In one exercise for the *Anti-Aging Therapeutics* class, students were assigned the task of writing hypothetical letters to UConn women's basketball coach Geno Auriemma about the field of Geroscience. These are their "letters":

Dear Geno Auriemma,

You said it best: "*We don't like to admit we're older… but we still act younger*." That attitude alone puts you in a league of your own—and it turns out, science agrees that the people we surround ourselves with *do* influence how we age. That brings me to something I wanted to share with you: a field called geroscience.

Geroscience is a relatively new branch of biomedical research that studies *why* we age and how we might *slow* the process to live healthier for longer. The focus isn't on extending life just for the sake of more years—but on extending the *healthy* years, what we call healthspan. It's about making the fourth quarter as strong as the first three.

At the cellular level, aging is driven by a set of well-documented processes called the hallmarks of aging. One of the big ones is mitochondrial dysfunction—basically, when your cells' energy factories start to sputter over time. It's one reason why even the most elite athletes eventually start to feel a little less spring in their step. But here's the good news: researchers are uncovering interventions that might help rejuvenate those mitochondria and keep you sharp, focused, and energized—on and off the court.

One promising approach is exercise mimetics—compounds that simulate the effects of physical activity at the molecular level. For example, resveratrol, a natural compound found in red wine, has been shown in some studies to activate a family of proteins called sirtuins that help protect cells under stress and improve mitochondrial function. Now, I'm not saying a nightly glass of Cabernet is a prescription, but it does show how certain lifestyle factors—including *moderation*—can support aging more gracefully. (And yes, the grape can be good for you—just maybe not *after* a championship party.)

Another practical and evidence-backed intervention you might consider is intermittent fasting or time-restricted eating. Studies suggest that giving the body regular breaks from eating can reduce inflammation, improve metabolic health, and even help cellular housekeeping processes like autophagy (literally "self-eating")—your body's way of clearing out damaged components. It's like a locker room clean-up at the cellular level.

Coach, your presence courtside has shaped generations of athletes and fans. If anyone deserves a longer run at what they love, it's you. Geroscience says it might just be possible—not by fighting time, but by working *with* it.

With respect and admiration,
YK

Dear Coach Geno Auriemma,

Watching your devotion, passion and strong leadership throughout the many years you have dedicated to the UConn women's basketball team has been inspiration to many including me. Upon reading a statement you made, reflecting on how your daily interactions with younger players keep you feeling youthful and engaged, I would like to share some insights I have gained about healthy aging. A growing field of research called geroscience, focuses on understanding the relationship between aging and age-related diseases. The central goal is not just to extend how long we live but increase the number of years we live in good health.

To continue being the legendary coach you are, consider increasing your intake of omega-3 fatty acids, healthy fats found in fish like salmon, sardines and mackerel, as well as plant-based sources like flaxseeds, and walnuts. Omega-3s are known to reduce chronic inflammation and support brain and heart health. Growing up, my grandmother would give me Omega-3 supplements daily, because of the benefits for my brain but their impact goes far deeper than that. Some research suggests that omega-3s may help the body manage cellular senescence, a process where damaged cells stop dividing and start releasing harmful chemicals. Senescent cells promote chronic inflammation, and omega-3s may counteract this reducing the production of pro-inflammatory proteins.

Moderate red wine consumption can also be beneficial, another interesting point you might appreciate. Red wine contains resveratrol, a compound with anti-inflammatory properties, that improves cardiovascular health and may even protect the brain from age-related damage. Your occasional glass of wine can promote better health and helps you stay sharp and active. Everyone's health needs are different so please consult your physician before making any dietary or supplement changes. Thank you for taking the time to read this email.

Best regards, AP
UConn Undergraduate Student

Dear Coach Auriemma,

I admire your strength and resilience when it comes to aging. Oftentimes, people physically limit themselves from engaging in what society may label as "young activities." I am happy that you shed light on the mental ideologies that contribute to keeping both the mind and body active.

I wanted to introduce you to a growing field in science called Geroscience, which aims to bridge the gap between aging and the onset of disease by understanding how our bodies change physiologically and molecularly over time. One aspect of this field encourages younger adults not to discriminate against older adults, and another motivates older adults to continue engaging in healthy activities like exercise, healthy diets, and socialization to strengthen their minds and bodies.

As we age, our ability to eliminate damaged cells decreases, and we accumulate internal inflammation, which can contribute to diseases like cardiovascular conditions and cancer. This makes altered cellular communication and chronic inflammation two key hallmarks of aging. Fortunately, scientists are investigating therapeutics to help mitigate this functional decline!

Thus, I also wanted to bring your attention to some exciting interventions being studied to promote healthy aging (I am not sponsored by any company!). This includes diets that are both nutrient-rich, like foods containing fisetin or resveratrol, and anti-inflammatory, as well as regular exercise! Data has shown that fisetin can reduce the process by which cells permanently stop growing, senescence, and begin secreting inflammatory particles that damage surrounding tissues. Similarly, resveratrol can reduce cell death and can promote a cellular process by which damaged molecules in the body are eliminated or recycled, known as autophagy. Interestingly, resveratrol is found in the skin of grapes and therefore, in wine, though the amount you would need to consume in one sitting to reap the benefits of resveratrol would be concerning. Furthermore, studies in mice have also shown that exercise can promote autophagy.

Once again, I admire your message to people about how aging does not need carry negative connotations. Instead, it can lead to more beautiful experiences and deeper wisdom!

To conclude, I want to emphasize that I am not a licensed healthcare professional, and you should always consult your physician before making any behavioral, nutritional, or pharmacological changes in your life!

Wishing you continued strength and success,
AG

Dear Mr. Auriemma,

Congratulations on your 12th National Championship! My name is EH, and I am a senior Molecular and Cellular Biology major. I am currently taking a class called Anti-Aging Therapeutics. In this class, we discuss geroscience, which is a field that focuses on the biological processes of aging and how they contribute to age-related diseases. Researchers in this field try to identify potential interventions that can slow down the aging process, which can in turn improve health and lifespan.

After reading your quote on how you feel younger when you interact with your players, it inspired me to reach out to you. I want to discuss an intervention that will not only make you feel emotionally younger, but physiologically younger as well: exercise. Exercise has been well known to maintain skeletal muscle and metabolic health, however, did you know that it can slow down the aging process? In Podraza-Farhanieh et al., they discuss how physical exercise can reduce cellular senescence markers in skeletal muscle cells. Cellular senescence is a process where the cell halts normal function due to environmental stress and DNA damage. Too many senescent cells can eventually cause tissue damage and lead to inflammation. Exercise was observed to reduce this likelihood, improving metabolism. My recommendation? Maybe start doing a light practice with the team every so often.

I have also heard you enjoy a nice glass of red wine. I am happy to inform you that red wine does carry some aging benefits. Red wine contains an abundance of antioxidants, including resveratrol. Normally found in grapes, resveratrol can protect your blood vessels from clogging and reduce the risk of heart disease and potentially cancer. It was also seen to boost "good" cholesterol levels. Before you go off and take my advice, make sure to consult your physician to see if these changes are optimal for your lifestyle. I wish you the best of luck in your health journey! Go huskies!

EH

Good afternoon, Coach Geno,

Congrats on winning nationals! It was a great game. I have heard from the newspaper that you talked about acting younger because you are around your athletes. A field of research exists that actually focuses on the science of getting older! It is called geroscience. The goal of this field is to find health-extending treatments. There are two ways to measure age: chronological age, which is determined by the day you were born, and biological age, which is determined by the body's condition. Some of the factors scientists use to determine biological age are called the Hallmarks of Aging. They are biological processes that function worse with age. One is the disruption of autophagy, the process in which cells destroy dysfunctional organelles to recycle the materials. If a cell does not go under autophagy, it could go through other destruction processes, which can cause inflammation and are less optimal for health. A lifestyle change you could make to help promote autophagy in your body is through intermittent fasting. Of course, consult a doctor before doing this because I am unaware of your medical history. Also, in moderation, wine could be good for you. It can help reduce insulin resistance in fat mice, and these findings may be transferable to humans.

Good luck next year with the basketball.
Sincerely
RMN

Dear Coach Auriemma,

Congratulations on a twelfth national championship! My name is BB, I am a junior majoring in Molecular and Cell Biology. In some of your interviews, you mentioned not feeling as young as you used to.

I am writing to discuss the field of geroscience, which studies the science of aging and how to age healthily. This field examines how we age in good health - not measuring how long we can live attached to machines, but how we can live well and independently.

To prolong your health to continue coaching, you can exercise. Research by Ling Yang and colleagues shows that exercise can greatly improve the metabolism of fats, even if exercise is started in midlife. Stopping exercise can reduce the body's efficiency of using fats, which is associated with dysregulated nutrient-sensing, a hallmark of aging. In Yang's study, mice that began exercising during midlife were able to use fats at similar efficiencies as mice who had been exercising consistently throughout their whole lives. I assume you are active during coaching sessions, but prioritizing your own workouts can help you stay healthy.

You have mentioned your affinity for wine in interviews, which is not bad! As we age, the part of our cell that produces energy, the mitochondria, can become dysfunctional and release harmful molecules. Red wine contains a compound called Resveratrol and antioxidants, which are molecules that can mitigate mitochondrial dysfunction, another hallmark of aging. Research by Amin Mehrabi and colleagues, demonstrates the impact of exercise paired with red wine consumption. Increases were found in both antioxidant levels and the amount of proteins called sirtuins, which can help regulate hallmarks of aging. Exercise and drinking red wine may help mitigate the harmful impacts of aging.

Please consult your physician before making any changes.
Best, BB

Dear Geno Auriemma,

Your achievements as a basketball coach have been nothing short of extraordinary. As an undergraduate student at UConn, I selfishly want you to continue your coaching career for as long as possible. I am a molecular and cellular biology major who studies aging. I am contacting you today to give you some advice from my scientific knowledge to help you stay healthy and lengthen your tenure.

My scientific background is in geroscience, a field that studies the aging process to understand how we age healthily and how to delay the onset of age-related diseases. As we age, many aspects of our bodily systems go awry. Not only does our hair turn grey, but our cells undergo changes, too. The hallmarks of aging are a framework that describes many components that contribute to aging on a cellular level. For instance, our cells struggle to communicate with one another, and we experience chronic inflammation.

However, interventions such as caloric restriction can help you age healthily. Reducing your calorie intake increases a process called autophagy, which is a hallmark of aging. In autophagy, cells recycle damaged parts of themselves, protecting against age-related damage. Additionally, including strawberries in your diet can help you age healthily. Strawberries contain a natural molecule called fisetin, which has anti-aging properties. It acts as an antioxidant and anti-inflammatory molecule, protecting cells from stress and chronic inflammation. Fisetin is also able to kill senescent cells, which are cells that stop dividing and secrete inflammatory signals. Senescent cells accumulate as we age and are linked to many age-related diseases.

Finally, red wine isn't all bad! It contains a molecule called resveratrol, which has antioxidant, anti-inflammatory, and antitumor properties, contributing to brain and cardiovascular health. However, you must drink about a case of wine daily to reap the benefits.

Please consult your physician before making any changes.
Yours truly, KG

Good morning Coach Geno,

Congratulations on winning your 12th national championship. My name is AP. I am a molecular and cell biology student at the University of Connecticut. I recently came across a quote from one of your interviews where you mentioned feeling the effects of aging and wondering how much longer you can keep coaching. As a proud Husky who is currently taking an Anti-Aging Therapeutics course, I wanted to share with you some tips that will hopefully help you to continue to coach for more years.

A field I have learned in class that relates to what you have shared is geroscience, which is the study of how targeting biological processes that drive aging and increase the risk of chronic diseases may help extend both the length and quality of life.

An intervention that could support your healthspan and continued success as UConn's women's basketball coach is daily cup of green tea. Researchers at Chongqing Medical University found that green tea contains a compound that may lower the risk of heart disease by targeting a hallmark of aging known as epigenetic alterations, which are changes to how genetic information is regulated and used by cells. This can impair heart function over time. The compound inhibited histone deacetylation, a process that can restrict gene activity. This led to an increase in cells that help the heart contract. This resulted in improved heart muscle performance and reduced symptoms of heart failure.

Interestingly, red wine can be good for you in moderation because it contains a compound called resveratrol, which may help reduce an imbalance of molecules in the body that can lead to cellular damage, a process known as oxidative stress. Resveratrol has also been shown to delay cellular senescence, a process where cells permanently stop dividing but remain alive. However, it's important to keep in mind that resveratrol makes up only a very small portion of red wine and consuming large amounts of alcohol can increase the risk of health issues such as liver disease and high blood pressure.

Remember to consult your physician before undertaking these nutritional changes in your life.
Respectfully, AP
Proud UConn Student

Dear Mr. Auriemma,

My name is CP, and I am currently an undergraduate student studying molecular and cell biology at Uconn. Congratulations on your 12th national championship this past week! It was an incredible game to watch and well deserved for both you and the team. As your tenure continues here at Uconn, I wanted to introduce you to a couple tips and tricks that will help keep you in top shape for running our programs. A new and developing field within biology has come to be known as geroscience, which is concerned with reducing some of the factors that make aging so dangerous to individuals. By learning about the cellular mechanisms and changes that come about as we get older, behaviors and supplements can be used to keep us healthier as time goes on. A quick change you may be able to implement in your daily routine would be a reduction of calorie intake. While seeming simple, this choice has been scientifically shown to have an immense benefit in offsetting some of the risks associated with aging. Various phenomena known as the hallmarks of aging are key cellular events that occur as we get older. Restricting calories can mitigate the adverse effects seen from development of these hallmarks. Deregulated nutrient sensing is an example in which the normal process of metabolizing energy is rendered less efficient and eventually dangerous. When food is broken down by the body it involves the use of reactive oxygen species, which are a type of oxygen crucial for proper energy production. When this process becomes inefficient, the buildup of these molecules can become harmful. Limiting the amount of food the body must metabolize, reduces the amount of reactive oxygen species that need to be produced. This has shown to be effective in many different quality of life benefits, like losing weight and reducing risk for heart disease. With all the stress that comes from being a coach at such a high level, taking small steps like this could help ensure your body can respond accordingly as you hopefully continue winning.

Advice like this is common but should also be taken in moderation. Reducing calories has been shown to be beneficial but limiting intake too much could have the opposite effect. Preventing your body from receiving at least the minimum amount of energy for function would cause shutdowns in various important processes for normal function. In this way moderation is key. The same can be said for consumption of red wine. A compound known as resveratrol is commonly found in red grapes and has been linked to various anti-aging properties. Introducing this chemical to the body can help with reducing inflammation, preventing cardiovascular disease, and muscle loss. Celebrating with a glass or two on occasion will have a positive benefit contrary to popular belief. Using moderation in the reduction of calories and consumption of red wine could have long lasting effects on your health! While I can make these recommendations to you, I need to stress that it is very important to consult with a doctor before implementing any of these changes. Multiple factors and processes go into regulating the body as it ages, and not every recommendation is right for different individuals. Learning how much you should be reducing your calories and the minimum amount needed is crucial before experimenting. The same can be said with consumption of red wine, as the alcohol still carries negative effects. I hope these changes would be something you consider, as well as an overall exploration into the field of geroscience itself. With rapid developments occurring in the industry, it may serve as a great resource to educate on ways to stay healthy. Thanks again for your time and keep up the great work!

Sincerely,
CP

Dear Coach Auriemma,

My name is JB, I am a pre-health student at UConn. Foremost, please accept my congratulations on your recent national championship win. Reading your post-victory reflections about the nature of getting older in the coaching profession and musings about being kept young through your association with your athletes reminded me of my studies within a course this semester focused on the topic of geroscience. This field is concerned with investigating distinctive changes in our bodies which drive aging. Because getting older is such a prominent predictor of illness, geroscientists hope that addressing the mechanisms underlying this process, so-called hallmarks of aging, will prevent or delay multiple age-related diseases at once and increase quality of life into our later years. If you wish to continue your celebrated tenure as our women's basketball coach, therefore, findings from geroscience research may be of assistance. Your mention of wine as being good for you was not far off in this regard, as grapes in particular have been demonstrated to have numerous anti-aging properties. For instance, I recently read a research paper describing the ability of grapeseed extract to reduce one hallmark of aging, the accumulation of nondividing "senescent" cells, which release factors promoting inflammation and lead to tissue damage and disorders. While you will not find grapeseed extract in wine directly, it may prove a fruitful intervention capable of keeping you in the game longer. Of course, you should talk with your doctor before starting to take any supplements. Congratulations again on your victory, I wish you all the best in your future endeavors.

Sincerely, JB

Dear Geno,

Great talking to you after the game the other night, congratulations on another national championship! Just more proof that you are the winningest coach in college basketball. I have been thinking about our conversation on aging, and I'm not sure why it slipped my mind to mention to you at the time, but I have picked up some insights in a course I am taking this semester on the science of aging that I think you would appreciate.

Aging is the major risk factor for many aging-related diseases. Geroscience, a new scientific field, examines how we age from a cellular and biological level to understand how it contributes to these conditions. This field has uncovered 12 biological processes, also called hallmarks, that undermine the aging process. Geroscientists hope that by understanding these hallmarks and how to intervene, they can develop treatments that address multiple age-related conditions and improve the health of people as they age. You often say you do not feel your age and still act young. A big reason for this is probably to do with your work coaching and how active it keeps you. Physical exercise helps our cells better respond to nutrient signals and recycle damaged proteins, two processes that decline with age. If you want to stay feeling young, I recommend continuing to keep up with the active lifestyle you already live. That does not mean you should overwork your body or look into other anti-aging therapies, your doctor is the best person to guide you on any new lifestyle changes.

Side note, since I know you love your wine, it contains a compound called resveratrol, which has been found to counteract several aging hallmarks. That being said, a typical amount of wine does not contain enough resveratrol to produce any significant effects, but hey, it is still a great excuse to unwind with a glass after a long day.

Best, BP

Good afternoon Coach Auriemma,

Congratulations on the big victory! It was amazing witnessing this beautiful season! My name is KA, and I am a senior here at UConn. I am currently taking an Anti-Aging Therapeutics class where we discuss different ways to live a better-quality life.

In one of your quotes, you explained how you keep yourself feeling young. I think surrounding yourself with the young players definitely helps with at least feeling younger but there is also a field of science that is dedicated to the science of aging. Geroscience helps with targeting aging and gives more insight on how to have a greater quality of life. Scientists in this field focus more on the aging specific process that can happen independently from a disease. Therefore, different interventions come out of this field in order to achieve to live not just longer but better. Nutrition is really important when looking at the process of aging. In one of the papers that we have read for our class they pointed out that by taking fisetin, which is a healthy compound found in fruit like strawberries, it helps with improving the blood vessel's function.

As we get older the cells that are old and damaged build up and cause inflammation. Chronic inflammation is a sign of aging that scientists use to target and gain insight on how to age better. Such inflammation causes our blood vessels to not function properly. The paper concludes that there are promising results that eating more fruits like strawberries or anything that contains fisetin can help the blood vessel function and therefore be able to have a better quality of life. Something else that I think would be of interest to you is that wine can actually be good for you! Just like the role of fisetin, there is another compound in red wine that can help with heart health. Resveratrol might help prevent damage to blood vessels as well as lower the levels of the bad cholesterol that builds up. In addition, this compound may prevent blood clots and lower inflammation which is an important hallmark I mentioned before. Wine is not all bad! Although I have learned a lot in this class, I am definitely not an expert so take this advice with a grain of salt. If you plan on making any lifestyle changes, please consult your doctor before you do so! For now, I think staying around the young players will be beneficial for you and your coaching career!

Best regards, KA

Dear Mr. Geno Auriemma,

My name is KH. I am currently a Junior at UConn, and I must say, I am a big fan. I want to congratulate you on every one of your wins and thank you for contributing to my college experience with this year's National Championship. I recently read a segment of your interview in which you spoke about how you are still able to do so much despite your age, and it reminded me of several topics I learned in my Anti-Aging Therapeutics Class. In this class, we study geroscience, or the science of aging, and the genetic, cellular, and physical mechanisms that make aging a significant risk factor, as well as how it contributes to the development of chronic diseases and conditions in older adults. The field of geroscience aims to target these mechanisms to help delay or prevent the onset of age-related diseases to increase one's lifespan.

In that interview, you mentioned how wine is good for your health, and technically, you aren't wrong. Red wines contain a compound called resveratrol, which is known to have anti-aging effects and improve one's cardiovascular health. The caveat of this is that you would need to drink about 5000 glasses to get enough resveratrol for it to influence your health.

A common characteristic or hallmark of aging is the permanent stop of cell division caused by an accumulation of cell damage or dysfunction in a process called senescence. Within senescent cells, they often release pro-inflammatory compounds called senescence-associated secretory phenotype (SASP). SASP is known to induce chronic age-related diseases and could even lead to the development of cancers.

Easy add-ons to your daily diet that can help prevent and reduce inflammation are green tea, spices like garlic and ginger, and strawberries. These foods contain anti-inflammatory compounds and antioxidants that help reduce inflammation. Strawberries especially contain a powerful compound called fisetin that can kill off senescent cells, and to get enough fisetin to get an adequate amount is roughly 1 pound.

As easy as it sounds to just add a cup of tea, a few extra spices, and a hefty pound of extra fruit to your daily diet, I would recommend consulting with your physician beforehand to ensure that administering any sort of change would be the right decision. I as well as all of UConn need you to stay in good health so that we can win even more games with the Women's Basketball team.

Best, KH

Dear Mr. Auriemma,

First, allow me to express my congratulations on UConn's stunning recent win and my admiration for the amazing record you've fostered here. We Huskies hope to see you courtside for many years to come. I write to you as a UConn student wishing to share some information about an exciting new field being directly furthered by UConn students and faculty, hoping to lengthen not just lifespan but healthspan, the period of life that one spends being healthy. This field is called geroscience.

Instead of trying to individually treat the diseases associated with aging, like heart disease, cancer, and dementia, geroscience is oriented around understanding the aging process itself. Aging is the single largest risk factor for most chronic diseases and functional decline. Geroscience aims to increase healthspan by addressing the mechanisms behind aging, which directly translates to cognitive sharpness, increased energy, and resilience.

One way you can extend your healthspan now, backed up by geroscience research, is intermittent fasting. You don't have to change how much you eat or what you eat. Instead, you structure when you eat. For example, you might eat solely within an eight-hour window every day and fast for the remaining sixteen hours. This activates a cellular mechanism called autophagy, essentially a housekeeping process that cleans up debris and keeps cells running smoothly. The dysfunction of this process is a major hallmark of aging, and its proper functioning is a vital component of maintaining good health.

On a less ascetic note, geroscience has also pointed towards a unique way in which a commonly beloved vice can be a virtue, specifically alcohol. Red wine contains several antioxidants, chemicals which help the body protect itself from molecular damage caused by daily life. Red wine also contains a compound called resveratrol, which is under research investigating whether it activates some of the same mechanisms triggered by intermittent fasting. Even so, the key is still moderation. Just a little wine will provide plenty of helpful chemicals, and fresh red or black grapes will offer far more.

Above all, this is just a primer on geroscience. Nothing here is medical advice. It is *vital* that you consult *your* physician first before changing your behavior, the way you eat, or the medications you take. This letter is just for your information.

Thank you for taking the time to read this. My hope is that this information will point you in a direction that could give you more valuable years on the court. Here's to 2026 and beyond – go Huskies!

Sincerely, JF

Dear Mr. Auriemma,

Congratulations on your National Championship win! My name is JK, and I am a student at the University of Connecticut currently enrolled in a class called Anti-Aging Therapeutics. I was greatly interested in your comments on staying young despite your chronological age and would love to offer some insight.

The class I am taking is based around the principle of geroscience, a field that recognizes the fact that aging is the biggest risk factor for developing chronic illnesses. Geroscientists seek ways to combat aging through behavioral, pharmacological, or dietary interventions with the hope of lowering the risk of developing chronic illnesses and increasing healthspan. Personally, I think you have done a good job at this, since you are active and in good condition for a 71-year-old. Although, I would like to suggest a behavioral change that can further increase your healthspan and therefore extend your career. Recent studies have shown that exercise increases healthspan, so I suggest taking hour long walks every day.

Geroscientists have categorized 12 hallmarks of aging that all contribute to and are a result of the aging process. One of them is disabled macroautophagy. This is when a process called autophagy, which cleans out waste from our cells in the form of misfolded proteins and old cell parts, becomes hindered with age. Functioning autophagy in your body combats aging, while aging is characterized by a decrease in this process. Exercise has been shown to increase autophagy, which is very desirable as an aging individual. This supports my recommendation to start taking long walks. Increasing your healthspan and coaching career are just a few thousand steps a day away.

Lastly, to address your comment about wine, studies show that wine can actually be good for you. Another hallmark of aging is mitochondrial dysfunction, where the part of your cells that makes energy begins to malfunction. This can cause an increase in reactive oxygen species, free radicals in your cells that are highly reactive and can damage your DNA. Resveratrol, a compound found in red wine, is an antioxidant that absorbs these free radicals and therefore mitigates DNA damage which combats aging. Research shows that you need about a case of red wine a day for this to actually work (please do not do that), but perhaps it can still positively affect your health even in small doses.

I hope you consider this advice, since UConn still needs you so we can keep getting more national championship titles. Although please do not follow any of my advice or make any pharmacological, behavioral, or dietary changes without consulting your physician first. But I hope you have learned a little bit about the important field of geroscience from this email and can positively benefit from it. Best of luck in this next year and thank you for your time!

Best, JK

Hi Geno Auriemma congrats on your recent win at nationals,

I saw your recent comments about how aging has been impacting your career, and I wanted to introduce you to a novel area of biology called geroscience; the study of the foundational molecular drivers of aging. Geroscientists focus on identifying and understanding what initiates aging at the cellular level, with the ultimate goal of developing interventions that could extend healthspan; the number of years we stay healthy as we grow older. While current medical research often focuses on disease-specific treatments, aging itself has been identified as the greatest risk factor for nearly all major chronic diseases affecting older adults. This means that targeting the root causes of aging could potentially lead to broader and more effective therapies. Some scientists have already theorized on the hallmarks of aging, providing a framework to explain the processes that have been already proven to explain age related health decline.

A possible intervention for you that could help you maintain your energy is to join the women on the court! Physical exercise has been proven to prevent some of the hallmarks of aging, specifically autophagy and mitochondrial dysfunction. Autophagy is the body's way of recycling damage in cells to allow space for essential organic components, while mitochondrial dysfunction refers to a decline in the mitochondria, typically known as the "powerhouse of the cell" which is responsible for producing energy. Periodic exercise has been found to enhance these systems, combating age related decline and promoting longevity. The best part of this intervention is that it is free and accessible. Unlike many areas of biology that rely heavily on new drug prescriptions, geroscience shows that simple lifestyle changes can be effective on their own.

And don't worry about having your occasional wine glass, drinking it in moderation can actually aid cardiovascular health. There is a chemical called resveratrol found in the skin of red grapes that has been found to improve blood vessel function and reduce inflammation, which can counter a decline in heart function that is typically seen in aging. Two glasses a day for men has been seen to promote these effects. If you're looking for a wine that has high resveratrol content, Pinot Noir is recommended since its grapes have thicker skin and thus more resveratrol.

I am by no means a medical professional, just somebody who is interested in basketball and cellular biology. Please make sure to consult your physician or a medical professional before committing to any behavioral, nutritional, or pharmacological changes in your life.

KS

Dear Coach Auriemma,

To lead off, I would like to congratulate you and the entire team on a momentous tournament win. After this grand achievement, questions regarding your retirement have been swirling, with your age at the center of many of these conversations. After such an illustrious career, I would hate for this chapter of UConn basketball history and your coaching career to come to a close due to any of the ailments of age. Fortunately, there exists an entire field of research dedicated to studying the biological mechanisms of aging and alleviating age-related maladies that may hold the key to extending your time as a head coach: geroscience, in which aging is targeted at its source on the cellular level. One of these targets is the buildup of harmful compounds called reactive oxygen species (ROS) that build up within cells. This is caused by the mitochondria, a part of cells that helps create energy, malfunctioning as cells get older and producing more ROS, causing the chronic inflammation that creates the aches and pains of old age. By reducing the amount of ROS in cells, inflammation can be reduced, potentially keeping you fit to keep up with the high-performance athletes of the women's basketball team. Resveratrol, a compound found in red wine, is a fantastic antioxidant, and can reduce the amount of ROS in cells. Notably, this is *not* a suggestion to start carrying around a gallon of red wine at all times. This compound can be found in grapes, peanuts, other berries, and other foods that don't contain alcohol, which would likely counter the health benefits of resveratrol. Of course, I'm not a doctor, so take this advice with a grain of salt, and be sure to consult your physician before integrating more antioxidant-rich foods into your diet.

JD

Hi Coach Auriemma,

Congratulations on yet another tournament title. I know at your age you are probably guessing how much longer you have to coach, so allow me to introduce an emerging field of study that might help you extend your career. Geroscience is the study of aging and investigates all the avenues that make aging the biggest cause of life-changing conditions. This area of research also aims to improve not only lifespan but also health span or staying healthy and independent for longer.

One major cause of aging is cellular senescence, where cells in the body permanently cease to function and divide properly and release molecules that cause inflammation. My professor in my geroscience course jokingly brought up in class one day that wine consumption could help extend lifespan because it contains resveratrol, a compound that can eliminate these senescent cells. Unfortunately, this compound is found in very small amounts in wine, and the alcohol would likely offset the benefits. A better option to extend health span is to incorporate caloric restriction into your diet. Studies have suggested that caloric restriction may improve lifespan and health span. However, make sure you talk to your primary care physician before getting into any significant lifestyle changes.

Best, JC