CONDITION

Progressive supranuclear palsy

Progressive supranuclear palsy is a brain condition that gradually affects balance, movement, eye control, speech, swallowing, and thinking.

WHAT IT IS
Progressive brain condition affecting movement, balance, vision, and thinking

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Early falls, stiff movement, gaze problems, speech changes

WHAT CAUSES IT
Unknown, with abnormal tau protein buildup

HOW IT IS DIAGNOSED
Neurological assessment, with MRI supporting the diagnosis

MAIN TREATMENT
Symptom medicines, rehabilitation, equipment, and supportive care

CAN IT BE CURED?
No, current treatments only ease symptoms

IS IT AN EMERGENCY?
Sometimes, with choking, breathing trouble, or serious injury

LONG-TERM OUTLOOK
Gradual worsening with increasing need for support

Overview

Progressive supranuclear palsy, or PSP, is a condition that damages certain parts of the brain over time. It affects movement, balance, eye control, speech, swallowing, behaviour, and thinking.

"Supranuclear" refers to the brain networks that control eye movement. "Palsy" means weakness or loss of control, although PSP is not simply a muscle weakness condition.

PSP can resemble Parkinson's disease, especially at first. However, people with PSP often fall earlier, stand with a more upright or backward-leaning posture, and have greater difficulty moving their eyes up or down. The two conditions also tend to respond differently to Parkinson's medicines.

PSP matters because its symptoms gradually interfere with walking, communication, eating, and everyday tasks. There is currently no treatment that stops or reverses the underlying brain changes. Care therefore focuses on easing symptoms, preventing avoidable injuries, and helping you maintain comfort and independence for as long as possible.

Symptoms

Symptoms usually develop gradually. The first sign is not the same for everyone, and the pattern may become clearer over time.

Balance problems are common early features. You may feel unexpectedly unsteady or fall backward without being able to catch yourself. Turning, using stairs, and moving through crowded spaces may become difficult.

Movement changes can include:

Eye movement problems are especially important in PSP. It may become difficult to look down, making steps, food, or objects on a table harder to see. Looking up can also become limited. These problems come from reduced control of voluntary eye movements, not from weak eye muscles.

Some people have blurred or double vision. The eyelids may close involuntarily, remain difficult to open, or blink less often. Reduced blinking can cause dry, irritated eyes.

Speech may become slow, quiet, strained, or difficult to understand. Swallowing problems can cause coughing during meals, food sticking in the throat, or saliva collecting in the mouth. Some people eat quickly or take large mouthfuls, increasing the risk of choking.

Changes in thinking and behaviour may include slowed thought, difficulty planning, loss of motivation, impulsive actions, irritability, or inappropriate laughing or crying. Memory can be affected, but planning and self-control problems are often more noticeable than forgetfulness. Depression and anxiety can also occur.

Not everyone develops every symptom. Some forms begin with movement changes similar to Parkinson's disease, while others begin with speech, language, or behavioural changes.

- Stiffness, particularly in the neck and trunk
- Slower movement and difficulty starting an action
- An upright or backward-leaning posture
- Sudden freezing while walking
- Reduced facial expression

- Muscle spasms or abnormal postures, called dystonia

Causes and risk factors

PSP is associated with an abnormal buildup of a protein called tau inside brain cells. Tau normally helps support the internal structure of nerve cells. In PSP, it changes shape and collects in areas involved in movement, balance, eye control, and thinking. The affected cells gradually stop working and die.

Why this process begins is not known. PSP is described as a tauopathy, meaning a condition involving abnormal tau protein.

Most cases are sporadic. This means they occur without a clear family pattern. Certain genetic differences may affect risk, but PSP is not usually inherited directly from a parent. Having PSP does not usually mean that your children will develop it.

There is no established link to anything you did or failed to do. PSP is not caused by an infection, is not contagious, and cannot be passed between people.

Diagnosis

There is no single blood test or brain scan that can confirm PSP during life. Diagnosis is based mainly on your symptoms, their timing, and a neurological examination.

A neurologist may assess:

Magnetic resonance imaging, or MRI, can show shrinkage in brain areas commonly affected by PSP. It also helps rule out stroke, a tumour, pressure buildup, or other structural causes. MRI findings can support PSP, but a normal or unclear scan does not always exclude it.

Blood tests may be used to look for other explanations. Occasionally, other scans, swallowing tests, sleep assessments, or detailed thinking and language tests are needed. A dopamine transporter scan may show reduced dopamine activity, but it cannot reliably distinguish PSP from Parkinson's disease or some related conditions.

PSP may be difficult to identify early. The diagnosis can change as new symptoms appear. Follow-up with a clinician experienced in movement disorders can help clarify the pattern.

- Walking, posture, balance, and falls
- Eye movements and eyelid control
- Muscle stiffness and speed of movement

- Speech, swallowing, memory, and behaviour
- Whether symptoms improve with Parkinson's medicine

Treatment and management

There is no cure or approved treatment that stops PSP from progressing. Management usually involves several professionals and is adjusted as your needs change.

Levodopa and related Parkinson's medicines may modestly improve stiffness or slowness in some people, especially when the condition initially resembles Parkinson's disease. The benefit is often limited or temporary. These medicines usually do not greatly improve falls, eye movement, speech, or swallowing.

Other medicines may be considered for depression, sleep problems, muscle spasms, eyelid closure, saliva control, or emotional outbursts. Botulinum toxin injections can sometimes help selected muscle spasms or involuntary eyelid closure. Every treatment should be reviewed for side effects, including effects on alertness, blood pressure, balance, and swallowing.

Physiotherapy can help you practise safer movement and maintain strength and joint flexibility. Because backward falls are common, ordinary walking frames may not be suitable. A physiotherapist or occupational therapist can recommend an aid designed for your movement pattern.

Occupational therapy can help with washing, dressing, seating, stairs, and changes at home. Removing trip hazards, improving lighting, and installing suitable rails may reduce injury risk.

A speech and language therapist can support clearer communication and assess swallowing. Communication boards, writing tools, voice amplifiers, or electronic devices may help as speech changes.

Swallowing management may include changing food texture, adjusting posture, slowing the pace of meals, and using safer drinking methods. These steps should be based on an individual swallowing assessment. If eating becomes unsafe or does not provide enough nutrition or fluid, tube feeding may be discussed. A feeding tube can support nutrition, but it does not remove every risk of aspiration, which means food, drink, or saliva entering the airway.

Palliative care can be involved alongside other treatments. It is not limited to the final stage of life. It can help with symptoms, difficult decisions, caregiver support, and planning care around what matters to you.

Complications

Falls may lead to bruises, fractures, or head injuries. Mobility equipment and home changes can reduce risk, although they cannot prevent every fall.

Swallowing difficulty can cause weight loss, dehydration, choking, or aspiration pneumonia. Aspiration pneumonia is a lung infection that may occur when material enters the airway.

Reduced movement can contribute to constipation, pressure injuries, pain, blood clots, and chest infections. Eye movement problems may make reading, eating, and walking more difficult even when eyesight itself remains clear.

Communication changes can make it harder to express needs or take part in conversations. Behavioural changes may also place strain on relationships. Early use of communication aids and caregiver support can help.

Prevention

PSP cannot currently be prevented. Its underlying cause is unknown, and there is no proven diet, supplement, exercise plan, or screening test that stops it from developing.

Once symptoms are present, some complications may be reduced. Falls assessments, suitable mobility aids, swallowing reviews, vaccination against respiratory infections when appropriate, and early treatment of infections can support safety and health. These measures manage risk; they do not slow the underlying condition.

Living with it and what to expect

PSP progresses over months and years. The pace and order of changes differ between people, but balance, mobility, speech, swallowing, and daily activities generally become more difficult.

Early on, you may remain independent with adjustments. Over time, many people need help with walking, personal care, meals, communication, medicines, and household tasks. A wheelchair may become the safest way to move longer distances and later may be needed more regularly.

PSP shortens life expectancy, often because of complications such as aspiration pneumonia, serious falls, or reduced mobility. It is not possible to predict an individual timeline from the diagnosis alone.

Regular follow-up is useful even when symptoms seem stable. Reviews can identify changes in swallowing, weight, communication, vision, mood, sleep, and caregiver needs before they

become crises.

Planning ahead can give you more control. This may include discussing future care, appointing someone to make decisions if needed, recording your preferences, and reviewing driving. These conversations can happen gradually and can be updated.

Many people continue to enjoy relationships, music, outings, humour, and meaningful routines. Activities often need to be adapted rather than stopped immediately. Support groups and specialist charities may help you and those close to you feel less isolated.

When to get medical help

Arrange routine follow-up if you notice new falls, worsening stiffness, changes in vision, increasing difficulty speaking, low mood, disturbed sleep, or greater difficulty with everyday tasks. New coughing during meals, unexplained weight loss, or longer mealtimes should prompt a swallowing review.

Seek urgent medical advice for:

Call emergency services for severe breathing difficulty, choking that does not clear, loss of consciousness, or a serious head injury. Sudden facial drooping, one-sided weakness, or an abrupt speech change may be signs of a stroke rather than ordinary PSP progression and also require emergency care.

- Repeated choking or coughing when eating and drinking
- Fever, new cough, chest pain, or unusual breathlessness
- A sudden major decline in walking, alertness, or swallowing
- Signs of dehydration, such as very little urine or increasing confusion
- A fall followed by persistent pain or reduced ability to move

Common questions

Is PSP the same as Parkinson's disease?

No. Both can cause stiffness and slow movement, but they are different conditions. PSP more often causes early backward falls, difficulty looking up or down, and problems with speech and swallowing. Parkinson's medicines are usually less effective in PSP.

Is progressive supranuclear palsy inherited?

Usually not. Most people have no close relative with PSP. Genetic differences may influence

risk, but direct parent-to-child inheritance is uncommon. Genetic advice may be considered when several relatives have related neurological conditions.

Can glasses fix the eye problems in PSP?

Glasses may correct ordinary focusing problems, but they cannot restore the brain's control of eye movement. Practical changes, such as moving reading material, using good lighting, or turning your head instead of relying only on your eyes, may help. Prisms help some people with double vision but have limited benefit when eye movement is severely restricted.

How quickly does PSP get worse?

PSP gradually progresses, but an exact timeline cannot be predicted. The starting symptoms, pattern of PSP, general health, infections, and injuries can all affect how someone functions. Regular review is more useful than relying on a fixed schedule.

Does a feeding tube stop aspiration pneumonia?

Not completely. A feeding tube can provide nutrition, fluids, and medicines when swallowing is unsafe or exhausting. Saliva or stomach contents can still enter the airway, so aspiration remains possible. The choice involves medical needs, comfort, and personal preferences.

Can exercise slow PSP?

Exercise has not been proven to stop the underlying brain changes. Carefully chosen activity may help maintain strength, flexibility, comfort, and confidence. Because falls are common, exercises should match your balance and mobility and may need supervision.

Sources

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