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E. EXCEL'S WORLD

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Taking the Lead, Embracing a Brand New Life

Diamond Masters Li Chiu-Wei and Kung Kuo-Jung

Li Chiu-Wei and Kung Kuo-Jung

From: Taiwan
Strengths and Hobbies: Travel and good food
Dream: To bring more people along on the journey of Nutritional Immunology
Traveled with E. Excel to: Malaysia, Singapore, Kyoto, Hong Kong, Macau, France, Canada, South Korea, India, Royal Caribbean Cruise, Vietnam, Yunnan, Khao Lak

This is the story of an ordinary mother who, guided by sheer determination and an unyielding spirit, found fertile ground at E. Excel—and blossomed into someone strong and resilient.

Newly promoted Diamond Master Li Chiu-Wei is known for her cheerful, open personality and hearty laughter, infused with the warmth so characteristic of southern Taiwan. A native of Pingtung City, she married into the countryside of Chiayi County, where her days revolved around caring for her family and managing household affairs. Life was simple yet busy, and her hopes for the future were modest—to keep her home well-tended and her days running smoothly.

Today, she stands as an E. Excel Diamond Master, her footsteps no longer confined to the countryside but reaching across the world. This transformation began unexpectedly, with a newspaper she had never paid much attention to. "At the time, my family subscribed to the *Economic Daily News*," she recalled. "I normally don't read financial news, but that day, something made me look twice."

The article introduced industry trends and E. Excel's new products. The concept of Nutritional Immunology immediately sparked her curiosity. Laughing, she said, "I sought out E. Excel myself!" Yet what truly shifted her interest into full commitment was something far more personal: her family's growing health challenges.

As her elders grew older, their physical strength and function gradually declined. Her son required long-term care due to a congenital condition. She also began noticing warning signs in her own health. She understood that while medical care is essential, her family needed something more—a long-term, preventive approach to daily health and well-being. Furthermore, she no longer wanted to remain financially dependent as a housewife. She wanted an independent income and the dignity of standing on her own. E. Excel, which began as a nutritional choice, soon became an important platform in her life.

In the early days, building a business in a conservative rural environment was not easy. Her father-in-law felt it was unbecoming for his daughter-in-law to go door to door sharing a business opportunity. But instead of feeling discouraged by this resistance, a deeply rooted determination within her awakened. "I knew exactly why I was doing this," she said. "I was helping people. I was doing the right thing."

One experience left an indelible impression on her. A neighbor in the same village had many children who fell ill one after another. When Chiu-Wei tried to share Nutritional Immunology concepts out of kindness, she was harshly scolded by the neighbor's mother-in-law and even chased away. Many would have given up there, but she chose to continue caring quietly, persistently, and without resentment. Over time, the neighbor's family began incorporating Nutritional Immunology concepts and products into their daily lives. As the grandmother watched her grandchildren's health visibly improve, her initial resistance slowly softened into genuine acceptance and, ultimately, trust. Smiling, Chiu-Wei said, "It wasn't that I was persuasive—Nutritional Immunology spoke for itself."

That experience became a guiding principle she still uses to lead her team. "Our role is to share; whether others choose to accept is up to them." Whenever setbacks come, she recalls Dr. Jau-Fei Chen's advice: "When you encounter obstacles, walk faster." As her pace quickens, her perspective changes—and what once felt like a wall soon sits behind her. "Setbacks aren't failures," she said. "They're experiences you'll draw on later." She recalled a friend of 15 years who once told her frankly that they could still meet for meals, but E. Excel was off-limits as a topic. Years later, that same friend sought her out. After truly understanding Nutritional Immunology, the friend became a long-term user of E. Excel products. "E. Excel has stood the test of time," she reflected. "That's why it's worthy of trust."

In educating her team, Chiu-Wei emphasizes mindset over sales talk. "Skills can be trained, but mindset determines how far you can go." To newcomers, she offers encouragement with, "Don't rush to reject an opportunity. Real growth often begins with the courage to try."

If health and financial rewards are the tangible gains of building an E. Excel business, then the richness of life experiences is the hidden dividend Chiu-Wei treasures most. She delights in every incentive trip—snorkeling in the sea, laughing in the desert, collecting memories that once felt impossible. To her, it's not about how wild the adventure is, but about embracing life fully.

"What sets the E. Excel career apart is the control it gives you over your time," she said. "I'm building this career for the life I want. I decide my working hours, and I choose where I go to see the world." Over the years, she has traveled the world with her family and teammates, turning once-unattainable dreams into reality.

Looking back, Chiu-Wei reflected with gratitude, "E. Excel didn't just give me knowledge and methods—it gave me vision and confidence, adding depth and substance to my life." She believes that actively participating in E. Excel's seminars, training sessions, study groups, and even incentive trip challenges is an investment in one's own life.

Chiu-Wei's journey is proof of something powerful: the ability to lead one's life has always belonged to those willing to choose change. From devoted housewife to poised Diamond Master who speaks with ease. From worry over her family's health to confidence and heartfelt laughter around the world. She didn't become someone new. She became more fully herself.

Life Motto—"Take control of your life and hold the reins in your own hands."

Commit Wholeheartedly, and You Will Find a Way—Never Retreat

Diamond Masters Alin Loo and Dave Kong

Alin Loo and Dave Kong

From: Canada
Strengths and Hobbies: Storytelling and listening to stories
Dream: Income that does not stop when work does
Traveled with E. Excel to: Malaysia, Singapore, Taiwan, Hong Kong, Vietnam, Ireland, Mexico, France, Spain, Italy, Punta Cana, Utah (USA), Royal Caribbean Cruise, Thailand

Everything has its cracks—and that is where the light gets in. For newly appointed Diamond Masters Alin Loo and Dave Kong, the journey of sharing the path to health has never been a straight line. There were seasons of uncertainty, setbacks that stung, and times when the road felt heavier than expected. But again and again, they chose to rise, carrying forward ambition, love, and warmth. In the end, what they gained far outweighed every hardship: a life of meaning and countless moments that moved them to their core.

Their story began with an introduction from a friend. Dave was immediately drawn to the scalable nature of the E. Excel business. He even considered closing his electrical appliance retail chain to devote himself to it full-time. Alin, however, strongly opposed the idea at first. Practical and protective, she imagined the worst-case scenario: What if it didn't work, and they ended up penniless? Faced with a big decision, they decided to visit the E. Excel company in person. Gaining a deeper understanding of the business model changed everything. At one point, Dave blurted out, "Isn't this exactly the kind of business we've always dreamed of?" From then on, as they learned more about E. Excel and Nutritional Immunology, the couple committed wholeheartedly to the journey—and never looked back.

Every beginning, however, tests your resolve. Even for a couple known for their outgoing personalities and ability to make friends wherever they went, the early days of building their E. Excel career were challenging. "At the time, I went to see the first person who came to mind without hesitation," Dave recalled candidly. "But I was repeatedly turned down." Because of the other person's work schedule, meetings could only take place late at night. Still, Alin and Dave showed up without complaint, sometimes carrying their infant son wrapped in swaddling clothes, attending each meeting with unwavering sincerity and enthusiasm. When the first meeting didn't work out, they tried again. And then again. Eventually, their persistence and genuine care moved the other person, who later became a loyal client. "That success meant so much to us," Alin shared firmly. "It proved that when we give sincerely, hold our intention strongly, and keep taking action without giving up, nothing is insurmountable."

From that point on, the couple felt a renewed sense of certainty and confidence. Working hand in hand, Alin and Dave went all in. Even when the people they reached out to lived a 12- or 13-hour drive away, they still made the trip in person. Gradually, more people were moved by their sincerity and chose to walk alongside them. Slowly but surely, the team they had once only dreamed of began to take shape.

Dave said, "Building an E. Excel career is like being in a relationship. Once you've chosen it, you don't let go easily. You nurture it with patience and sincerity, staying proactive yet never forceful—allowing trust and long-term commitment to grow over time." He frequently reminds his teammates not to underestimate themselves or fear failure before they have even begun. Instead, he encourages them to shift their mindset and think, "What's waiting for me is success!" Never assume you have nothing to offer—you could be the one with the greatest potential.

Alin, meanwhile, emphasizes the importance of being a good listener. "We're not just close friends to our teammates—we're also their most attentive listeners. Whenever they need us, we're there. People don't follow us because we're exceptionally talented, but because we give them a sense of security. Between us, there's a kind of trust that money simply can't buy." She added, "We hold firmly to the belief that we should give others the very best we have—whether in business or in the products we share. When teammates feel our wholehearted sincerity, they naturally open up and give back. Over time, this creates a positive and self-reinforcing cycle." With a thoughtful smile, she continued, "Our teammates are like mentors and close friends. In many ways, they're the mentors—we learn so much from each of them and grow through every interaction. And we're honored to be their trusted friends in return."

For Alin and Dave, building a thriving team is not just a responsibility—it is a promise. Once they invite people aboard, they are determined to bring everyone with them to the shores of success. They firmly believe that everyone has value. No one excels at everything all the time, but as long as a person is willing to give their best and persist to the end, their efforts will not go unrewarded. "Success often takes just two seconds," Dave said. "In the first second, you choose not to give up or retreat. In the next, you may see hope."

In recent years, the pace of global change has been faster than ever, catching many people off guard. "All of us have faced challenges in different ways," Alin reflected. "Some teammates have felt uncertain—and it is precisely at times like these that we must step up and achieve the Diamond Master rank. I told Dave, 'Now is the time,'" she recalled. "We need to take the first step, stay ahead of change, and give our teammates greater hope and confidence through our actions. As long as E. Excel is here, we are here. Even if only one person remains, we will continue to serve—because E. Excel is the love of our lifetime."

Their son, Forest, grew up watching them share the message of health, forming a deep and personal connection to the work they do. "From the moment I was born, E. Excel and Nutritional Immunology have been part of my everyday life," Forest shared. "My parents always taught me that if you can't take care of yourself, how can you help others?" That mindset shaped him early. He developed strong health awareness from a young age and maintains a healthy lifestyle. "The greatest benefit of having a healthy body," he said, "is being able to face everything that happens in a day with calmness and confidence."

Forest has also achieved impressive results at E. Excel. Though working full-time as an actuary, he uses his spare time to share the message of health and has advanced to the rank of Pearl Master. "E. Excel has brought tremendous rewards to our entire family," he shared. "It has given my parents a career worth committing to and a mission worth pursuing. Because of everything E. Excel has taught us, I now enjoy a healthy, worry-free life. I'm deeply grateful that E. Excel has become such an important part of our family's journey."

Life Motto—"We don't have to do different things; we just have to do things differently."

I know what you're thinking—this issue's article looks a little… longer than usual. You're not wrong! I got carried away unpacking all that "common sense" around food (turns out, there's nothing common about it). So instead of splitting it up, I'm serving it as one hearty read—a tasty mix of *Lifelong Learning* and *Beyond* in a single dish. Think of it as a buffet for your brain: fun, facts, and flavor—minus the indigestion. Grab your *Triflora*, settle in, and enjoy—this one's worth every bite.

Dr. EE

Serving Common Sense One Bite at a Time

Somewhere between ancient wisdom and viral wellness tips, eating lost its common sense. Suddenly, vinegar cures everything, brown eggs are magical, and poor gluten became public enemy number one. Let's bring reason back to the table and separate facts from fads—because when it comes to eating well, a little common sense (and humor) goes a long way.

Cooking with Iron Pots: A Heavy Metal Bonus?

When your cookware doubles as a mineral supplement

Simmer tomato sauce in a cast iron pot, and some iron will leach into your food. Because the sauce is acidic, it draws out even more iron. But here's the catch: it's inorganic iron. Our bodies can use it, just not very efficiently. And remember: iron is a heavy metal—helpful in small amounts, harmful in excess.

For most adults, that extra iron is perfectly safe. Children are similar—tiny amounts won't hurt—but since their bodies are smaller, too much can upset their stomachs or, in rare cases, cause poisoning. In general, excess inorganic iron may lead to stomach irritation, constipation, or, for people with iron-overload conditions like hemochromatosis, dangerous buildup in organs.

Common sense:
An iron pot isn't a health food—it's cookware. Don't mistake it for an iron supplement.

Boil Those Beans!

When dinner needs a little heat to be safe

Kidney beans, white beans, black beans, and broad beans contain natural compounds called lectins. In raw beans, some of these lectins—particularly phytohemagglutinin—can be surprisingly toxic! Just a handful of raw or undercooked red kidney beans (as few as four or five!) can cause intense nausea, vomiting, diarrhea, and stomach cramps—essentially, a bad case of food poisoning.

The good news: heat destroys lectins. Proper boiling deactivates lectins, making the beans safe and nutritious. But watch out for slow cookers—on the "low" setting, temperatures may not be high enough to fully deactivate lectins, and partial heating can even increase lectin activity.

Common sense:
Nature made beans hard as rocks for a reason. They're meant to be cooked soft so we don't break our teeth!

Not a Vegetable, So Treat It Differently

Why mushrooms belong in the pan, not the salad

Mushrooms often get tossed into salads or eaten raw, as if they're just another vegetable. But they're not. Mushrooms are fungi—a whole different kingdom of life—and they play by different rules.

Raw mushrooms such as portobellos, shiitakes, morels, and Brazilian mushrooms (*Agaricus blazei*) can contain naturally occurring compounds like agaritine, hydrazines, or trace amounts of formaldehyde—substances that, in lab studies, have shown potential carcinogenic effects. The simple fix? Cook your mushrooms. Heat breaks these compounds down safely.

Cooking also brings out the best in mushrooms. It makes beta-glucans and other polysaccharides more available. These are natural compounds known to support immune function, reduce inflammation, and even help regulate cholesterol. Heat also boosts the mushrooms' antioxidant levels and enhances their digestibility by breaking down tough fungal cell walls.

Common sense:
Mushrooms aren't plants, and they don't belong raw in your salad. Give them heat, and they'll give you health.

Black Foods Aren't Hair Dye

Nature's not running a hair salon

For centuries, He Shou Wu (also known as Fo-Ti or *Polygonum multiflorum*) has been used in Asia as a tonic believed to keep hair dark and full of life. Many of us grew up hearing that "black foods nourish the kidneys and darken the hair," so black sesame seeds, black beans, and black rice became the go-to dark hair remedies.

But if color worked that way, drinking milk would turn our skin white, and eating spinach would make us green. Biology doesn't care about color coordination. Hair color depends on the type and amount of melanin in the hair, along with genetics, age, and overall health. It has nothing to do with the colors of the foods we eat.

He Shou Wu, however, carries a real risk. Studies show it can damage the liver, even when consumed in small amounts or processed forms. Cases of hepatitis, liver injury, and even liver failure have been reported. And just because we don't feel sick right away doesn't mean it's harmless—liver damage can quietly build up over time.

Common sense:
If eating dark foods could turn gray hair black, no one would go gray and hair dye companies would go bankrupt.

Starfruit: Not So Shiny for Failing Kidneys

When a tropical treat turns toxic

Starfruit may look like a harmless tropical treat, but it hides a danger for people with kidney problems. It contains caramboxin, a neurotoxin that healthy kidneys can easily filter out. But when the kidneys aren't working properly, the toxin builds up and can trigger hiccups, vomiting, confusion, seizures, and in severe cases, even death.

And it's not just the fruit. Starfruit juice can be just as risky. Even a single fruit or one glass of juice has caused severe poisoning in people with kidney disease.

Common sense:
"Everyone's eating it" isn't science. If it were, soft drinks would count as health drinks. That's why we've got *E. Excel's World* and okay fine, we admit it, we couldn't miss the chance to promote it.

Lychee: Sweet When Ripe, Risky When Green

When picking too early can turn deadly

Lychee is loved for its juicy sweetness but only when it's ripe. Unripe lychees contain high levels of natural toxins, hypoglycin A and MCPG (methylenecyclopropylglycine), which block the body's ability to produce glucose. This can cause dangerously low blood sugar levels (hypoglycemia).

In malnourished children who eat unripe lychees on an empty stomach, the result can be tragic. Outbreaks in lychee-producing regions have linked green lychees to sudden hypoglycemia and encephalitis-like illness, with symptoms such as confusion, seizures, coma, and even death.

The good news is that cooked or canned lychees are safe to eat, and fully ripe fresh lychees are perfectly fine.

Common sense:
Who bites into a bitter, puckery lychee and thinks, "Yum"? Exactly. Nature's already warning you.

Extra Boiling, Extra Gout

When the broth gets all the purines

Across Asia, double-boiled soup is a culinary treasure. The longer it simmers, the more "nutritious" it's believed to be. The base often includes chicken, pork, organs, cured meats, and dried seafood, all boiled for hours until the broth turns rich and golden.

But here's the catch: the extra hours don't make the soup healthier—they just draw more purines and fat out of the meat and organs into the broth.

The irony? People often throw away the meat, thinking all the "goodness" has already gone into the broth. But the broth is a concentrated purine cocktail. Inside the body, purines turn into uric acid, and too much uric acid can trigger gout (a painful swelling of the joints).

Ironically, for people with gout, the simmering process actually makes the meat safer—since much of its purine content has already leached into the broth. Eating the meat and skipping the broth is the smarter move.

Common sense:
Gout was once called the "rich man's disease" for a reason—only the rich could afford to boil meat for hours, toss it out, and drink the problem.

Mushrooms and Transplants: It's Not About the Mushrooms

When "better safe than sorry" gets misunderstood

Many transplant patients are told, "Don't eat mushrooms." That often leads people to think mushrooms are harmful. In reality, the concern is about infection risk, not the mushroom's nutrients or compounds.

Mushrooms grow close to the ground and can carry soil microbes and fungal spores. For patients on immunosuppressants, even tiny amounts of contamination can cause serious illness. Washing helps but doesn't remove everything. That's why doctors often give the simple rule: "Avoid mushrooms."

Cooking does make mushrooms safer by killing most microbes, and some doctors may allow them if thoroughly cooked. But recommendations vary. Some medical teams prefer that patients avoid mushrooms entirely to keep the risk close to zero.

Common sense:
Mushrooms are fine. It's the washing and cooking doctors don't trust.

That Shiny Apple Might Be Older Than Your Last Vacation

Why fresh isn't always fresher

Most of us believe fresh produce is always better than frozen or dried produce. But it really depends on when it was harvested and how it was preserved.

Vegetables and fruits frozen or freeze-dried right after harvest retain most of their nutrients, including some heat- and oxygen-sensitive vitamins that would otherwise break down over time. In contrast, "fresh" produce that spends days or weeks in storage or transit gradually loses water-soluble nutrients like vitamin C, B-vitamins, and certain antioxidants.

What looks freshly picked in the grocery aisle may have been harvested long ago. Apples, for example, can be stored for six to twelve months before sale. Lettuce lasts about one to four weeks, tomatoes one to six weeks, potatoes two to twelve months, and carrots one to nine months. That crisp apple or bright tomato might have been sitting around longer than your last vacation, sometimes with no more nutrients than its frozen or canned cousin.

Common sense:
Don't judge by looks. We say that about dating, and it applies to your produce too.

If Food Combos Were Deadly, Hotpot Would Be a Crime Scene

Your stomach's tougher than those old tales

Some food pairings have been accused of everything from indigestion to instant poisoning. Many of these warnings sound "scientific," tossing around words like acid, protein, and arsenic—but most came from coincidence, bad storage, or plain old misunderstanding.

Take tofu and spinach, for example. It's often said this food combination causes kidney stones because oxalic acid from spinach reacts with calcium in tofu. In reality, eating tofu and spinach together may help prevent kidney stones. Oxalic acid binds with calcium from tofu to form calcium oxalate, which our body safely eliminates.

Then there's the famous seafood scare—mixing shrimp with vitamin C or anything containing vitamin C, like lemon or tomato. The myth claims shrimp contains arsenic, and vitamin C magically transforms it into arsenic trioxide, a deadly poison. Actually, the arsenic in seafood is organic arsenic—a stable, low-toxicity form that doesn't react with vitamin C. Even if every bit of it somehow turned into the most toxic kind, you'd have to eat over 100 kg of shrimp in one sitting to reach a dangerous dose. Honestly, you'd die of overeating first. If the myth were true, sweet and sour shrimp would have been outlawed long ago.

As for so-called "cold" food combinations—like crab and persimmon—there's no evidence that tannins from persimmons and protein from crabs clash in your stomach. If someone ever felt sick, it was likely bad seafood, not a bad pairing.

Common sense:
If "forbidden" food combos were truly dangerous, none of us would have survived a buffet.

Vinegar: Great for Cooking, Not for Curing

It's acid, not alchemy

Vinegar, whether apple cider, rice, or balsamic, has been praised for everything from balancing the body's pH to boosting vitamin C and melting fat. But let's clear things up.

Vinegar is acetic acid, not ascorbic acid (vitamin C). Drinking it won't "alkalize" your body or raise your vitamin levels. Your body keeps its blood pH tightly regulated around 7.4, and even a shift of just ± 0.05 can cause serious problems. That's why your lungs and kidneys constantly fine-tune acid and base levels. If vinegar, or any drink, could really "alkalize" or "acidify" your blood, we wouldn't call it detoxing; we'd call it an emergency.

While vinegar adds wonderful flavor to food, too much of it can do more harm than good. Its acidity can erode tooth enamel, irritate the stomach, stress the kidneys, and disturb gut bacteria. It may also interfere with certain medications, including those for blood sugar and blood pressure.

As for weight loss? That's likely because drinking vinegar makes some people too nauseated to eat, not because it burns fat.

Common sense:
Vinegar is wonderful in cooking, but don't toast with it. Use common sense before turning cheers into tears.

Don't Blame Soy for Gout

Blame the meat, not the bean

For years, people with gout were told to avoid soy foods like tofu, soy milk, and edamame. The logic sounded convincing: gout stems from high levels of uric acid, uric acid comes from purines, and soy contains purines, so soy must be bad.

But that's outdated. Research now shows that plant-based purines, like those in soy and legumes, don't raise uric acid levels the same way animal-based purines do. The real culprits are organ meats, red meats, and certain seafood, not tofu.

Hyperuricemia (high uric acid levels) can lead to gout. The risk depends not only on a food's purine content, but also on the type of purine. Foods with over 200 mg of purines per 100 g, especially those rich in hypoxanthine (a purine base that powerfully drives uric acid production), such as organ meats and some fish, are strongly linked to gout. Soy and other plant-based foods, by contrast, are lower in total purines and contain very little hypoxanthine. As a result, soy is safe even for people managing gout.

Common sense:
If tofu caused gout, half of Asia would be limping.

Eat Collagen, Grow Collagen? If Only.

You don't turn pig trotters into baby skin

Bone broth, pig trotters, and collagen drinks all promise smoother skin and fewer wrinkles. After all, if you eat collagen, shouldn't it go straight to your skin to replace collagen there? It sounds convincing, but that's not how the body works.

When you eat collagen, your digestive system breaks it down into amino acids, just like any other protein. It doesn't travel intact to your skin to "fill the gaps." Think of it as dismantling a house for its bricks. Your body reuses the "bricks" to build something else, but you don't get to choose what it builds.

And remember, most collagen comes from animals. Pig collagen doesn't magically turn into human collagen, just as eating chicken wings won't make you sprout feathers.

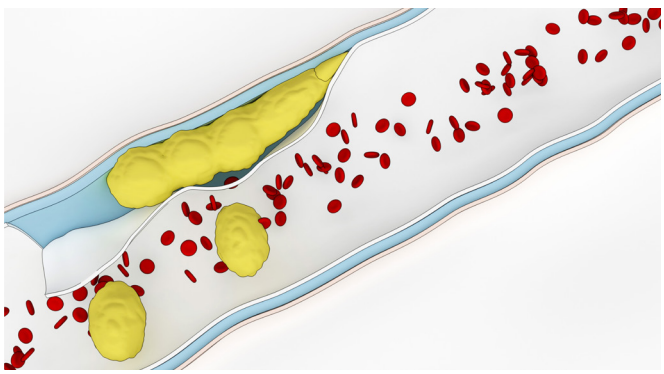
As for collagen drinks? Once they reach your stomach, they're just fancy flavored protein water. If you really want to "eat collagen," jello does the same job—only it wiggles, tastes better, and costs a lot less.

Common sense:
Animal collagen can't replace human collagen. If eating collagen truly made skin youthful, every pig-trotter lover would look 20 forever.

Seafood and Cholesterol: Not the Villain You Think

Blame the butter, not the shrimp

Poor shrimp, it has been wrongly accused for years. The moment someone mentions cholesterol, shrimp, squid, crab, and even abalone all get thrown under the bus. But here's the truth: seafood's reputation has been unfairly deep-fried.



Yes, seafood contains dietary cholesterol, but it's low in saturated fat—the main villain behind high LDL cholesterol levels in the blood. For most healthy people, eating shrimp or abalone won't send cholesterol levels skyrocketing. In fact, saturated fat raises LDL cholesterol far more than dietary cholesterol ever could. So, if you're choosing between meats, go for seafood. Compared to beef, it's lower in saturated fat, lighter in calories, and kinder to your heart.

Of course, it's not just what you eat. It's also how you cook it. Steamed crab, grilled squid, or braised abalone? Great choices. But once you deep-fry it, drown it in butter, or smother it in salted-egg sauce, that's when your arteries start filing complaints.

Common sense:
The Mediterranean diet is loaded with seafood and praised for heart health. That should tell us who the real villain is, and it's not the shrimp.

Same Protein? Not Quite.

Same grams, different story

Protein gets plenty of praise. We're urged to eat more of it for muscle, more for energy, and more for better health. But here's the twist: not all proteins are the same, and neither are the amino acids that make them up.

Proteins are like sentences built from 20 different "letters" called amino acids. The sequence of these amino acids, together with the amount of each one, will determine the kind of "message" the protein sends in our bodies.

Some sentences are short, some are long, and some repeat certain "letters" more often than others. The result? Even if two foods each have, say, 10 grams of protein, what's inside those 10 grams can be completely different.

Animal proteins—like beef, eggs, and chicken—tend to be high in sulfur amino acids (methionine and cysteine). Our bodies need these in small amounts, but excessive intake has been linked to higher homocysteine levels, which may increase the risk of heart disease.

Plant proteins like soy, on the other hand, naturally come with fiber, antioxidants, and phytonutrients that support overall health—and are cholesterol-free and much lower in sulfur amino acids.

And those amino-acid drinks you see at the gym? They usually contain only a few types of amino acids. That's like trying to build a house using only bricks but no cement or wood. You need the full set to make something solid.

Common sense:
We can't even make a soybean in a lab, yet we think we can outsmart nature by tossing a few lab-made amino acids together and calling it health food? Nice try—nature still wins.

Gluten-Free is Not a Magic Fix

Skip the trend, keep the bread

Gluten has become the modern food villain—blamed for everything from weight gain and "gut inflammation" to autism and autoimmune diseases. Grocery aisles are now lined with "gluten-free" labels, as if removing gluten instantly turns food into medicine.

Here's the truth: for most people, gluten is harmless. It's simply a protein found in wheat, barley, and rye. It gives bread its stretch and noodles their bounce. Only those with celiac disease must avoid it.

Celiac disease is an autoimmune disorder in which the immune system attacks the small intestine when gluten is eaten. Symptoms can include frothy, pale, foul-smelling stools, chronic diarrhea, nutrient deficiencies, and weight loss. Untreated, it can lead to intestinal damage, osteoporosis, and even intestinal lymphoma.

If you don't have celiac disease or diagnosed gluten sensitivity, there's no need to avoid gluten. Cutting gluten won't help you lose weight, won't improve gut health, and won't treat autism or autoimmune conditions. In fact, whole grains that contain gluten can help feed beneficial gut bacteria, while many gluten-free products contain less fiber and fewer nutrients.

Common sense:
Unless your doctor says otherwise, gluten isn't your enemy. If it were truly evil, Italy and France would be in serious trouble. Enjoy your bread and pasta—the regular kind still tastes better and costs less.

MSG: Guilty Without Evidence

Guilty of good taste, nothing else

Few ingredients have been as unfairly judged as monosodium glutamate (MSG). For decades, it's been blamed for something dramatically called "Chinese Restaurant Syndrome"—a list of vague symptoms like headaches, dizziness, and numbness.

In truth, MSG is simply the sodium salt of glutamic acid, an amino acid found naturally in tomatoes, mushrooms, cheese, and even human breast milk. It enhances umami, the savory taste that makes soups, sauces, and stir-fries so satisfying.

So why do people feel thirsty after eating Chinese food? It's not the MSG; it's the salt. Many restaurant dishes are simply high in sodium from soy sauce, seasonings, and broth.

The myth started in the 1960s when a single letter to a medical journal claimed Chinese food caused strange symptoms, and MSG took the blame. But decades of research since have found no consistent link. For most people, MSG is as safe as table salt.

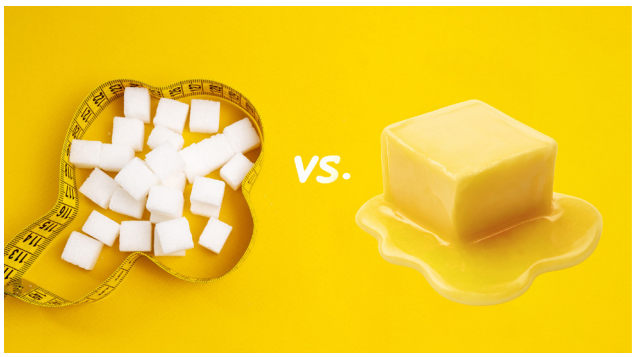
The ironic bit? The same glutamate that makes parmesan, soy sauce, and ripe tomatoes taste amazing is chemically identical to the MSG in your fried rice. The difference is marketing, not molecules.

Common sense:
If MSG were truly harmful, it would've been banned by health authorities worldwide, and it certainly wouldn't be in soy sauce, dumplings, or half of Asia's cooking. Science, not rumors, decides what's safe.

Fat vs. Sugar: Who's the Real Villain?

It's calorie overload that counts

Sugar has been blamed for everything—cancer, brain fog, inflammation—you name it. But scientifically, sugar itself isn't evil; it's the excess calories that cause harm. When we consume more energy than we burn, the body stores the surplus as fat, whether it comes from sugar, fat, or protein. Over time, that buildup leads to obesity-related diseases—not because of sugar alone, but because of overall calorie overload.



The biggest offenders are added sugars in soft drinks and desserts, since those empty calories deliver plenty of sweetness but zero nutrition.

Meanwhile, fat often gets a free pass. But gram for gram, fat packs more than twice the calories of sugar—9 versus 4. That means those deep-fried snacks and buttery pastries aren't just indulgent, they're calorie grenades disguised as comfort food.

Fruit sugar, on the other hand, comes packaged by nature with nutrients and with fiber, which slows absorption and keeps your metabolism steady. Fruit isn't the problem—it's dessert done right.

Common sense:
If sugar were truly the villain, health authorities wouldn't be recommending fruit for better health. But fat? Let's just say no one has ever been told to eat more butter for their heart.

Different Eggshell Colors, Same Nutrients

You don't eat the shell, after all

In many parts of Asia, people give brown or free-range eggs as holiday gifts, believing they're more nutritious or "natural." The white ones? Too ordinary, too factory. But here's the truth: brown and white eggs are nutritionally identical.

The shell color depends on the breed of the chicken, not its diet or environment. Brown-feathered hens usually lay brown eggs; white-feathered hens lay white ones. Inside, both brown and white eggs have the same protein, fat, vitamins, and minerals.

Even "wild" or "free-range" eggs differ only slightly in yolk color, depending on what the hens eat. A hen fed more corn or greens may produce a yellower yolk—but that's just pigment, not power.

Common sense:
It's an egg, not a luxury handbag. Brown, white, or speckled—it doesn't change what's inside.

Fancy Crystals, Same Sodium

Your blood pressure can't tell the difference

Pink, sea, rock, kosher, Himalayan—today's salt shelf looks more like a crystal shop than a spice rack. Many people pick "natural" or "gourmet" salts thinking they're healthier or lower in sodium. But here's the truth: no matter the color or the price tag, all salt is mostly sodium chloride, and your body can't tell the difference.

Himalayan salt gets its pink tint from iron oxide (basically rust) and trace minerals, but those minerals exist in amounts far too tiny to matter nutritionally. Sea salt may sound more "natural," but chemically, it's the same thing. "Low-sodium" salts simply replace part of the sodium chloride with potassium chloride, which isn't suitable for everyone, especially people with kidney problems.

Too much salt—of any kind—raises blood pressure and increases the risk of heart disease and stroke. The average person eats about twice the recommended amount, mostly from processed and restaurant foods.

Common sense:
No one calls salt "healthy salt" for a reason—because there isn't one. Pink, white, or harvested by moonlight, too much salt is still too much salt. Fancy salt? Your wallet will get high blood pressure before you do.

Coconut Oil: Smells Like Paradise, Behaves Like Butter

The tropics' trendy fat that's not heart-friendly

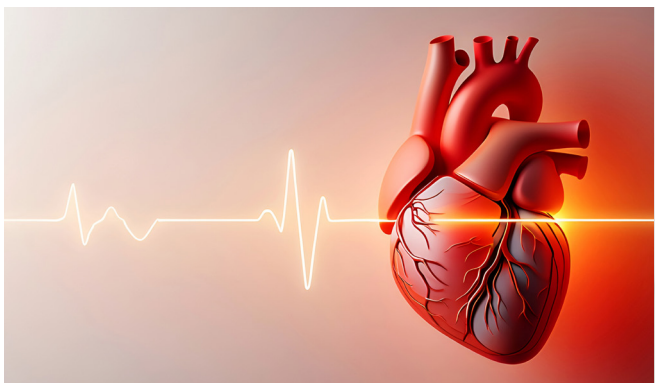
Coconut oil has become a modern favorite. Stirred into coffee, spread on toast, added to smoothies, and even used on skin and hair. It sounds healthy because it comes from a plant, but plant-based doesn't always mean heart-healthy.

Coconut oil is about 80% saturated fat, even higher than butter or lard. This kind of fat raises LDL ("bad") cholesterol, the same type that clogs arteries and increases heart disease risk.

Here's an easy kitchen rule: fats that are solid at room temperature—like butter, lard, and coconut oil—are high in saturated fat. Those that stay liquid, such as olive or canola oil, are rich in unsaturated fats and generally better for your heart.

The American Heart Association agrees: coconut oil behaves more like animal fat than olive oil. So, while it may smell like the tropics, it acts like tallow. Use it for flavor if you love it, just not as your everyday oil.

Common sense:
Coconut oil may be pushed by influencers, but when it comes to your heart, trust health authorities, not hashtags. If popularity made food healthy, potato chips would be a superfood.



Bird's Nest: Priceless or Just Pricey?

Beauty from saliva, not science

Bird's nest soup has long been treasured as a delicacy and beauty tonic. Made from the hardened saliva of swiftlets, it's praised for its supposed ability to brighten skin and restore youth.

Bird's nest is mostly made of glycoproteins—a mix of protein and sugar—just like many other foods. Once digested, those proteins break down into amino acids like any other protein. There's no scientific evidence that bird's nest protein is superior, or that it boosts collagen or rejuvenates skin.

A typical bowl of bird's nest soup contains only 1 to 2 grams of protein. That's barely more than a few sips of soy milk, but at a much higher price.

And what about the famous "bloody bird's nest"? Don't worry, it's not from bird blood. The reddish color forms when gases released from decomposing bird droppings react with the tyrosine in the nest, creating 3-nitrotyrosine. This compound isn't a nutrient; it's a biomarker of oxidative stress.

Bird's nest may symbolize luxury, but nutritionally, it's just an overpriced protein jelly with a glamorous story.

Common sense:
People love bird's nests because they're expensive and rare, but if price determined health, diamonds would be superfoods. And if eating swiftlet spit truly reversed aging, the birds would be the beauty influencers, not us.

The Lifelong Learning article is contributed by Dr. EE Zhang, MBChB.

E. Excellers Are Born for Impact

Our mission has been clear since 1987: to share the gifts of health and knowledge with mankind. Our foundation is rooted in the dream of a disease-free world, where prevention is powerful, accessible, and grounded in science. That belief calls us to do more than the minimum. It demands our best because the stakes are human lives, human potential, and the futures of our own children.

We dream big because the world's health challenges are big, and because our work can help bend the trend toward prevention and well-being. We might be giving a mother the chance to protect her health, a child the foundation for stronger growth, or a family the tools to prevent unnecessary suffering. And every person who learns how to put one more serving of plants on their plate, every household that understands why fiber and phytonutrients matter, every friend who chooses prevention today—that's the world changing, a little at a time. Our dream won't be reached by minimum effort or minimum courage. It'll be reached by thousands of small wins and "one more," by leaders who lead with action, and by a community that refuses to settle for average when lives and futures are at stake.

Minimum Pays the Bills. Maximum Changes the World.

The minimum keeps the lights on. Maximum effort turns those lights outward, so more families can see a path to living healthier, longer. When we hold back, we limit the number of people who hear the truth about nutrition and prevention. When we push—one more conversation, one more careful explanation—we multiply our impact.

Think of our work like planting. Sow a handful of seeds, and you'll get a small harvest. But sow abundantly, tend consistently, and you'll see a field of abundance—food enough to nourish a village. Maximum effort is a rhythm: plant, water, weed, and watch. At E. Excel, that rhythm is educate, listen, follow up, and support. "Extra seeds" are those extra conversations and acts of service. They're the difference between "met target" and "changed a family's health story."

"Plant more seeds" is not just a metaphor; it's a compounding strategy:

1. **Activity creates clarity.** The more people you speak with, the more precisely you learn which questions, stories, and scientific insights resonate.
2. **Clarity creates conviction.** When you can explain how and why dietary patterns affect long-term health, people feel safe enough to try.
3. **Conviction creates momentum.** Referrals start to flow when people experience a better breakfast, more energy, or a tangible step toward the dietary patterns public health experts recommend.

Every extra seed we plant and nurture, every extra conversation, and every extra effort to share could mean health and hope for an entire family.

The minimum keeps the lights on. But when we go beyond, we shine light into people's lives. That light could be the reason someone lives healthier and longer.

The Power of "One More"

How many times have we made one more phone call, and that was the one when someone finally said "yes"? Or followed up one more time, and it turned out to be the very moment the person was ready to listen? That's not an accident. In outreach contexts, persistence changes outcomes.

J.K. Rowling's manuscript for *Harry Potter* was rejected by 12 publishers before one finally said yes. That single "one more" changed her life and inspired millions of readers worldwide.

One more conversation might be the turning point in someone's health journey. One more share might give a parent the knowledge to prevent disease before it ever strikes. One more effort can literally add years of quality to a person's life. We underestimate "one more," but it's often the very thing that makes the most significant difference.

A seed planted today may sprout next week. Over time, your efforts become a well-tended field, not a handful of pots you remember to water only when you feel like it.

It's always the last effort that counts the most.
One more call, one more message, one more share—
that could be the moment someone's entire health story changes.

When We Rise, Others Rise

Titles don't lead; behavior does. People we lead learn what matters by watching what we do, not what we say. Decades of research on social learning show that we model the actions of those we observe, especially trusted leaders. As a leader, your actions and efforts are teaching tools for your teammates and family.

Leadership science backs this up. Meta-analyses find that transformational leadership—the style that sets a vision, models the way, and elevates standards—is positively related to follower motivation and performance across individual, team, and organizational levels. In short, when we as leaders push beyond the minimum, we don't just build our own success; we lift everyone with us.

At home, the same principle holds. Our children learn far more from what we do than from what we say. When they see us work with persistence, refusing to settle for the minimum, they learn resilience. When they see us pushing past limits, they discover what ambition looks like. The example we set today becomes the standard they carry into their own future.

Your effort sets the tone. When you push harder, your team pushes with you. Leadership isn't what you say; it's what you do.

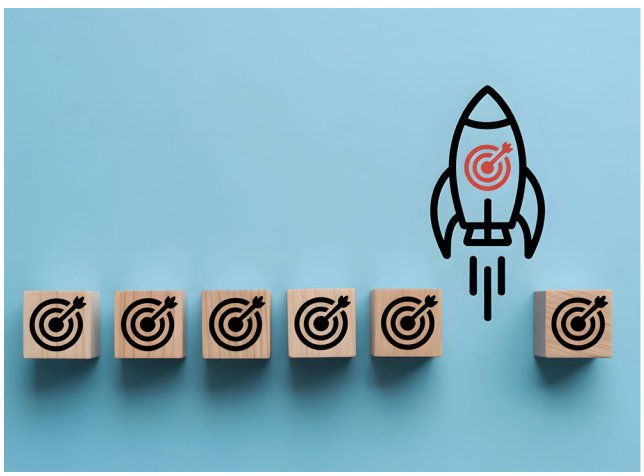
Seizing the Window of Opportunity

We all feel it. Prices climb. Competition rises. The distance between where people start in life and where they want to end up can be stubbornly hard to bridge. The Organization for Economic Cooperation and Development (OECD) calls social mobility a "broken elevator" in many countries—a warning that moving upward is getting harder, not easier, for families without built-in advantages.

That's why when an opportunity like E. Excel comes into our lives, we cannot afford to treat it like "just another job" or "a side project." It's a chance to break barriers, to move beyond limitations, and to create a path of freedom and possibility that might never have existed. This is an opportunity to build a mission-aligned, science-honoring career—one we can be proud to pass on to the next generation. Minimum effort might pay a bill, but maximum effort funds a future: a work-life balance and the freedom to say "yes" to travel and experiences that expand our children's horizons.

Seizing the E. Excel opportunity means applying *grit*. Opportunity favors the focused. We improve outcomes over time, not because every day is easy, but because we persist with purpose.

To make that persistence easier, connect the dots to your future self: evidence shows that vividly imagining the person you'll be (and the family you'll be caring for) increases present-day follow-through on challenging but worthwhile actions. When you can "meet" your future self, maximum effort feels less like a sacrifice and more like a gift you're sending forward.



In a world where social mobility grows harder every year, opportunities don't knock twice. When one appears, we must focus and give it our all—
because maximum effort builds the futures our children deserve.

From Intention to Action: A Simple System for Maximum Effort

Use these evidence-based practices to operationalize "beyond minimum" without burning out:

1. **Define your daily small wins.** Take concrete, controllable actions (e.g., "Talk to two people about Nutritional Immunology," "Schedule three follow-ups"). Small wins increase motivation.
2. **Use implementation intentions.** Pre-decide the trigger and the action: "If it's 9:15 AM, then I send one new introduction." "If someone asks about 'digestion,' then I share the benefits of consuming fiber." These if-then plans dramatically increase follow-through.
3. **Time-box the "one more."** Put a 10-minute block at day's end labeled "One More." One more outreach. One more thank-you. One more educational message. You'll be amazed at how often the day's best conversation happens here.
4. **Lead visibly.** Share your calendar blocks, outreach counts, and learning notes with your team each week. Transformational leadership is contagious when it's observable.
5. **Make the future concrete.** Keep a visual of your family's next milestone (school, trip, project, etc.) near your workspace and write one sentence a day to your future self about what you did today to earn it. Research shows that connecting with our future selves increases present-day effort.
6. **Educate first, always.** Commit to joining E. Excel Study Groups and show up consistently. Practice turning topics into short explainers. Knowledge builds trust; trust builds durable growth.

Rejection Isn't Failure, It's Evidence of Action

If you never hear "no," you're not talking to enough people. Comfort is seductive precisely because it avoids rejection. But growth lives on the other side of discomfort. Educational psychology and mindset research show that the belief we can grow through effort (a "growth mindset") increases engagement after setbacks; people persist longer when they interpret challenges as a path to improvement. That's precisely the muscle we build each time we hear "no" and try again.

Think of it this way: rejection is not failure; it's proof of action. Every "no" we get means we're one step closer to the next "yes."

Rejection is not a setback; it's a sign of progress.
If we never hear 'no,' it means we're not reaching enough people.
Comfort feels safe, but only discomfort creates growth.

The Compounding Effect: How Your Effort Multiplies Impact

When we push past the minimum, we don't just make an extra sale—we alter health trajectories. Consider the ripple effects of a single conversation that helps a parent replace two processed snacks a day with fruit, vegetables, or other whole-food alternatives. Over the years, these changes compound in weight, metabolic markers, and energy—outcomes that public health data repeatedly link to disease risk. People don't need perfection to benefit; they need direction and consistency.

Compounding also happens in our teams. Your willingness to have one more conversation not only increases your sales but also elevates the cultural norm. Behavioral modeling means others are more likely to do the same "one more" when they see you doing it routinely. Teams built on visible effort and honest education scale more sustainably than teams built on sporadic bursts.

The Future Will Thank Us

We aren't here to live small lives. We're here to make science meaningful. To give families hope. To change lives through prevention, not treatment. We're here to serve, to educate, and to change the world—family by family, meal by meal, conversation by conversation. We dream big, and big dreams deserve more than minimum effort—they deserve our best.

So today, plant abundantly. Lead visibly. Do "one more." And remember: when we go beyond the minimum, we don't just brighten our own future—we shine light into the lives of others, sometimes in ways we may never fully see.

The Professional Development article is contributed by Elei Zhang, JD.

There are treasure troves of mysteries in nature waiting to be discovered and explored. Countless scientists have devoted themselves to unraveling them in the hopes of improving human health and wellbeing. Their work is vital to understanding and treating disease.

We bring you their research findings in our goal to enrich and expand public knowledge.

Anthocyanins

Anthocyanins are naturally occurring pigments that give many fruits and vegetables their red, blue, and purple colors. Their concentrations vary by species and are influenced by factors like growing conditions, harvest time, and storage. These pigments have antioxidant properties and are linked to several health benefits, including potential protection against chronic diseases like cardiovascular disease and cancer. Rich sources of anthocyanins include fruits and vegetables such as blueberries, cranberries, raspberries, red cabbage, goji berries, and cherries.

Protect Against Diabetes with Anthocyanins

This study examines the link between dietary intake of anthocyanins and berries with the risk of type 2 diabetes mellitus (T2DM). It found that consuming anthocyanins and berries significantly reduces the risk of T2DM. A meta-analysis showed that for every 7.5 mg/day increase in dietary anthocyanin intake, or 17 g/day increase in berry intake, the risk of T2DM decreases by 5%. Additionally, randomized controlled trials revealed improvements in insulin sensitivity and glucose regulation in participants consuming anthocyanins. The benefits are mainly attributed to anthocyanins' antioxidant, anti-inflammatory, and glucose-lipid metabolism regulation effects.

Guo X, Yang B, Tan J, Jiang J, Li D. Associations of dietary intakes of anthocyanins and berry fruits with risk of type 2 diabetes mellitus: a systematic review and meta-analysis of prospective cohort studies. *Eur J Clin Nutr*. 2016;70(12):1360–1367. doi.org/10.1038/ejcn.2016.142

Anthocyanins May Reduce the Risk of Cancer

Recent studies have highlighted the anticancer potential of anthocyanidins. For example, research has demonstrated that delphinidin, an anthocyanidin found in foods such as red cabbage, grapes, berries, and sweet potatoes, induces apoptosis in prostate cancer cells by activating caspase enzymes and influencing genes that promote cancer cell death while decreasing the activity of genes that inhibit cancer cell death. Additionally, it inhibits ovarian cancer cell progression by reducing Akt pathway activation, a key factor in cancer cell migration.

Montané X, Kowalczyk O, Reig-Vano B, et al. Current perspectives of the applications of polyphenols and flavonoids in cancer therapy. *Molecules*. 2020;25(15):3342. doi.org/10.3390/molecules25153342

A Combination of Polysaccharides and Anthocyanins From Black Goji Berry Can Cause Cancer Cell Death

Researchers studied how a combination of compounds from black goji berry, specifically a purified polysaccharide (LRPS4) and anthocyanins, can work together to fight cancer by causing cell death through a mechanism dependent on reactive oxygen species (ROS). When tested on colorectal cancer cells, the mixture reduced cancer cell viability in a dose-dependent manner. This means that within a certain range, higher concentrations of the compounds caused more cancer cells to die. Importantly, the mixture induced cell-cycle arrest, stopping cancer cells from progressing past a certain phase, and increased levels of ROS, which contributed to cancer cell death. The treatment showed no harmful effects on normal cells, suggesting its potential for targeting cancer cells specifically. The study also found that this anticancer effect may work by interfering with specific pathways that regulate cell growth and death, like the PI3K/Akt and JAK2/STAT3 pathways.

Qin X, Wang X, Xu K, et al. Synergistic antitumor effects of polysaccharides and anthocyanins from *Lycium ruthenicum* Murr. on human colorectal carcinoma LoVo cells and the molecular mechanism. *Food Sci Nutr*. 2022;10(9):2956–2968. doi.org/10.1002/fsn3.2892

Anthocyanins May Reduce the Risk of Heart Disease

Atherosclerosis develops when a sticky substance called plaque builds up inside the arteries. A key early step in atherosclerosis is when LDL ("bad") cholesterol accumulates in artery walls and forms plaques, triggering inflammation and damage.

Apolipoprotein E-deficient mice are commonly used to study atherosclerosis because they develop high cholesterol and artery plaque buildup. Cyanidin-3-*O*-*β*-glucoside, an anthocyanin, helps protect endothelial cells by promoting nitric oxide production. This will help dilate the blood vessels, support cell migration, which is important for repair of the damage, and promote cell survival. Cyanidin-3-*O*-*β*-glucoside also improves endothelial repair and slows down atherosclerosis caused by diabetes.

Wang Y, Zhang Y, Wang X, Liu Y, Xia M. Supplementation with cyanidin-3-*O*-*β*-glucoside protects against hypercholesterolemia-mediated endothelial dysfunction and attenuates atherosclerosis in apolipoprotein E-deficient mice. *J Nutr*. 2012;142(6):1033–1037. doi.org/10.3945/jn.112.157701

Zhang Y, Wang X, Wang Y, Liu Y, Xia M. Supplementation of cyanidin-3-*O*-*β*-glucoside promotes endothelial repair and prevents enhanced atherogenesis in diabetic apolipoprotein E-deficient mice. *J Nutr*. 2013;143(8):1248–1253. doi.org/10.3945/jn.113.177451

Anthocyanins Found in Blueberries May Protect Against Atherosclerosis

Studies show that anthocyanins, found in foods like blueberries, help protect against atherosclerosis by reducing oxidative stress and inflammation. Mice fed a blueberry-rich diet showed reduced liver damage and increased antioxidant enzyme activity in their aorta. Anthocyanins in other berries also affect genes involved in oxidative stress, inflammation, and cholesterol metabolism. Additionally, anthocyanins prevent LDL cholesterol oxidation by increasing protective enzymes, which helps protect the arteries from plaque buildup.

Wu X, Kang J, Xie C, et al. Dietary blueberries attenuate atherosclerosis in apolipoprotein E-deficient mice by upregulating antioxidant enzyme expression. *J Nutr.* 2010;140(9):1628–1632. doi.org/10.3945/jn.110.123927

Mauray A, Felgines C, Morand C, Mazur A, Scalbert A, Milenkovic D. Bilberry anthocyanin-rich extract alters expression of genes related to atherosclerosis development in aorta of apo E-deficient mice. *Nutr Metab Cardiovasc Dis*. 2012;22(1):72–80. doi.org/10.1016/j.numecd.2010.04.011

Anthocyanins May Reduce Plaque Buildup in Arteries

Research using rodents fed a high-cholesterol, Western-style diet shows that anthocyanins help reduce plaque buildup in arteries. This benefit is linked to their antioxidant and cholesterol-lowering properties. Studies found that anthocyanin-rich foods such as blueberries may reduce cholesterol and triglyceride levels. In obese rats, a blueberry-rich diet reduced harmful LDL cholesterol and VLDL cholesterol but did not affect HDL ("good") cholesterol, suggesting that anthocyanins may help prevent atherosclerosis.

Vendrame S, Daugherty A, Kristo AS, Klimis-Zacas D. Wild blueberry (*Vaccinium angustifolium*)-enriched diet improves dyslipidaemia and modulates the expression of genes related to lipid metabolism in obese Zucker rats. *Br J Nutr*. 2014;111(2):194–200. doi.org/10.1017/S0007114513002390

People with Diabetes or High Cholesterol Can Improve Blood Sugar Control and Blood Vessel Function with Anthocyanins

Several clinical trials have studied how anthocyanins affect cardiovascular disease prevention and treatment, showing benefits at various stages of atherosclerosis. Factors like chronic inflammation, free radicals, type 2 diabetes, smoking, and high blood pressure can trigger endothelial dysfunction, contributing to plaque buildup. In clinical trials, people with obesity or type 2 diabetes who took an anthocyanin-rich extract experienced lower blood sugar spikes after meals. In people with high cholesterol, anthocyanins improved blood vessel function by enhancing nitric oxide signaling.

Hoggard N, Cruickshank M, Moar KM, et al. A single supplement of a standardised bilberry (*Vaccinium myrtillus* L.) extract (36% wet weight anthocyanins) modifies glycaemic response in individuals with type 2 diabetes controlled by diet and lifestyle. *J Nutr Sci*. 2013;2:e22. doi.org/10.1017/jns.2013.16

Zhu Y, Xia M, Yang Y, et al. Purified anthocyanin supplementation improves endothelial function via NO-cGMP activation in hypercholesterolemic individuals. *Clin Chem*. 2011;57(11):1524–1533. doi.org/10.1373/clinchem.2011.167361

Anthocyanins May Lower Cholesterol Levels

A study involving 150 people with high cholesterol showed that taking 320 mg of anthocyanins twice a day for 24 weeks reduced inflammatory markers, such as C-reactive protein (CRP) and IL-1β, compared to a placebo. This suggests that anthocyanins may lower inflammation. Anthocyanins also lowered LDL ("bad") cholesterol and increased HDL ("good") cholesterol. Additionally, they reduced other inflammatory markers like TNF-α and IL-6.

Zhu Y, Ling W, Guo H, et al. Anti-inflammatory effect of purified dietary anthocyanin in adults with hypercholesterolemia: a randomized controlled trial. *Nutr Metab Cardiovasc Dis*. 2013;23(9):843–849. doi.org/10.1016/j.numecd.2012.06.005

Vugic L, Colson N, Nikbakht E, et al. Anthocyanin supplementation inhibits secretion of pro-inflammatory cytokines in overweight and obese individuals. *J. Funct. Foods*. 2020;64:103596. doi.org/10.1016/j.jff.2019.103596

Anthocyanins May Improve Brain Function

Drinking 200 ml of cherry juice daily has been shown to improve verbal fluency, short-term memory, and long-term memory in adults over age 70 with mild to moderate dementia. This juice, rich in anthocyanins, also helps lower systolic blood pressure. Blueberries and omega-3 fatty acids have also been shown to enhance brain function and reduce cognitive inefficiencies. Anthocyanins from these fruits are known to improve brain blood flow and activity in areas linked to cognitive functions.

Kent K, Charlton K, Roodenrys S, et al. Consumption of anthocyanin-rich cherry juice for 12 weeks improves memory and cognition in older adults with mild-to-moderate dementia. *Eur J Nutr*. 2017;56(1):333–341. doi.org/10.1007/s00394-015-1083-y

McNamara RK, Kalt W, Shidler MD, et al. Cognitive response to fish oil, blueberry, and combined supplementation in older adults with subjective cognitive impairment. *Neurobiol Aging*. 2018;64:147–156. doi.org/10.1016/j.neurobiolaging.2017.12.003

The Brain-Protective Effects of Black Goji Berry Anthocyanins

Researchers studied the potential brain-protective effects of black goji berry anthocyanins in rats treated with a substance that caused memory and learning impairments similar to Alzheimer's disease. They found that rats given black goji berry anthocyanins performed better in memory tests, similar to healthy rats. The anthocyanins also reduced markers of brain inflammation and lowered the levels of harmful proteins associated with cognitive decline. Overall, black goji berry anthocyanins help improve memory and reduce brain inflammation in the treated rats, suggesting they may have protective effects against brain aging.

Chen S, Zhou H, Zhang G, et al. Anthocyanins from *Lycium ruthenicum* Murr. ameliorated d-galactose-induced memory impairment, oxidative stress, and neuroinflammation in adult rats. *J Agric Food Chem*. 2019;67(11):3140–3149. doi.org/10.1021/acs.jafc.8b06402

Black Goji Berry May Reduce Inflammation

Researchers divided mice into three groups: one with a normal diet, one with a Western diet, and one with a Western diet with black goji extract. After 12 weeks, they found that the black goji extract reduced the expression of a pro-inflammatory gene and increased the expression of an anti-inflammatory gene. This may be due to the high doses of anthocyanins isolated from black goji extract, which can inhibit D-galactose-induced NF-κB activation and reduced the levels of inflammatory mediators such as cyclooxygenase-2, IL-1β, and TNF-α.

Lu K, Wang J, Yu Y, Wu Y, He Z. *Lycium ruthenicum* Murr. alleviates nonalcoholic fatty liver in mice. *Food Sci Nutr.* 2020;8(6):2588–2597. doi.org/10.1002/fsn3.1445

Chen S, Zhou H, Zhang G, et al. Anthocyanins from *Lycium ruthenicum* Murr. ameliorated d-galactose-induced memory impairment, oxidative stress, and neuroinflammation in adult rats. *J Agric Food Chem*. 2019;67(11):3140–3149. doi.org/10.1021/acs.jafc.8b06402

Protect the Liver with Black Goji Berry

Researchers studied the liver-protective effects of black goji berry anthocyanins, which were extracted from dried black goji fruits. They found that these anthocyanins helped reduce liver damage caused by D-galactose (D-gal). In mice treated with D-gal, liver cells showed damage and death, but this was improved by black goji berry anthocyanin treatment. The anthocyanins also lowered levels of specific enzymes (AST, ALT, and LDH) in the blood. These enzymes are indicators of liver and cell damage. Additionally, the treatment reduced cell death by affecting certain cell death-related genes. Overall, black goji berry anthocyanins helped protect the liver from damage.

Chen S, Wang H, Hu N. Long-term dietary *Lycium ruthenicum* Murr. anthocyanins intake alleviated oxidative stress-mediated aging-related liver injury and abnormal amino acid metabolism. *Foods*. 2022;11(21):3377. doi.org/10.3390/foods11213377

Neuroprotective Qualities of Black Goji Berry

Researchers investigated the neuroprotective effects of several compounds isolated from black goji berry extracts, including newly identified ones like lyciumserin A, B, C, E, and F. In tests with cells damaged by a neurotoxin, these compounds helped restore cell health and protect against cell damage. The compounds also inhibited monoamine oxidase B (MAO-B), an enzyme linked to neurotoxicity, which could be beneficial for treating Parkinson's disease.

Hu YK, Bai XL, Yuan H, Zhang Y, Ayeni EA, Liao X. Polyphenolic glycosides from the fruits extract of *Lycium ruthenicum* Murr and their monoamine oxidase B inhibitory and neuroprotective activities. *J Agric Food Chem.* 2022;70(26):7968–7980. doi.org/10.1021/acs.jafc.2c02375

Black Goji Berry Anthocyanins May Have Immunomodulatory Effects on Rheumatoid Arthritis

Researchers found that black goji berry anthocyanins can reduce the growth and invasion of harmful cells in patients with rheumatoid arthritis. In their study, the anthocyanins were tested at different concentrations and were found to lower harmful cell viability and inhibit harmful cell growth similarly to the standard drug methotrexate (often used to treat rheumatoid arthritis). Unlike methotrexate, black goji berry anthocyanins did not cause the typical side effects like immunosuppression. This suggests that black goji berry anthocyanins could be a potential treatment for rheumatoid arthritis without the negative effects associated with traditional drugs.

Xu K, Qin X, Zhang Y, et al. *Lycium ruthenicum* Murr. anthocyanins inhibit hyperproliferation of synovial fibroblasts from rheumatoid patients and the mechanism study powered by network pharmacology. *Phytomedicine*. 2023;118:154949. doi.org/10.1016/j.phymed.2023.154949

Scientific research requires judgments based on professional knowledge and rigorous implementation processes. These processes consist of complex methods, any small change in which can affect the results drastically. We have provided you short summations of the research for ease of understanding. Do not use this as a basis for self-diagnosis or self-treatment.

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