizziness with loss of consciousness, associated with changes in heart rate. ***Less Serious Cardiac Arrhythmias*** may cause dizziness without loss of consciousness and a sensation of a change in heart rate or palpitations.

**Stroke or TIA (Transient Ischemic Attack):** Dizziness with one of the following: numbness/tingling, blurred vision, confusion, difficulty speaking, can't move arms/legs.

**Hypoglycemia:** Dizziness, trembling, hunger, headache and irritability after missing meal or following excessive dosage of drugs for diabetes.

**Cervical Spine Disease:** Dizziness raising or turning head (usually over 50 years old).

**Anemia:** Dizziness with unusual tiredness or shortness of breath.

**Congestive Heart Failure:** Dizziness with unusual tiredness or shortness of breath.

**Actions Increasing Intra-Thoracic Pressure:** Dizziness after coughing, urinating, stretching or holding your breath. Should be evaluated by a physician.

**Heat Exhaustion or Heatstroke:** Dizziness after several hours spent in strong sunlight or in hot/stuffy conditions. Elevated temperature. Heatstroke is a medical emergency.

## **DIZZINESS WITH VERTIGO**

Dizziness associated with vertigo (a feeling that the room is spinning around you) can be minor (e.g., resulting from overindulgence in **alcohol**). Other causes are:

**Benign Paroxysmal Positional Vertigo (BPPV):** Intense and brief (less than 1 minute) vertigo on changing the position of the head (e.g., turn over in bed or sit up in morning). It is commoner in older people and following trauma to the head.

**Stroke, TIA or Cervical Spine Disease** (see above for dizziness without vertigo).

**Labyrinthitis:** Vertigo with hearing loss or noises coming from inside your ear. Inner ear viral infection (usually follows cold or flu). Sudden intense vertigo, nausea, vomiting & hearing changes usually disappear in a few days or weeks.

**Meniere's Disease:** Vertigo with fluctuating hearing loss and buzzing/ringing in the ear. Caused by build-up of fluid in the inner ear. Episode lasts up to one hour.

**Vestibular Migraine:** Vertigo with recurring severe headaches in the morning, with or without nausea/vomiting, ringing in the ears. Lasts from several minutes to several days.

**Brain Tumor or other cause of Increased Brain Pressure:** Vertigo with recurring severe morning headaches, with or without nausea/vomiting.

**Subdural Hemorrhage or Hematoma:** Vertigo with recurring severe morning headaches in the morning and a recent head injury, with or without nausea/vomiting.

**PSYCHOGENIC DIZZINESS:** The term “psychogenic dizziness” has been used to describe dizziness associated with (but not necessarily caused by) anxiety, panic disorder or agoraphobia (a fear of open or public spaces).

**OTHER CAUSES OF DIZZINESS:** Dizziness can be caused by **Benign Acoustic Neuroma, Multiple Sclerosis, Parkinson's Disease, Peripheral Neuropathy, Pulmonary Embolism, or Seizures (Epilepsy)**.

### **PREVENTION & MANAGEMENT OF DIZZINESS:**

1. If you tend to get lightheaded when you stand up, avoid sudden changes in posture.
2. If your dizziness may be the result of dehydration (e.g., you are thirsty), drink fluids.
3. During attacks of vertigo, try to rest and lie still. Avoid sudden changes in position and bright lights. Be cautious about driving or using machinery.
4. Vertigo may be helped by physical therapy and prescription medications.
5. Motion sickness may be helped by seat selection (over front of wing in a plane, front passenger seat in a car), focus on horizon, rest head against seat-back, don't read or smoke, take an antihistamine (e.g., Dramamine) before you feel sick. Eat dry cracker.
6. Surgery may be necessary for Meniere's disease.
7. Call your doctor for new onset or significant worsening of dizziness, recent change in blood pressure medications, or dizziness associated with hearing loss.
8. Emergency care is needed if dizziness is associated with a head injury, fever over 101°F, headache, very stiff neck, convulsions, continued vomiting, chest pain, heart palpitations, shortness of breath, weakness, inability to move an arm or leg, change in vision or speech, or loss of consciousness for more than a few minutes.

*To answer TMT's Dizziness Questionnaire, go to <https://www.masterdocs.com/dizziness/start.php>*

# EDEMA

Edema represents the generalized or localized buildup of fluid in the tissues and results in swelling of these tissues. The focus of this summary is edema in the feet and ankles, the most common type. Unless someone is bedridden, generalized edema is usually most obvious in the feet, ankles and lower legs (and in the evening rather than the morning). This is called “dependant edema” since gravity increases the hydrostatic pressure in dependant areas such as the feet and ankles, and fluid is squeezed out of the blood and into these tissues.

At night, the fluid tends to drain from the legs so that foot/ankle edema is usually less obvious when you get up in the morning.

Pressing an area of dependant edema firmly with your thumb for 5 seconds and removing the thumb quickly will result in pitting (an indentation where the thumb pressure was applied that takes at least one minute to fill in).

## **CAUSES OF EDEMA & ASSOCIATED SYMPTOMS**

Slight edema is common and may be quite harmless; this occurs particularly in older people, in people who are overweight, in pregnant and post-menopausal women, and in some women at the time of their menstrual periods; it is particularly noticeable in the evening after prolonged standing, or after long airplane flights or car rides.

**Heart Failure:** Excess fluid accumulates in the body. In ambulatory patients, this results in fairly symmetrical, dependant, pitting edema of the ankle/foot that is most pronounced in the evening. Sometimes, fluid returning to the central circulation when a patient with heart failure goes to bed can cause the medical emergency of acute pulmonary edema (“cardiac asthma”) when edema accumulates in the lungs and the patient wakes up coughing, wheezing and short of breath.

**Deep Venous Thrombosis:** A thrombus (clot) that develops in the deep veins of the leg can obstruct the blood in the veins from returning to the body, resulting in edema of the affected leg. A significant thrombus resulting in edema usually occurs in only one leg, so that the edema tends to be only in one leg; however, both legs can sometimes be affected. Sometimes, there is a danger of a clot breaking off and going to the lungs (pulmonary embolism). Risk factors for deep venous thrombosis include being bedridden, prolonged sitting or immobilization (such as on long plane or car trips), recent surgery or trauma (especially hip, knee or gynecological surgery), fractures, childbirth within the last 6 months, the use of medications such as estrogen and birth control pills, malignant (cancerous) tumor, inherited or acquired hypercoagulability, and polycythemia vera. The condition is commoner in those over 60 years of age.

**Medications:** Medications that can cause edema include calcium channel blockers (especially amlodipine), female hormones (e.g., birth control pills or hormone replacement therapy), corticosteroids (e.g., prednisolone) and some types of antidepressants. The mechanism by which medications cause edema is not always clear and may involve local fluid accumulation in the feet and ankles rather than excess accumulation of fluid within the whole body. Calcium channel blockers cause dependent,

pitting edema of the foot/ankle. Steroids cause non-pitting swelling (e.g., a “moon” face).

**Local Injury, Infection or Inflammation:** Injury, infection, inflammation or surgery affecting your ankle or foot can cause local swelling/edema (e.g., in one ankle).

**Kidney Failure:** In kidney failure, the kidney cannot eliminate enough salt and water and the excess fluid accumulates in the body, particularly in the feet, hands, abdomen, or face.

**Liver Failure:** Excess fluid accumulates in the body because the liver does not produce enough proteins to maintain the osmotic concentration of the blood, so that fluid leaks into the tissues, particularly the legs and the abdomen.

**Myxedema:** An underactive thyroid can cause puffy face and hands, and non-pitting edema of the feet and lower leg.

**Minor Frequent Causes:** Fairly minor causes of edema include varicose veins, venous insufficiency, burns, or insect bites or stings.

**Other Causes of Non-Pitting Edema:** A number of other diseases can cause edema. In **lymphedema**, non-pitting edema is caused by obstruction to the flow of lymph and tends to be local because the obstruction is confined to non-pitting edema of one part of the lymphatic circulation (e.g., one leg or arm). In **angioedema**, an allergic response causes non-pitting swelling beneath the skin (especially eyes and lips); if laryngeal involvement causes stridor (crowing sound on inspiration), protect the airway and get emergency medical care.

The preceding information is based largely on the following articles provided by the US Government's National Institutes of Health:

<http://www.nlm.nih.gov/medlineplus/ency/article/003104.htm> and

<http://www.nlm.nih.gov/medlineplus/edema.html>

*To answer TMT's Edema questionnaire, go to*

<https://www.masterdocs.com/edema/start.php>

# FEELING ILL

This summary is for adults who are feeling ill – it does not apply to children.

**Feeling ill is a persistent vague feeling of not feeling well.** It is the opposite of a robust feeling of excellent health. The feeling of being ill, regardless of the cause, is usually associated with certain general body symptoms (i.e., not localized to a part of the body, or a body organ):

- **Malaise** (vague feeling of discomfort).
- **Fatigue** (tiredness).
- **Lassitude** (weariness).
- **Lethargy** (sluggishness).

Most medical conditions are associated with some symptoms, but only some medical conditions result in your “feeling ill”. The nature and location of additional symptoms depend on the nature of the medical condition causing the ill feeling, and often point the way to the diagnosis. Some causes of feeling ill are discussed below:

**Heart Attack:** One unusual but very important **acute** cause is a **Heart Attack**, the symptoms of which may be a very sudden feeling of unusual tiredness accompanied by discomfort or pain in the chest which sometimes spreads to the arms, neck, jaw, abdomen or between the shoulder blades. Sometimes the feeling of intense tiredness is more prominent than the chest discomfort.

Conditions that can be associated with feeling ill for **weeks or months** include:

- **Aftermath of a Viral Illness** such as ‘flu.
- **Anxiety** disorder.
- **Stress** disorder.
- **Depression.**
- **Diabetes.**
- **Anemia.**
- **Obesity.**
- Some **Medications.**
- Underactive or overactive **Thyroid** gland.
- **Chronic Fatigue Syndrome.**
- **Bowel Diseases** (e.g., malabsorption, inflammatory bowel disease, lactose intolerance).
- **Chronic Infection** (e.g., TB or AIDS).
- **Cancer.** Your doctor can check for these problems.

The following articles provided by the US Government's National Institutes of Health and the US National Library of Medicine through the Medline Medical Encyclopedia (<http://www.nlm.nih.gov/medlineplus/encyclopedia.html>) provide information on some of the conditions that can make you feel ill:

Heart Attack: <http://www.nlm.nih.gov/medlineplus/ency/article/000195.htm>

Flu (Influenza): <http://www.nlm.nih.gov/medlineplus/ency/article/000080.htm>

Anxiety: <http://www.nlm.nih.gov/medlineplus/ency/article/000917.htm>

Stress & Anxiety: <http://www.nlm.nih.gov/medlineplus/ency/article/003211.htm>

Depression: <http://www.nlm.nih.gov/medlineplus/ency/article/003213.htm>

Diabetes: <http://www.nlm.nih.gov/medlineplus/ency/article/001214.htm>

Anemia: <http://www.nlm.nih.gov/medlineplus/ency/article/000560.htm>

Obesity: <http://www.nlm.nih.gov/medlineplus/ency/article/003101.htm>

Underactive Thyroid: <http://www.nlm.nih.gov/medlineplus/ency/article/000353.htm>

Overactive Thyroid: <http://www.nlm.nih.gov/medlineplus/ency/article/000356.htm>

Chronic Fatigue Syndrome: <http://www.nlm.nih.gov/medlineplus/ency/article/001244.htm>

Malabsorption: <http://www.nlm.nih.gov/medlineplus/ency/article/000299.htm>

Crohn's Disease: <http://www.nlm.nih.gov/medlineplus/ency/article/000249.htm>

Ulcerative Colitis: <http://www.nlm.nih.gov/medlineplus/ency/article/000250.htm>

Lactose intolerance: <http://www.nlm.nih.gov/medlineplus/ency/article/000276.htm>

Tuberculosis (TB): <http://www.nlm.nih.gov/medlineplus/ency/article/000077.htm>

AIDS: <http://www.nlm.nih.gov/medlineplus/ency/article/000594.htm>

Cancer: <http://www.nlm.nih.gov/medlineplus/ency/article/001289.htm>

You can read more about the many causes of feeling ill in our compilation of medical articles ([http://masterdocs.com/medical\\_articles.htm](http://masterdocs.com/medical_articles.htm)).

*To answer TMT's Feeling Ill questionnaire, go to [https://www.masterdocs.com/feeling\\_ill/start.php](https://www.masterdocs.com/feeling_ill/start.php)*

# FEVER

This summary is for fever in adults only – it does not apply to children, particularly very young children and infants. Fever is not a disease but may indicate a disease. The normal temperature in an adult population is 97.6-98.9 degrees Fahrenheit but what is “normal” varies from person to person, and your temperature is lower in the morning and higher in the late afternoon and evening. Slight rises in temperature are not serious in themselves but an oral temperature in an adult of 103 degrees or higher can be dangerous. A digital thermometer is best for taking your temperature (don't do it after a hot bath, a hot or cold drink, or smoking a cigarette).

Fever may actually be useful in helping your body fight off bacterial and viral infections, and you should not reduce a moderate fever caused by an infection with aspirin, acetaminophen or similar drugs. Make sure you drink plenty of fluids when you have a fever. If you have a very high fever, you may be able to bring your temperature down with a shower or sponge bath of lukewarm water.

Some symptoms may accompany a moderate fever, regardless of the cause of the fever: sweating, shivering, headache, muscle aches, poor appetite, dehydration, chills, general weakness. Very high fevers may cause hallucinations, confusion, irritability or convulsions.

The presence (and in particular the location) of other symptoms may help to determine the cause of the fever. Some causes of fever are discussed below:

**INFECTIONS:** Many viral infections such as the flu (influenza), severe common colds and infectious mononucleosis can cause fever. Many bacterial infections can also cause fever, including strep throat, acute bacterial bronchitis, acute flare-ups of chronic bronchitis, bacterial pneumonia, urinary tract infections, bacterial gastroenteritis, ear infections, meningitis, pelvic inflammatory disease in women, sexually transmitted diseases, and skin infections such as abscesses and cellulitis. Respiratory or urinary symptoms or the location of other symptoms may point to the part of the body where an infection is localized. Meningitis is uncommon but requires immediate medical attention and is suggested by a stiff neck, pain when you bend your head forward at the neck, and increased sensitivity to bright light. HIV/AIDS viral infection can cause fever, often from opportunistic infections arising because of deficiency of the immune system. The best way to avoid common infections such as the flu or common colds is to wash your hands often, rubbing both the back and front of the hand with soap and rinsing thoroughly. Try to avoid touching your nose, mouth or eyes with your hands. Symptoms other than fever suggesting individual infections are:

- **Pneumonia or bronchitis:** Short of breath at rest, coughing rust-colored or grayish-yellow mucus, wheezing.
- **Viral infection:** Headache, aching joints & bones, cough
- **Gastroenteritis:** Vomiting, diarrhea
- **Throat infection:** Sore throat
- **Kidney infection:** Pain in kidney area (one or both sides of back just above waist), chills
- **Urinary tract infection:** Painful or more frequent urination

- **Meningitis:** “Classic” signs are: rash of purple spots, nausea or vomiting, headache, sensitivity of eyes to bright light, pain on bending head forward at the neck, drowsiness or confusion. However, a recent study (Thompson et al, Lancet 2006) showed that earlier in the disease, three-quarters of patients show signs of sepsis (leg pains, cold hands and feet, abnormal skin color).
- **Lyme disease:** One or more reddish brown spots with whitish center
- **Allergic purpura:** Rash of purple spots
- **Measles:** Red spots rash, runny nose, sore & red eyes, dry cough
- **Rubella:** Red spots and swelling at back of neck
- **Chickenpox:** Red itchy spots and blisters

**INFLAMMATORY DISEASES (E.G., RHEUMATOID ARTHRITIS, ANKYLOSING SPONDYLITIS, COLLAGEN DISEASES, INFLAMMATORY BOWEL DISEASE):** Inflammatory diseases such as rheumatoid arthritis can cause persistent fever that is most pronounced when flare-ups of the disease occur. The more common condition of osteoarthritis is not associated with fever.

**MEDICATIONS:** Antibiotics, antihypertensives, anticonvulsants, antihistamines and barbiturates may occasionally cause fever.

**HEAT EXHAUSTION AND HEATSTROKE:** If you have been out all day in the hot sun, particularly if you exercised too much and did not drink enough fluids, you may get heat exhaustion or heatstroke. With heat exhaustion you may feel generally ill, dizzy, and faint, with rapid pulse and respiration, profuse sweating; cool/clammy/pale skin, headache, muscle cramps, vomiting, and a normal or slightly (100 degrees) elevated temperature. With heatstroke (a medical emergency) you may be confused, lose consciousness or have a seizure, and have a hot/dry/flushed skin, rapid pulse, vomiting, and a very high (above 103 degrees) temperature.

**CANCER AND OTHER GENERAL DISEASES:** If you have fever that lasts for more than a few days and has no obvious cause, your doctor can do blood tests and other tests to exclude cancer or a number of other serious or non-serious diseases that can cause persistent fever.

The preceding information is based partly on the following article provided by the Mayo Clinic: <http://www.mayoclinic.com/health/fever/DS00077>.

To answer TMT's Fever questionnaire, go to <https://www.masterdocs.com/fever/start.php>

# **SLEEP PROBLEMS**

Sleep problems are quite common, particularly in the elderly and in pregnant women. You can improve your chances of having a good night's sleep if you exercise physically and avoid sleeping during the day, cut back or eliminate alcohol or caffeine in the evening, avoid heavy meals just before bed, drink a glass of warm milk before going to bed, take a warm bath to relax before bed, keep your bedroom cool, make sure your mattress is comfortable, keep the noise and light at the level you are used to when sleeping, and use your bed only for sleeping and sex. If these measures are ineffective, you can discuss the problem with your doctor.

## ***SYMPTOMS***

Sleep disturbance can sometimes be caused by underlying diseases with characteristic symptoms such as:

### ***DEPRESSION***

Excessive sleeping. Waking up in the middle of the night (perhaps 2-4 am) and you are unable to get back to sleep because you brood over your problems or have feelings of worthlessness or self-hate. Other symptoms of depression include: major increase or decrease in appetite, fatigue, lack of energy, feelings of inappropriate guilt, low self-esteem, extreme difficulty concentrating, agitation, restlessness, irritability, sudden bursts of anger, inactivity, withdrawal from usual activities, lack of pleasure in things you normally enjoy (including sex), feeling of hopelessness and helplessness, or recurring thoughts of death or suicide. Do not hesitate to talk frankly with your doctor if you have symptoms that might indicate depression.

### ***ANXIETY OR STRESS DISORDER***

Stress is a normal part of life and can sometimes make you more productive. Excessive stress, however, can harm both the body and the mind. Similarly, some anxiety is normal but excessive anxiety can be disabling. Anxiety may be accompanied by twitching or trembling, muscle tension, headaches, sweating, dry mouth, difficulty swallowing, abdominal pain. Sleep problems with anxiety and stress can be accompanied by nightmares and difficulty getting to sleep rather than waking up during the night.

### ***SLEEP APNEA***

Excessive Daytime Sleepiness or Fatigue. Loud snoring. Bed partner says you have periods during the night when you stop breathing completely for a minute or so, and then gasp for breath for some seconds. You may remember waking up many times during the night gasping for breath, but this settles in a few seconds and you go back to sleep. You may have abnormalities of the tongue, tonsils, jaw or other structures that cause the air passage to close temporarily many times in the night. Symptoms may be more prominent if you sleep on your back. You

should see your doctor if you think you may have sleep apnea, since it can sometimes be dangerous and treatments are available.

### **SEVERE OBESITY**

Severe obesity confers many health risks, including sleeping problems.

### **HEART OR LUNG DISEASE**

Heart failure can wake you up at night with wheezing and shortness of breath if fluid has accumulated in your feet and ankles during the day and returns to the circulation at night. Chronic bronchitis, emphysema or asthma can also wake you up with shortness of breath or with coughing or wheezing.

### **PROSTATE PROBLEMS**

Benign prostatic hyperplasia (BPH) can disturb sleep because of the need to get up several times during the night to urinate.

### **MEDICATION-RELATED SLEEP PROBLEMS**

As well as caffeine, tobacco and alcohol, insomnia can be caused by diuretics (which can require nighttime urination), amphetamines or amphetamine-like drugs, weight loss drugs, nasal decongestants, thyroid hormone therapy, some antidepressants, or other mood-altering drugs. Reduced dosage or discontinuation of sedatives or sleeping pills can also cause insomnia. In the elderly, certain medications that are normally sedative can cause insomnia from agitation and confusion at night.

The information above is based in part on the following article provided by the US Government's National Institutes of Health:  
<http://www.nlm.nih.gov/medlineplus/ency/article/000800.htm>. More information on various causes of sleep problems and other chronic diseases is available at [http://masterdocs.com/medical\\_articles.htm](http://masterdocs.com/medical_articles.htm).

*To answer TMT's Sleep Problems questionnaire, go to*  
[https://www.masterdocs.com/sleep\\_problem/start.php](https://www.masterdocs.com/sleep_problem/start.php)

## **BPH (BENIGN PROSTATIC HYPERPLASIA)**

The prostate is part of a man's sex organs. It's about the size of a walnut and surrounds the tube called the urethra, located just below the bladder. The urethra has two jobs: to carry urine from the bladder when you urinate and to carry semen during a sexual climax, or ejaculation. Semen is a combination of sperm plus fluid that the prostate adds. The prostate is part of a man's sex organs. It's about the size of a walnut and surrounds the tube called the urethra, located just below the bladder. The urethra has two jobs: to carry urine from the bladder when you urinate and to carry semen during a sexual climax, or ejaculation. Semen is a combination of sperm plus fluid that the prostate adds.

If you're a man over 50 and have started having problems urinating, the reason could be an enlarged prostate or benign prostatic hyperplasia (BPH). As men get older, their prostate keeps growing. As it grows, it squeezes the urethra. Since urine travels from the bladder through the urethra, the pressure from the enlarged prostate may affect bladder control. Older men are at risk for prostate cancer as well, but this disease is much less common than BPH. For men under 50, the most common prostate problem is prostatitis.

### **SYMPTOMS**

If you have BPH, you may have:

- A frequent and urgent need to urinate.
- You may get up several times a night to go to the bathroom.
- Trouble starting a urine stream.
- Even though you feel you have to rush to get to the bathroom, you find it hard to start urinating.
- A weak stream of urine.
- A small amount of urine each time you go.
- The feeling that you still have to go, even when you have just finished urinating. Leaking or dribbling. Small amounts of blood in your urine.

### **COMPLICATIONS**

By itself, BPH is not a serious condition, unless the symptoms are so bothersome that you can't enjoy life. But BPH can lead to serious problems. One problem is urinary tract infections. If you can't urinate at all, you should get medical help right away. Sometimes this happens suddenly to men after they take an over-the-counter cold or allergy medicine. In rare cases, BPH and its constant urination problems can lead to kidney damage.

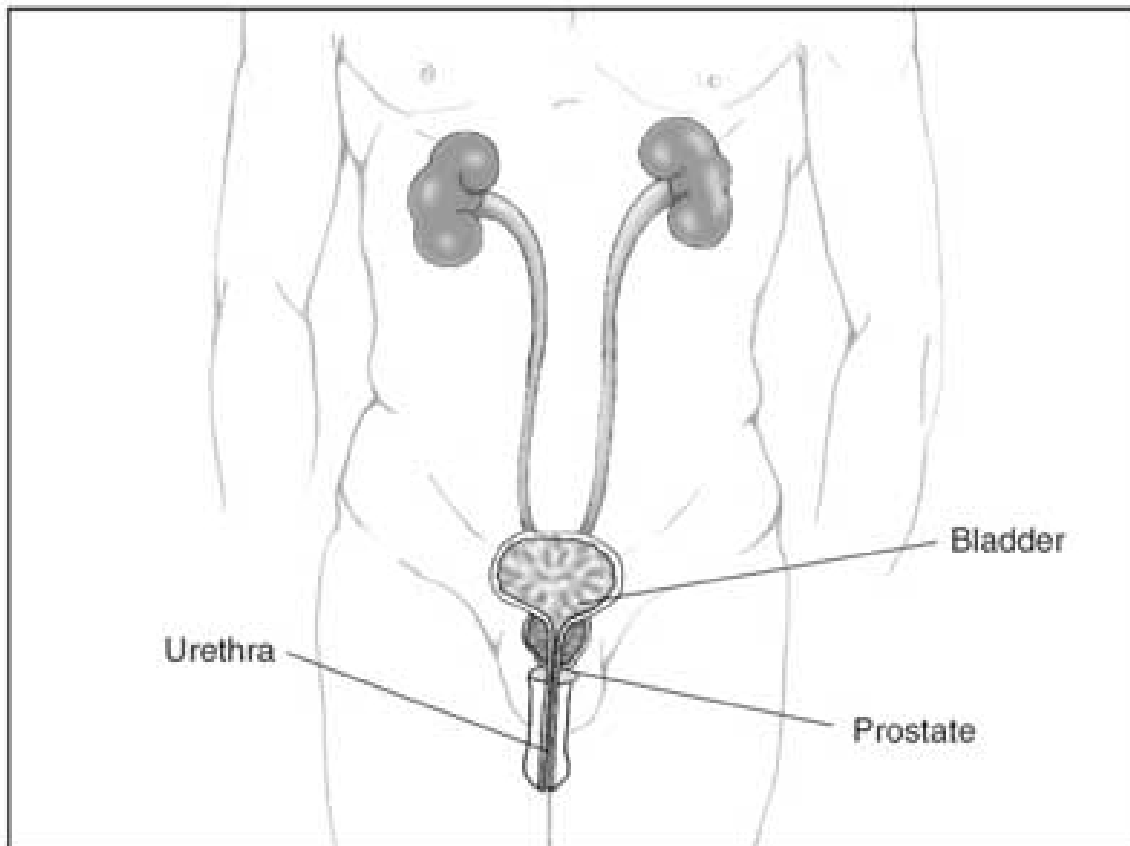
### **EVALUATION**

To evaluate the possibility of BPH, your doctor may do some of the following: Digital rectal exam. PSA (prostate-specific antigen) blood test. IVP (x-ray of the urinary tract). Rectal sonogram (ultrasound probe inserted into the rectum to bounce sound waves off the prostate). Urine flow study. Cystoscopy (thin tube with lenses like a microscope that is inserted into the bladder through the urethra).

## **TREATMENT**

Several treatments for BPH are available. You'll have to work with your doctor to find the one that's best for you. Possibilities include:

- Watchful waiting (regular checkups but no treatment).
- Medications to shrink or relax the prostate.
- Transurethral microwave thermotherapy (TUMT).
- Transurethral needle ablation (TUNA).
- Transurethral resection of the prostate (TURP).



The information above is largely derived from NIH Publication No. 05-4806, updated on November 2004 ([http://kidney.niddk.nih.gov/kudiseases/pubs/prostate\\_ez/](http://kidney.niddk.nih.gov/kudiseases/pubs/prostate_ez/)). The AUA (American Urologic Association) provides a full summary on the BPH Index, BPH treatment, etc. at:

[http://www.auanet.org/timssnet/products/guidelines/patient\\_guides/bph\\_guide\\_2003.pdf](http://www.auanet.org/timssnet/products/guidelines/patient_guides/bph_guide_2003.pdf).

To answer TMT's BPH questionnaire, go to <https://www.masterdocs.com/bph/start.php>

# DEPRESSION

In any given 1-year period, a depressive illness occurs in 9.5 percent of the American population. Most people with a depressive illness do not seek treatment, although the great majority (even those whose depression is extremely severe) can be helped. A depressive illness involves the body, mood, and thoughts. It affects the way you eat and sleep, the way you feel about yourself, and the way you think about things. A depressive illness is not the same as a passing blue mood, and is not a sign of personal weakness or something that can be willed or wished away. Without treatment, symptoms can last for weeks, months, or years. With treatment, most people with depression can be helped. Many people do not recognize that depression is treatable. If you feel that you or someone you care about may have undiagnosed depression, you can take steps that may save your own or someone else's life.

**SYMPTOMS OF DEPRESSION:** People who are depressed may have some or many of the following symptoms: Persistent sad, anxious, or "empty" mood. Feelings of hopelessness, pessimism. Feelings of guilt, worthlessness, helplessness. Loss of interest or pleasure in hobbies and activities that were once enjoyed, including sex. Decreased energy, fatigue, being "slowed down". Difficulty concentrating, remembering, making decisions. Insomnia, early-morning awakening, or oversleeping. Appetite and/or weight loss or overeating and weight gain. Thoughts of death or suicide, suicide attempts. Restlessness, irritability. Persistent physical symptoms that do not respond to treatment, such as headaches, digestive disorders, and chronic pain.

## **TYPES OF DEPRESSION:**

Three of the most common types of depressive disorders are: Major Depression, Dysthymia, and Bipolar Disorder. Within these types there are variations in severity and persistence. In major depression, symptoms interfere with the ability to work, study, sleep, eat, and enjoy once pleasurable activities and such episodes can occur once or several times in a lifetime. Dysthymia is less severe with long-term, chronic symptoms that do not disable but keep one from functioning well or from feeling good, and with an increased risk of major depression. Bipolar disorder (manic-depressive illness) is less common and is characterized by cycling mood changes: severe highs (mania) and severe lows (depression); sometimes the mood switches are dramatic and rapid, but most often they are gradual; when in the depressed cycle, an individual can have any or all of the symptoms of a depressive disorder; when in the manic cycle, the individual may show abnormal or excessive elation, unusual irritability, decreased need for sleep, grandiose notions, increased talking, racing thoughts, increased sexual desire, markedly increased energy, poor judgment or inappropriate social behavior.

## **RISK FACTORS FOR DEPRESSION:**

Certain factors increase the risk of depression. A serious personal loss, difficult relationship, financial problem, or any stressful (unwelcome or even desired) change in life patterns can trigger a depressive episode. People who have low self-esteem, who consistently view themselves and the world with pessimism or who are readily overwhelmed by stress, are more prone to depression. Some types of depression (e.g., bipolar disorder) run in families, although only some family members will have the illness, and additional factors, possibly stresses at home, work, or school, appear to be involved.

## **MEDICAL ILLNESSES THAT CAN CAUSE DEPRESSION:**

Medical illnesses such as stroke, a heart attack, cancer, Parkinson's disease, and hormonal disorders can be organic causes of depression. Rarely, a depressive episode may be caused by a brain tumor (particularly one in the frontal lobe) which can be associated with persistent headaches that are worse on awakening, visual or other neurological disturbances, or vomiting without preceding nausea. Another cause of depression is an underactive thyroid gland that can cause symptoms such as cold intolerance, constipation,

dry skin or a hoarse voice. A brain tumor, underactive thyroid or other organic causes can often be suspected from the patient's symptoms followed by appropriate diagnostic tests. It is important to exclude organic causes when evaluating patients with depression.

### **WOMEN:**

Women experience depression about twice as often as men, possibly related to hormonal factors (e.g., menstrual cycle changes, pregnancy, miscarriage, postpartum period, pre-menopause, menopause) and additional stresses (e.g., responsibilities both at work and home, single parenthood, caring for children and for aging parents). Many women are particularly vulnerable after the birth of a baby – while “baby blues” are common in new mothers, a full-blown depressive episode is not normal and requires active intervention.

### **MEN:**

Although men are less likely to suffer from depression, they are less likely to admit to depression, and doctors are less likely to suspect it. The rate of suicide in men is four times that of women, though more women attempt it. Men's depression is often masked by alcohol or drugs, or by the socially acceptable habit of working excessively long hours. Depression typically shows up in men not as feeling hopeless and helpless but as being irritable and angry.

### **ELDERLY:**

Depression in the elderly is under-diagnosed and under-treated and is not a normal part of aging. When a depressed elderly person goes to the doctor, he or she tends to describe physical symptoms rather than feelings of hopelessness, sadness, loss of interest in normally pleasurable activities, or extremely prolonged grief after a loss. Side effects of medications and concurrent physical illnesses are particularly likely to form part of the cause of depression in the elderly.

### **CHILDREN:**

Depression in children is a serious matter and should be taken seriously. The depressed child may pretend to be sick, refuse to go to school, cling to a parent, or worry that the parent may die. Older children may sulk, get into trouble at school, be negative, grouchy, and feel misunderstood. Because normal behaviors vary from one childhood stage to another, it can be difficult to tell whether a child is just going through a temporary "phase" or is suffering from depression.

### **WHERE TO GO FOR HELP:**

If you are unsure where to go for help, check the Yellow Pages (in the U.S.) under "mental health", "health", "social services", "suicide prevention", "crisis intervention services", "hotlines", "hospitals", or "physicians" for phone numbers and addresses. In times of crisis, the emergency room doctor at a hospital may be able to provide temporary help for an emotional problem, and will be able to tell you where and how to get further help.

This summary is based largely on the following articles provided by the U.S. Government's National Institutes of Health (NIH): <http://www.nimh.nih.gov/publicat/depression.cfman> and <http://www.nlm.nih.gov/medlineplus/ency/article/000945.htm> and you are advised to read these articles for definitive information on this subject.

*To answer TMT's Depression questionnaire, go to*  
<https://www.masterdocs.com/depression/start.php>

# INFLUENZA (“FLU”)

Each year 5%-20% of the American population gets the flu, with about 36,000 deaths and 200,000 hospitalizations. Much of this can be prevented by simply getting a flu shot. Yet only 27% of Americans had the flu vaccine in 2003-4. The vaccination rate gets progressively higher with increase in risk category. However, even in the group at highest risk of flu complications (those 65 or over with chronic illness) about one third of people are not vaccinated. Some people, such as older people, young children, and people with certain health conditions, are at high risk for serious flu complications.

**Flu spreads** by infected persons coughing and sneezing, and sometimes by touching something with flu viruses on it and then touching your mouth or nose. Adults can spread the flu from 1 day before they get sick up to 5 days after. Children can be infectious for more than 10 days, and young children can shed virus for several days before their illness onset. The typical incubation period after exposure is 1-4 days.

**Symptoms of flu** include: fever (usually high), headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, muscle aches, nausea, vomiting, diarrhea. Flu symptoms usually last 3-7 days.

**Complications of flu** include bacterial pneumonia, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes. Children may get sinus problems and ear infections.

## **PEOPLE FOR WHOM A FLU SHOT WAS RECOMMENDED FOR THE FALL OF 2005 WERE:**

### **1) People at high risk for complications from the flu:**

- People 65 years and older.
- People who live in nursing homes and other long-term care facilities that house those with long-term illnesses.
- Hurricane Katrina evacuees who are living in crowded group settings. Adults and children 6 months and older with chronic heart or lung conditions, including asthma.
- Adults and children 6 months and older who needed regular medical care or were in a hospital during the previous year because of a metabolic disease (like diabetes), chronic kidney disease, or weakened immune system (including immune system problems caused by medicines or by infection with human immunodeficiency virus [HIV/AIDS]).
- Children 6 months to 18 years of age who are on long-term aspirin therapy. (Children given aspirin while they have influenza are at risk of Reye syndrome.)
- Women who will be pregnant during the influenza season.
- All children 6 to 23 months of age.
- People with any condition that can compromise respiratory function or the handling of respiratory secretions (that is, a condition that makes it hard to breathe or swallow, such as brain injury or disease, spinal cord injuries, seizure disorders, or other nerve or muscle disorders.)

2) **People 50 to 64 years of age.** Because nearly one-third of people 50 to 64 years of age in the United States have one or more medical conditions that place them at increased risk for serious flu complications, vaccination is recommended for all persons aged 50 to 64.

3) **People who can transmit flu to others at high risk for complications.** Any person in close contact with someone in a high-risk group (see above) should get vaccinated. This includes all health-care workers, household contacts and out-of-home caregivers of children 6 to 23 months of age, and close contacts of people 65 years and older.

**PEOPLE WHO SHOULD NOT BE VACCINATED WITHOUT FIRST CONSULTING A PHYSICIAN INCLUDE:**

- People who have a severe allergy to chicken eggs.
- People who have had a severe reaction to an influenza vaccination in the past. People who developed Guillain-Barré syndrome (GBS) within 6 weeks of getting an influenza vaccine previously.
- Children less than 6 months of age (influenza vaccine is not approved for use in this age group).
- People who have a moderate or severe illness with a fever should wait to get vaccinated until their symptoms lessen.

**Bird Flu:** Health authorities worldwide are properly concerned about the risk of a flu pandemic if the current Asian bird flu mutates to allow easy human-to-human transmission. However, this is a theoretical risk and is no reason to ignore vaccination against the common variety of flu which we KNOW will come again this winter season. The Asian bird flu is caused by a H5N1 A strain virus. This year's available trivalent flu vaccine for people is active against several A and B strain viruses but it is not known how active this vaccine will be against a pandemic caused by a mutated bird flu virus.

**Antiviral Drugs:** Antiviral drugs of the neuraminidase inhibitor class, oseltamivir (Tamiflu) and zanamivir (Relenza), can reduce the severity and duration of the flu if given within 48 hours of onset of symptoms. The current H5N1 bird flu virus that causes bird-to-human transmission appears to be susceptible to the neuraminidase inhibitors (although resistance has rarely been reported); however, if a variant of this virus develops that causes human-to-human transmission, these drugs might not be effective. An older class of antiviral drugs, the M2 inhibitors amantadine and rimantadine, could potentially be used against pandemic influenza, but resistance to these drugs can develop rapidly, and a January 15, 2006 CDC advisory states that the 2005-2006 season flu virus is resistant to amantadine and rimantadine and that these should not be used for prevention or treatment of the 2005-2006 season's flu. The new drugs oseltamivir (Tamiflu) and zanamivir (Relenza) should be used when anti-viral drugs are required for prevention or treatment. However, the M2 inhibitors might be effective against a human-to-human variant of the H5N1 bird flu virus.

The Centers for Disease Control (CDC) has much helpful information about the flu (<http://www.cdc.gov/flu/>). Information on bird flu and the possibility of pandemic flu can be seen at [http://www.who.int/csr/disease/avian\\_influenza/avian\\_faqs/en/index.html](http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html) and <http://www.pandemicflu.gov/>. Newspapers and magazine articles provide late breaking news on these subjects, but may sometimes be alarmist.

To answer TMT's Flu questionnaire, go to <https://www.masterdocs.com/flu/start.php>



**Tumors** that damage or compress the parts of the brain that deal with vision.

Other diseases that may affect the visual field of the eye include:

- **Diabetes.**
- **Hyperthyroidism** (a condition where the thyroid produces an excess of hormones).
- **Hypertension.**
- **Pituitary** gland diseases.
- **Multiple sclerosis.**
- **Glaucoma.**
- **Optic glioma.**
- **Stroke** (including stroke secondary to cardiogenic embolism, carotid dissection, or cocaine).

The preceding summary is largely based on an NIH article (updated August 11, 2005) at <http://www.nlm.nih.gov/medlineplus/ency/article/003879.htm>.

*To answer TMT's Visual Fields questionnaire, go to <https://www.masterdocs.com/visualfields/start.php>*