



BHAGAVAD GITA: Chapter 11, Verse 20

**dyau a-prithivyor idam antaram hi
vyaptam tvayaikena dishash cha sarvah
drishtvadbhutam rupam ugram tavedam
loka-trayam pravayathitam mahatman**

dyau-ā-prithivyor—between heaven and earth; idam—this; antaram—space between; hi—in-deed; vyāptam—pervaded; tvayā—by you; ekena—alone; dishah—directions; cha—and; sarvah—all; drishtvā—seeing; adbhutam—wondrous; rūpam—form; ugram—terrible; tava—your; idam—this; loka—worlds; trayam—three; pravayathitam—trembling; mahā-ātman—The greatest of all beings

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◆ **TRANSLATION**

BG 11.20: The space between heaven and earth and all the directions is pervaded by You alone. Seeing Your wondrous and terrible form, I see the three worlds trembling in fear, O Greatest of all beings.

◆ **COMMENTARY**

Arjun says, “O Omnipresent Lord, you are pervading in all ten directions, the whole earth, the sky above, and the space in-between. All living beings are shuddering in fear of you.” Why should the three worlds shudder before the universal form when they have not even seen it? Arjun implies that everyone is functioning in fear of God’s laws. His edicts are in place, and everyone is obliged to submit to them.

karma pradhāna bisva kari rākhā, jo jasa karai so tasa phala chākhā (Ramayan)[v4]
“The world functions according to the law of karma. Whatever we do, we will have to reap the karmic results.” Like the law of karma, there are innumerable laws in existence. Many scientists make a living out of discovering and theorizing the physical laws of nature, but they can never make the laws. God is the supreme law-maker, and everyone is subject to the dominion of his laws.



Is it your Birthday Today?

JUNE 6

Ruled by number 6 and the planet Venus. You are kind hearted, generous, simple, accommodating, love peace and harmony. You have a strong memory and an ability to impress others with your intelligent and witty conversation, but you need to control your tendency to be extravagant, reckless and moody at times. This year plenty of important function and religious ceremonies would be performed in the family. Social gathering and activities would be beneficial in establishing new and long lasting ties. Property matters will materialize. Financially this year might not bring results that you have been dreaming for long. Opportunities for a new job and assignments would be plenty but job satisfaction seems unlikely. A sudden influence of a person from the opposite sex will give a new and interesting twist to your life. Travelling will be pleasurable and highly exciting. Friends would be helpful and supportive to your concerns. Some gains through inheritance also seem high on your cards. Pilgrimage or a distant journey with the family for some. The months of August, September and March will prove to be highly result oriented.

Researchers Solve the Mystery Behind a Billion-Dollar Dental Implant Disease

Dental implants have helped tens of millions of people regain a full set of stable, functional teeth, something traditional dentures cannot provide. However, between 10% and 20% of implant recipients eventually develop peri-implantitis, a serious infection that damages the jawbone around the implant.

For years, researchers have known that antibiotics often fail to stop this infection, but the reason remained unclear.

Researchers at the Rutgers School of Dental Medicine have now identified a possible explanation in a study published in PNAS Nexus. Their findings show that bacteria can corrode dental implants, causing them to release microscopic titanium particles into nearby tissue. These particles interfere with immune cells that are supposed to fight infection, trapping them in a prolonged inflammatory state that ultimately destroys the surrounding jawbone.

Using human tissue samples, cultured immune cells, and genetically engineered mice, the researchers identified a specific calcium channel in macrophages, the immune cells responsible for engulfing bacteria, that is activated by the titanium particles. When that channel was disabled in mice, the disease did not develop. The discovery points to the first promising drug target for a condition that affects up to one in five implant patients and costs more than \$1 billion annually worldwide.

Titanium Particles Trigger Destructive Immune Responses

“For the first time, we show why all the antibiotic treatments that work around teeth do not work around implants,” said Georgios Kotsakis, the study’s senior author and the assistant dean for clinical research at the dental school. “Now that we know the cause, we can start developing therapeutics.”

Peri-implantitis has puzzled researchers because it closely resembles periodontitis, a common gum disease affecting natural teeth that is caused by many of the same oral bacteria. In natural teeth, antibiotics and routine cleaning usually resolve the infection. Around im-



plants, however, those same treatments succeed less than half the time, while bone loss often continues.

Most studies over the past two decades have focused primarily on bacteria. Kotsakis and his colleagues instead examined the implants themselves. They found that bacteria living on implant surfaces create acidic biofilms that gradually corrode titanium, releasing billions of particles smaller than a red blood cell. Similar particle shedding can also occur during routine cleanings, particularly when dentists use metal instruments designed for natural teeth.

Once inside the gum tissue, the particles become coated with lipopolysaccharide, a toxin produced by bacteria. To the immune system, these coated particles resemble massive bacteria that cannot be broken down. Macrophages engulf the particles but are unable to digest the metal. As a result, the cells become stuck in a hyperinflammatory state and release signaling

molecules such as interleukin-1 beta, a protein linked to inflammatory conditions, including rheumatoid arthritis and Alzheimer’s disease.

How Inflammation Fuels Bone Loss and Infection

The ongoing inflammation gradually destroys bone tissue. At the same time, macrophages become less effective at eliminating the original bacterial infection. Laboratory experiments showed that macrophages exposed to titanium particles absorbed less than half as many bacteria as untreated cells. “These particles are little magnets that attract the bacterial toxin, and they hijack the immune system, preventing it from clearing bacteria,” said Kotsakis. “You have a perfect storm that defies antibiotics.”

The researchers traced this chain of events to a calcium channel called TRPC1 (a specialized, pore-forming protein structure within cell membranes). Mice engineered without TRPC1 responded

very differently to the combination of titanium particles and bacteria. They developed much smaller abscesses, produced lower levels of inflammatory cytokines, and regained normal bacterial clearance.

Supported by funding from the National Institutes of Health, Kotsakis’ team is now evaluating drug candidates that target the same biological pathway in human cells.

For people who already have dental implants, another important finding involves routine maintenance. Regular professional cleanings remain one of the strongest known protections against peri-implantitis, but the cleaning method matters. Until about a decade ago, many dentists used metal scalers designed for natural teeth to clean implants. Research from the Rutgers team and others has shown that these instruments can damage implant surfaces, promote corrosion, and increase disease risk. Today, nonabrasive cleaning methods have become the standard approach.

Word of the Day

INTERLOPER
noun in-ter-LOH-per

What It Means
An interloper is a person who intrudes in a place or sphere of activity; they are not wanted or welcome by the other people present.

// Summer residents were regarded as interlopers who lacked a commitment to the town’s welfare.

INTERLOPER IN CONTEXT

“... my garden is wildlife friendly, sometimes too friendly. By not being overly concerned about interlopers, it welcomes birds and bugs now, including beneficial insects. They help keep things in balance. Not so welcome are rabbits, but they still find their way in.” — David Hobson, The Waterloo (Ontario) Region Record, 16 Apr. 2026

Did You Know?

If you keep chickens, a coyote loping around in the vicinity of your coop is not welcome. You’d be justified, both

semantically and etymologically, in calling such a coyote an interloper. The -loper part of interloper shares an ancestor with the Old English verb hleapan, meaning “to leap,” and the Dutch verb lopen, meaning “to run.” (The verb lope does too.) The prefix inter- means “between” or “among,” so an interloper is essentially one that leaps in among others (for example, a flock of hens) without an invitation to do so. Interloper made itself at home among English speakers in the late 1500s; the verb interlope, which arrived close in tow in the early 1600s, is likely a back-formation.

SUDOKU PUZZLES
SOLVE THE PUZZLE AND GET HANDSOME REWARDS.
SEND YOUR SOLUTIONS AT: EARTHNEWSROOM@GMAIL.COM

			3				2	
		6		7				
	2		9		1		7	4
9						3		5
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SOLUTION OF PREVIOUS PUZZLE

3	1	4	5	2	8	6	7	9
8	6	7	1	4	9	3	5	2
5	9	2	6	7	3	1	4	8
9	4	6	3	1	5	2	8	7
7	3	5	2	8	4	9	6	1
1	2	8	7	9	6	5	3	4
6	7	9	8	3	2	4	1	5
4	5	1	9	6	7	8	2	3
2	8	3	4	5	1	7	9	6

STARS & PLANETS

What is My Zodiac Sign?

List of Zodiac Signs Based on Birth Dates

Your zodiac sign is determined by your date of birth. You may check the zodiac sign that rules in a given period of time on your birth date.



List of 12 Zodiac Signs

- Aries** (Mar 21 - Apr 19)
- Taurus** (Apr 20 - May 20)
- Gemini** (May 21 - Jun 20)
- Cancer** (Jun 21 - Jul 22)
- Leo** (Jul 23 - Aug 22)
- Virgo** (Aug 23 - Sep 22)
- Libra** (Sep 23 - Oct 22)
- Scorpio** (Oct 23 - Nov 21)
- Sagittarius** (Nov 22 - Dec 21)
- Capricorn** (Dec 22 - Jan 19)
- Aquarius** (Jan 20 - Feb 18)
- Pisces** (Feb 19 - Mar 20)

■ **ARIES:** Love and romance are apt to be your primary focus today, Aries. If you’re currently romantically involved, expect a wonderfully intense evening with your special someone if it’s possible you spend time together. If you aren’t involved, don’t be surprised if someone new and exciting comes into your life, perhaps contacting you from another state or foreign country.

■ **TAURUS:** Today dreams, visions, and intuitive insights enrich your innovative side and interactions with others. Don’t hesitate to put your ideas into motion, Taurus, even if they seem a bit too ambitious. You’re well attuned to the collective unconscious and likely to be picking up on future trends, so be on the alert. You’re feeling especially sexy in the evening, so plan an intimate get-together with your lover if possible.

■ **GEMINI:** A neighbor or relative you haven’t spoken to for a while might contact you out of the blue, Gemini. Make the time to talk, as it could open up doors for you that you wouldn’t normally expect. Relationships of all kinds should be going especially well, and these include romantic ones. If you’re involved, expect to grow closer. If you aren’t currently involved, don’t be surprised if someone new and exciting enters your life.

■ **CANCER:** Cancer, your working life and income are likely to be enhanced today through the influence of people who live in distant states or foreign countries. The desire for knowledge is probably strong, and you might seek to develop some new skills. Your romantic life is also likely to be thriving since you feel passionate and project that feeling to others. Expect some surprises from a current or potential romantic partner.

■ **LEO:** Romance is front and center today, Leo, as you’re probably feeling especially passionate. This is a great day to plan an intimate evening with a lover, if possible. Make use of candles, muted lights, and soft music. You’re apt to be feeling especially passionate about your other interests, whether they’re intellectual, creative, or business oriented.

■ **VIRGO:** You’re likely to be feeling especially romantic today, Virgo. If you’re currently involved, plan an intimate evening at home with your lover. If you aren’t involved, anything goes. Don’t be surprised if someone new and exciting comes into your life. Your imagination is high, so you might decide to put your energy into creative projects. Take whatever time you need. Don’t let the day pass you by.

■ **LIBRA:** Today you might find that your social life takes a definite turn for the better. You could receive more than one text or call that piques your interest, Libra, and you’ll spend a lot of time discussing arrangements for future get-togethers. If you aren’t romantically involved now, you may find out about someone promising.

■ **SCORPIO:** Business and money matters may seem too good to be true, Scorpio. Success and good fortune in these departments are definitely indicated for you today. If you’ve been trying to get a break in a creative or artistic field, it may finally manifest. The present looks profitable and the future bright. In the evening, celebrate by scheduling a romantic encounter with your lover, if possible. You should find it especially gratifying now.

■ **SAGITTARIUS:** You should be feeling especially passionate today, Sagittarius, so don’t be surprised if you can’t get sex and romance out of your mind. If you’re currently involved, schedule an intimate evening with your lover, if possible. If you aren’t involved, don’t be surprised if you pull someone new and exciting under your spell. Your passions could also spill into other parts of your life, including creative and intellectual interests.

■ **CAPRICORN:** Long-buried emotions from the past, some of them pleasant and some in need of release, could well up from your subconscious today, Capricorn. This is likely to have an uplifting effect on your mental and emotional state, so don’t fight it. It’s also likely to release whatever hang-ups you might have about relationships. Therefore, you can expect all your involvements to thrive - particularly the romantic ones.

■ **AQUARIUS:** Some exciting activities could take place in your neighborhood today, Aquarius. You’ll definitely want to find out more about what’s going on. If possible, you may go with some close friends or a romantic partner. Communicating with others is likely to be intense and gratifying now, so expect your head to be spinning by day’s end. It’s definitely a great idea to spend some time alone with a romantic partner this evening if that’s in the cards.

■ **PISCES:** Your business and financial interests definitely get a big boost today, Pisces, perhaps through contacts with friends. Career matters are skyrocketing, and your financial future looks promising. Keep up the good work. Your health is especially strong and vigorous, but your primary interest is likely to be romance, as you should be feeling especially passionate.