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The Dish on DISH: Diffuse Idiopathic Skeletal Hyperostosis

Diffuse idiopathic skeletal hyperostosis (DISH) is a little-understood, oft-misdiagnosed source of back pain. Learn about this condition (and how to prevent it).

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Back pain: Now there's a loaded term. A staggering number of health conditions list [back pain](#) [8] as a symptom, and it can be difficult or even impossible to pinpoint the exact cause. Often that's not a problem because most cases of back pain go away by themselves in a matter of weeks.



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Diffuse idiopathic skeletal hyperostosis causes muscles and tendons, mostly near your spine, to harden.

Back and spine conditions such as [back muscle strains](#) [10] and [herniated discs](#) [11] are the usual suspects for back pain, but if the obvious conditions aren't the culprit your healthcare providers will have to dig deeper.

One type of spinal condition that's rarely discussed or even recognized by medical professionals is *diffuse idiopathic skeletal hyperostosis*...but you can call it DISH. (*Forestier disease* is another clinical term.)



DISH is an issue in which tendons (which connect muscles to bones) and ligaments (which connect bones to each other), usually around the spine, harden, a process called *calcification*. Bony overgrowths called bone spurs or osteophytes usually accompany this calcification process. The Arthritis Foundation notes these spurs can occur not only along the spine, but “in your hips, knees, shoulder, hands...and throughout your body.”

Diffuse Idiopathic Skeletal Hyperostosis Symptoms

Experts agree that a major reason DISH is unrecognized and underdiagnosed is that many people don’t even experience symptoms. “DISH is usually asymptomatic [without symptoms] or very mildly symptomatic...until it’s not,” says Jun Kim, MD. He’s an orthopedic surgeon and assistant professor in orthopedic spine surgery and neurosurgery at Mount Sinai Hospital in New York City.

“When I do see patients, it’s typically at their lowest, for some kind of [fracture](#) [12],” says Dr. Kim.

He explains that a healthy spine is flexible enough to disperse force from a fall and prevent serious injury. “But in someone with DISH...it fuses your spine,” he says, which concentrates the force on the portion of the spine on which you land. “Hence, low energy trauma can lead to a pretty bad fracture,” he says.

Typical symptoms, says Dr. Kim, are stiffness that’s worse in the morning and low-grade back pain in the [lumbar](#) [13] or [thoracic spine](#) [14].

Other times, Dr. Kim is generally examining a patient who presents “symptoms of [spinal stenosis](#) [15], where they have pain [radiating] down their extremities or into their arms,” he says, adding, “In its most severe form it can present as a fracture [even] after a low-energy trauma, like falling from a sitting position.”

Besides the morning stiffness and overall back pain, DISH symptoms can include a limited range of your back’s motion. Some people can also experience sleep apnea, a disorder in which you stop breathing in your sleep.

Severe calcification in the cervical spine—the neck—can also compress the esophagus and trachea, which can lead to hoarseness (*dysphonia*) and/or trouble swallowing (*dysphagia*). Truly extensive pressure along the spinal cord can create partial paralysis.

Diffuse Idiopathic Skeletal Hyperostosis Risk Factors

That word “idiopathic” in the name is critical because it means researchers and scientists still don’t know how or why DISH happens. However, there are some stats that indicate who is more likely to develop DISH:

- **Age:** Up to 12 percent of the general population is affected, but that rises with age; those 50 and older are more susceptible. The average age of people with DISH is 65, with up to 28 percent of adults ages 80+ affected.
- **Sex:** Up to 25 percent of men are affected versus up to 15 percent of women.
- **Certain metabolic disorders:** Includes type 2 diabetes and prediabetes; hyperinsulinemia, and obesity. Because DISH patients tend to have these associated system-wide conditions, Dr. Kim notes that they’re also at risk for “coronary artery disease and stroke. So right off the bat, they tend to be sicker patients.”
- **Race:** The one group cited at risk is Pima Native Americans (traditionally from Arizona area)
- **Medication:** The acne medication *isotretinoin* might be a factor. Amnesteem and Claravis are two brand names.
- **Environmental risks:** Injuries from lifting and/or moving heavy objects, and trips and falls, are commonly a risk, just like for any back and spinal injuries.

Diffuse Idiopathic Skeletal Hyperostosis Diagnosis

Dr. Kim adds that clinicians like him who are experienced in correcting DISH are more likely to properly diagnose it. “Usually when I’m seeing a patient for spinal stenosis, I’ll get X-rays and advanced imaging. DISH in the [cervical spine](#) [16], lumbar spine, or thoracic spine has very characteristic appearances on X-ray that’s very easy to pick up,” he says.

That’s when experts realize a patient’s diagnosis—and treatment—need changing. To further confirm DISH, your providers may order computed tomography (CT) or [magnetic resonance imaging](#) [17] (MRI) scans.

Diffuse Idiopathic Skeletal Hyperostosis Treatment

Since the cause of DISH is not clearly understood and there’s no [disease-modifying drugs such as for rheumatoid arthritis](#) [18], the treatment philosophy is usually to manage symptoms and complications such as fractures.

Dr. Kim points out that DISH patients who’ve actually had fractures, even from mild falls, are generally older and more frail. “If they do have a fracture I typically offer them surgery, because [without it DISH] carries a high risk of neurologic injury,” Dr. Kim says.

If the patient has spinal stenosis plus DISH, Dr. Kim says, “It makes the surgery a little more difficult because they have all this extra bone especially in the cervical spine. But other than that I go about the surgery very similarly,” to that of fracture repair.

When DISH causes mild neck and back issues, regular sprain, strain, and arthritis treatments can ease pain, including:

- Heating pads
- NSAIDs (over-the-counter anti-inflammatories like aspirin and ibuprofen)
- Exercises that your doctor and/or physical therapist (PT) recommends
- Physical therapy
- Orthotics—shoe inserts that might relieve bone spur pain

Preventing Diffuse Idiopathic Skeletal Hyperostosis

DISH can actually be fairly common simply due to aging, but experts agree that for most of us there are few symptoms, if any.



Weight loss is again an important prevention measure, especially because it can fight (even prevent) issues that seem to be associated with DISH, like diabetes and high blood pressure.

Preventing injury for those patients with extensive DISH and an ankylosed (fused) spine can be as simple as being careful not to fall as even low energy falls can lead to significant injury.

And always be careful of back strains and sprains. Implement the correct postures for lifting and pulling things, especially heavy objects. Start exercise routines slowly, with proper protection (like yoga mats and the right sneakers).

Footnotes:

Mayo Clinic (n.d.), "Diffuse idiopathic skeletal hyperostosis (DISH)," <https://www.mayoclinic.org/diseases-conditions/diffuse-idiopathic-skeletal-hyperostosis/symptoms-causes/syc-20371661> [19]

Arthritis Foundation (n.d.), "Diffuse idiopathic skeletal hyperostosis," <https://www.arthritis.org/diseases/diffuse-idiopathic-skeletal-hyperostosis> [20]

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StatPearls, August 10, 2020, "Diffuse Idiopathic Skeletal Hyperostosis," via NCBI: <https://www.ncbi.nlm.nih.gov/books/NBK538204/#article-23350.s2> [22]

Mayo Clinic (n.d.) "Bone Spurs." <https://www.mayoclinic.org/diseases-conditions/bone-spurs/symptoms-causes/syc-20370212> [23]

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[19] <https://www.mayoclinic.org/diseases-conditions/diffuse-idiopathic-skeletal-hyperostosis/symptoms-causes/syc-20371661>

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[21] <https://rarediseases.info.nih.gov/diseases/6460/diffuse-idiopathic-skeletal-hyperostosis>

[22] <https://www.ncbi.nlm.nih.gov/books/NBK538204/#article-23350.s2>

[23] <https://www.mayoclinic.org/diseases-conditions/bone-spurs/symptoms-causes/syc-20370212>

[24] <https://www.spineuniverse.com/conditions/spondylosis/osteophytes-bone-spurs>

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