

[REDDIT](#)

ACS AMA: Hi Reddit! My name is Dr. John M Newsam CEO of Tioga Research, Inc. Ask me anything about the skin or materials applied to the skin, or about founding and building a small company.

AMERCHEMSOCIETYAMA [R/SCIENCE](#)

Hi Reddit! I'm [Dr. John M. Newsam](#) and I serve as CEO of [Tioga Research](#) is a contract research organization ("CRO"). Our specialty is formulations applied to the skin. We undertake research and early development programs for pharmaceutical, cosmetic & personal care, and medical device clients. We have particular expertise in formulations innovation and in screening skin permeation and delivery. We use proprietary [high throughput experimentation \("HTE"\) platforms](#) to increase the efficiency with which we can screen formulations for their ability to enhance delivery of an active molecule into and through the skin. We work with a spectrum of companies, in the US and also in Europe, Japan, India and beyond, and we help these clients in a broad range of R&D projects. I am a chemist, a materials chemist by training. After my BA, MA and DPhil degrees in Oxford I spent nearly two years doing neutron scattering research in the Physics Department of Tohoku University in Japan. Deciding then to come to the US, I had to decide first between an academic or industrial track. Choosing the latter, I joined ExxonMobil Corporate Research in New Jersey, where I was fortunate to be able to work on inorganic materials for a range of interesting applications, including ceramics, catalysts, zeolites, and oxide superconductors. I got interested in computer simulation and was then recruited by Biosym Technologies, a molecular simulation software company in San Diego. I had various executive roles, including Chief Scientific Officer, as the company was acquired by Corning, merged with Molecular Simulation, and was acquired by Pharmacopeia (now [Biovia DS](#)). I then became more interested in start-up and early phase companies, co-founding [FreedomVoice Systems](#), [hte AG](#), fqubed, Integrated Discovery Sciences, Bio4Front and, in 2011, Tioga Research.

I also serve as an [ACS Expert](#) an AAAS Fellow and a RSC Fellow; I enjoy teaching entrepreneurship to undergraduates at UCSD and discussing with local middle- and high-schoolers interested in chemistry.

I will be back at **1 pm EST** to answer your questions, so, ask me anything about the skin and materials applied to the skin. You can also ask me about my research background, and anything about founding, building, and experiences working for a small company.

I NEED TO LEAVE AGAIN - BUT AS THERE ARE SO MANY QUESTIONS I WAS NOT ABLE TO GET TO, I WILL WORK TO SCHEDULE SOME TIME TOMORROW TO FIELD A FEW MORE. THANK YOU AGAIN FOR YOUR INTEREST.

I AM BACK ONLINE TO FIELD SOME MORE QUESTIONS (ALTHOUGH I HAVE REALIZED THAT SOME OF MY EARLIER RESPONSES WERE APPARENTLY NOT POSTED AS A RESULT OF MY INTERNET ACCESS ISSUES - I WILL TRY TO RE-ANSWER)

APOLOGIES - WE HAVE APPARENTLY HAD AN INTERNET OUTAGE, SO MY REPLIES AND COMMENTS HAVE BEEN DELAYED; I'M STILL ONLINE

GOOD MORNING (AT LEAST IN CALIFORNIA TIME) . . . I AM NOW ONLINE TO ANSWER ANY QUESTIONS YOU MIGHT HAVE.

APOLOGIES - WE HAVE APPARENTLY HAD AN INTERNET OUTAGE, SO MY REPLIES AND COMMENTS HAVE BEEN DELAYED; I'M STILL ONLINE

WOW - SO MANY INTERESTING QUESTIONS AND COMMENTS. THANK YOU. I HAVE TO LEAVE NOW DUE TO OTHER COMMITMENTS, BUT I'LL TRY TO CONNECT AGAIN LATER IN THE DAY TO FIELD A FEW MORE QUESTIONS.

I have enjoyed the dialog with each of you, even for you that asked questions that I haven't gotten to. Many thanks for your interest.

Please check out www.tiogaresearch.com for more information, if you are interested.

VIDEO PRODUCED BY ACS RELEASED 11/15/16 ON ACNE [HTTPS://WWW.YOUTUBE.COM/WATCH?V=KRMBWDIL1HC](https://www.youtube.com/watch?v=KRMBWDIL1HC)

-ACS edit

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Hi, I'm curious to know the different methods of dermal absorption used currently for many companies with their products and how significantly (%-wise) you increased the delivery of target molecules through the HTE methods.

I have heard previously that it varies widely depending on the compound, and in such case as collagen, it isn't well absorbed through the skin at all and basically useless. Stemming from that, what products do you see as effective and are an actual working investment for skincare?

[Joons16](#)

Unfortunately, it is not yet possible in general to predict the extent of delivery of an active from a skin-applied formulation into and through the skin. We need to make measurements. Our own experience is that, as outcomes are not today predictable, in any new program there is uncertainty as to outcome. Hence we can't give a general answer to your first question.

However, we worked with a client on a program beginning in 2015, the client already having worked with two other very competent topical formulation groups, and we were in that case able to increase dermal delivery by 5-fold by our Cascaded ScreeningTM approach (that uses HTE).

There is no certainty that that sort of improvement is possible in all cases.

I'll try to come back to your collagen question in a moment.

What are your thoughts on preserving the skin's microbiome and other natural defenses such as the acid mantle through topical products? Are products that strip the skin's oils and neutralize the acids or kill all the bacteria on the skin really harmful?

Edited to add a second question: what skincare ingredients or products are particularly effective or ineffective or harmful?

[Ren_san](#)

Great question - thank you.

Our appreciation for the importance of the skin microbiome has begun to develop only relatively recently. In some cases products have been designed to deliberately impact the skin microbiome - antibacterial soaps or topical antifungals for example.

But the role of the other microbes that populate the skin, and what their deleterious, benign or beneficial roles might be is still to be fully revealed.

One interesting class of skin-applied products we have discussed are those that comprise viable microorganisms that, when dispensed into the skin, propagate and either directly or via secreted metabolites have beneficial effects.

Like acne, atopic eczema (atopic dermatitis) is a prevalent, sometimes debilitating and persistent condition, in which a microbial role has been implicated.

Hi Dr. Newsam, I would like to ask what you think about the beauty industry now - Is the industry producing effective products or is it just good marketing/branding?

[projectelysia](#)

Good question.

We are all consumers and we are all influenced by a variety of factors when we make choices over which products to buy. As scientists, as chemists, we may be somewhat more analytical in our approach to decision-making, but to do so we need data.

Without a fully independent body providing cross-comparisons across product categories there is no easy way to access such data.

Also, despite our close similarities we are all different - and the benefit we may each derive from a given personal care or cosmetic product will then differ from others.

I can say that there some outstanding scientists, formulation chemists, analytical chemists, physical chemists working alongside molecular biologists etc. in the research organizations of the major cosmetic and personal care companies. These scientists are strongly motivated to develop products that are safe and efficacious.

But we are all influenced by advertizing - as you walk down the aisle in the supermarket, how do you choose which shampoo to buy?

I've learned that a growing number of people have cut down or quit using soaps in the shower. Do you feel that we overwash our skin?

[grilltrain](#)

That probably varies from individual to individual!

We are fortunate in San Diego to have a strong research effort directed to the skin microbiome. A paper last year in PNAS with Rob Knight and Pieter Dorrestein as co-authors, <http://www.pnas.org/content/112/17/E2120.abstract>, showed that the composition of the microbiome is altered through the use of common personal care products. We don't fully understand yet what impact such changes may have, but this is very much an interesting area of research (and one to which we are keen to contribute)

Can you talk a little about working for a start-up as opposed to the research lab of a large corporation?

[obsidianop](#)

There are pros and cons to both. I am fortunate to have had both experiences and, for me personally, I prefer the very small company environment.

The large corporation has support infrastructure, has systems and procedures that are usually lacking in a small company. Hence simple things like obtaining chemicals and supplies, making meeting arrangements, or arranging medical benefits can take time and effort that detracts from making research & development progress. There can be less margin for error in a small company. And the large corporation has a lot of leverage with suppliers and others.

But in a small company there is much less structure and formal procedure. There can be much more opportunity to innovate - and not just in the science, but in how the company represents itself to clients, to the world at large, in how the company is organized, makes decisions etc.

Do you believe there is any credence to the idea that acne cleansing products temporarily remove acne and then create more as a way to produce more profits?

[Loadboy](#)

We still have lot to learn about acne and we hope that as we learn more we will be able to develop more effective treatments.

The ACS has just today published an information short video on acne <https://www.youtube.com/watch?v=KrMbwDil1hc>

What are the biggest studies and conclusions in the field of skincare that are not very well-known to the general public? I'd be interested to know if there are any daily use studies, and what kind of impact sunscreen lotions and moisturizers have over a period of years in retaining young skin.

[FirePriestess](#)

Each year we learn more about the science of the skin and, concomitantly, how materials we apply to the skin influence it. But there is still a lot we don't know. And, while there are close similarities between each of us, so too are there individual differences.

What is an effective product for one person, may then perform poorly for another. We would like to be able to do more 'personalization' of products based on appropriate pre-analysis.

Relative to moisturizers, this was a topic of one of the brief and informative videos that the American Chemical Society ("ACS") prepared: <https://www.youtube.com/watch?v=QdNPiW4ZULk>

I saw a couple of very promising papers a few years ago about blackberry leaf extract and its impressive capacity for preventing and remediating UV damage to skin from the sun. Yet since then, I haven't seen it on the market. What happened? Patent problems?

[djinnisequoia](#)

I'm not familiar that that particular extract, nor have we done any work on it ourselves.

There is a huge slate of botanical extracts that might have benefits of various types to the skin. From a research perspective, though, we wrestle with a number of issues. First, what is the active ingredient or (as may be more typical) the set of active ingredients. Usually, the concentration of these will vary from sample to sample and from one processing (and storage) procedure to the next. How do we assay the active(s) and how might we learn how changes in such assay affect performance?

This variability is one reason why promising results may be hard to later reproduce.

That is just one of the factors to consider also.

I saw a couple of very promising papers a few years ago about blackberry leaf extract and its impressive capacity for preventing and remediating UV damage to skin from the sun. Yet since then, I haven't seen it on the market. What happened? Patent problems?

[djinnisequoia](#)

I had responded to this during the formal hour - but it seems with my internet issues, my response was not posted.

We have not worked in this specific extract, so I provide just some general comments:

I had responded to this during the formal hour - but it seems with my internet issues, my response was not posted. There is a rich diversity of botanical material that comprises molecular entities that might have beneficial effects, of one sort or another, on our skin. However, one of the issues that we wrestle with when considering such natural extracts is the intrinsic variability in the samples. The concentration of compound that is active in the extract (or compounds – in many cases there is a combination effect) will vary from one plant to another, from one harvest to another, from one processing and storage method to another. It is rare for a botanical extract to come with any assaying of the nature and concentrations of its active principles, at the discrete molecule species level. Hence we are not surprised when encouraging results with one sample are difficult to reproduce with another. From your description, it sounds like this would be a drug product, subject to the rigors of the FDA approval process. Part of this entails demonstrating safety and efficacy, but part also entails demonstrating, under the chemistry manufacturing and controls “(CMC)” requirements, the reproducibility of the product.

Hello Dr. Newsam, thank you for the AMA. I did not keep up with my medical literature, but is there a breakthrough coming for psoriasis? And thank you for your efforts, I am very happy with people who explore the medical field!

(Non-native sorry for the broken English)

[Dadoweth2](#)

Apologies - I had responded to your question during the formal hour - but it seems with my internet issues, my response was not posted.

Yes, progress is happening in psoriasis treatments. It may seem slow and, for a patient with recalcitrant psoriasis frustrating, but many groups are working on this. This effort is evidenced, for example, but the number of clinical trials that are currently underway for new treatment options. <https://clinicaltrials.gov/ct2/results?term=psoriasis&Search=Search> provides 245 studies that are currently recruiting or not yet recruiting.

And, yes, to what extent they will be 'breakthroughs' is hard to tell, but better treatments are coming.

Hello Dr. Newsam, thank you for the AMA. I did not keep up with my medical literature, but is there a breakthrough coming for psoriasis? And thank you for your efforts, I am very happy with people who explore the medical field!

(Non-native sorry for the broken English)

[Dadoweth2](#)

Psoriasis has been a tough indication to treat - and one that is often in the minds of groups like ours that work on new products to treat skin ailments. I struggled with atopic eczema when I was younger and my daughter today struggles.

I am, though, confident, that better treatments are coming with a little bit of the caveat, that psoriasis is likely not a single condition. While the phenotype, the appearance, may be similar for different people, what is happening at the pathway or molecular level may be different, so that a treatment that works very well for one subset of the patient population may be much less effective for the next.

Thank you for this AMA! I'm currently an undergrad at UC Davis, wanting to go into cosmetic chemistry. I wanted to ask how exactly you measure skin permeation and delivery? Is it a sort of qualitative observation of skin after applying, or a more precise chemical/biochemical test?

[a_mikael](#)

We work with real skin (usually human, but often porcine or, more rarely, of other types), apply a product to the skin exterior and then measure how much of the active of interest in the formulation permeates through the skin at various time points (up to perhaps 24h or 48h), and then we analyze how much of the active is retained in the epidermal and dermal tissues and in the stratum corneum, the outermost layer of the epidermis.

We find that to be best predictive of the in vivo situation we need to make permeation measurements on real skin.

What is your opinion on derma-rollers as a method to increase absorption and dermal penetration of serums and other beneficial substances?

[eyeeeDEA](#)

Any device that punctures or compromises the main barrier layer of the skin, the stratum corneum, will increase the rate at which a molecule applied in a formulation to the skin exterior diffuses through this barrier – in both directions, in and out. If we know that delivery of a given molecular agent into the dermis, or into the vasculature for systemic availability, will have a beneficial physiological effect, yet the intrinsic permeability is very low, then use of an approach like a derma-roller or a microneedle array might be suggested. This argument, though, would not necessarily apply to a product that is intended for application to intact skin. If you apply such a product to abraded or punctured skin, how would you know which types of molecules in the product would now move in greater quantity into the skin? And which of your molecules would permeate out? The result may then not be what was intended.

Medicinal Chemist here. I would like to reference the pharmaceutical side only. If it doesn't break your NDA, what is the most successful CPE (chemical permeation enhancer) that you have used? Have you ever looked into peptides as permeation enhancers?

[WhatWouldScruffyDo](#)

Thank you for a great question. We have looked in one way or another at most (of not all) of what we prefer to call molecular penetration enhancers ("MPE").

Our experience, across a broad range of actives, concentrations and formulation formats is that there is no universal penetration enhancer. Rather, there is an MPE, or much more typically, a combination of MPEs (which we term multiplexed MPEs, MMPEs) that works best for a given active. And that combination will usually not work nearly as well for a next active.

As we can't predict ahead of time which will work best, we need to make measurements, and we prefer to make lots of measurements, so that rather than trying a handful of formulation compositions, in our Cascaded Screening approach we might look at a few hundred formulation compositions.

Hi. Thanks for doing this AMA! My first question is mainly related to collagen and how it is in many skincare products, especially in Asian countries. What is the general consensus regarding collagen

molecules being small enough to penetrate the epidermis? Has any type of collagen been manufactured to aid its absorption by the skin?

My second question is on hyaluronic acid. Recently, it has been mentioned that hyaluronic acid which is a very popular ingredient in skincare products can promote skin inflammation and if taken internally, in high doses, may cause malignancy. Is there any evidence for this and what is your opinion on hyaluronic acid in general?

[just liv a little](#)

Apologies - I had responded to your question during the formal hour - but it seems with my internet issues, my response was apparently not posted, so I will recreate:

The consensus in the scientific literature is that for a molecule to be able to permeate to a substantial degree through the skin, it must be small (less than some 450 Da in molecular weight) and slightly lipophilic (with the log of the octanol-water partition coefficient, logP, of around 2-3). If you look at all of the passive transdermal drug products on the market, the drugs within them conform reasonably with these criteria. We do work with molecules outside these traditional norms, and for at least some we have reasonable success, but these are at best peptides, <2k in molecular weight.

There are several reports describing the transdermal permeation of much larger molecules, even proteins. There is no consensus on how (or even if) this can happen. And, if such permeation is detectable, the 'utilization', that is the proportion of the compound in the formulation that is described as becoming bioavailable is small. For collagen with a molecular weight north of 100kDa, then, the odds are really stacked against being able to permeate the skin, intact, to any significant degree. Hence, until we see definitive data to the contrary, I remain unconvinced relative to transdermal collagen delivery.

Our skin is intended to be a good barrier; if there were ready diffusion of molecules of that size, we would be leaking collagen all over the place.

Can you speak a bit about the topical application of cannabis extracts (THC, CBD) and their benefits?

[PPOKEZ](#)

It is early days yet on this front - there is no approved topical THC or CBD product in the US. However, I do see potential, given the attributes of cannabinoid actives, and the benefits being seen via other modes of administration.

We have ourselves worked to obtain a DEA license so that we can complete research and early development of skin-applied cannabinoid formulations

Are retinols still the best anti-aging fighters, along with daily UV protection?

What's in the pipeline that's better than retinols for maintaining skin elasticity, even tone, small pores, etc?

[Amplitude](#)

I am certainly a proponent of avoiding excessive sun exposure, myself.

My lay understanding of the acne bacterium is that there is more than one strain, and that killing off the 'good' acne bacterium strain in our pores allows the 'bad' strain to cause infections. my question is, if

this understanding is correct, how do modern pharmaceuticals and cosmetic skin care products target only the 'bad' strain of acne? do the similarities between the strains present problems in developing skin care products that work?

[hoii](#)

I am not a microbiologist, so ill-equipped to talk details on strains. But do we know of an antimicrobial compound that will selectively kill one strain, yet not others? Any microbial population is subject to the effects of genetic change and selection, so that there is a likelihood that a new strain, that can survive under conditions in which another cannot, will develop and then outcompete (witness methicillin-resistant *Staphylococcus aureus* ("MRSA")). But to design a compound with that intended role, that would allow the 'good strain' to repopulate once the product use was discontinued would be a pretty tall order. [apologies - I had responded to your question during the formal hour - but it seems with my internet issues, my response was apparently not posted, so I have recreated]

Does collagen in creams actually get absorbed by the skin and prevent wrinkles? Or is it useless?

[PaprikaGirl](#)

Good question - thank you.

The consensus in the scientific literature is that for a molecule to permeate reasonably through the skin requires that it be small, less than some 500 Da in molecular weight, and slightly fat-soluble (lipophilic, with a logP of around 2-3). However, there are many reports that describe delivery into and through the skin of very much larger molecules, even if the 'utilization', the proportion of the molecule applied that becomes bioavailable is very small. There is not yet scientific agreement of how (or even if) this can happen.

Hello, and thank you for this AMA. What is our current understanding of why "skin tags" or epithelial polyps occur on the skin, and what is currently considered the best way to deal with them and is there a way to prevent their recurrence?

[tboneplayer](#)

I'd chat with your dermatologist on that. They are usually benign, but can be removed, although you'd want that to be done by a medical professional

Hello doc I am interested in the creation process of your company and would very much appreciate if you could go into detail of the actual legwork required to do so.

Please explain how you got the capital, personnel and assets that would allow you to sell your service or product. What kind of differentiating technology did you have that convinced you to start a company and how did you get everybody in board. And who are you clients and how do you approach them.

Thanks in advance if you manage to answer.

[mistamal](#)

Apologies - I had responded to your question during the formal hour - but it seems with my internet issues, my response was not posted.

I don't have enough space to go into detail on your question here, but there are a lot of texts on and relating to entrepreneurship that you might find helpful. There are also many groups, forums and

organizations that provide support and encouragement to company founders through their early struggles (and there are always struggles :-)).

What you will find is that entrepreneurs who have been successful are often very generous with their time and knowledge.

And you might be interested to see my TEDx talk on 'Entrepreneurship is Learnt'
<https://www.youtube.com/watch?v=WaAHVEzELRg>

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Thanks in advance if you manage to answer.

[mistamal](#)

Each company is different. In the case of Tioga Research we were fortunate to have the opportunity to create the company as a 'spin out' of an R&D infrastructure that was already in place.

There isn't time to answer all of your questions, but you might read a book or two on entrepreneurship (oh, and you might listen to my TEDx talk

Is it safe to say that dr's that are paid by product companies turn a blind eye or dont research properly what some products do to your skin or what they do when absorbed in the body???

Is there anything you found scary with a common ingredient people put on their skin?

Thanks doc.

[Auslsx](#)

I don't agree with your perspective, there. My primary care physician, and the various specialists I have seen over the years all have had as a concern that dwarfs all others my health and well being.

And on the research side, it is a privilege and especially motivating to be working on formulations that might ultimately be of real benefit to others, particularly those close to us (such as in the atopic eczema field mentioned above).

Also we are blessed with a regulatory system in the US that requires any new drug product to be shown to be both safe and efficacious.

That said, our portfolio of treatments is today still inadequate. That is why teams such as those here at Tioga Research are working so hard to make progress. Because of our individual differences (and thank goodness we have them!) a given treatment may well have differing levels of benefit for different individuals.

Dr. Newsam, do you think that there will ever be a topical application that will actually cure or prevent wrinkles on the skin? Is there anything close right now?

[SantaAnaXY](#)

There are products that improve the visible appearance of wrinkles, but I am not aware of a product close to the market that could eliminate wrinkles or reverse the wrinkle-development process

Dr. Newsam, do you think that there will ever be a topical application that will actually cure or prevent wrinkles on the skin? Is there anything close right now?

[SantaAnaXY](#)

Good question - although, as above, a complex one. There are certainly products that can improve the appearance of wrinkles.

Weight loss and loose skin. Is there any lotion/cream/etc that can penetrate enough and have any effect at all, or is it a lost cause?

[misskinky](#)

Not a lost cause - but I'm not sure that we have the final answer in a product yet today

Thank for for volunteering for this AMA! My question is more about the start up phase. If you could go back to your first attempt working/founding a start up, what do you wish you would have known?

[Voxnipop](#)

Good question – thank you.

When I look back I am amazed at how little I knew and how naïve I was (although I consider that still to be the case :-)).

I do now appreciate better how important the people aspect is. In any start up there will be tough times, times when you are away for long hours from family and personal interests. If you are not working with people that you trust, respect, and enjoy being around, it can make those hours considerably less enjoyable. That is not unique to a start-up environment, but in a start-up you are usually more able to choose who your colleagues will be. Choose wisely.

[apologies - I had responded to your question during the formal hour - but it seems with my internet issues, my response was apparently not posted, so I have recreated]

Thank for for volunteering for this AMA! My question is more about the start up phase. If you could go back to your first attempt working/founding a start up, what do you wish you would have known?

[Voxnipop](#)

Great question - looking back I knew so little . . . (and still do - there is always so many interesting new things to learn)

But perhaps the importance of the people, the team. Little is easy, and having the benefit of working with people whom you respect, trust and from whom (and to whom) there is a real commitment can make a huge difference.

Hi Dr. Newsam.

What do you think about the current state of marketing for skin care products, specifically regarding the scientific credibility of the claims made?

[Arrogus](#)

I have met some wonderful, very capable and motivated research scientists working on new skin care products.

We should have a reasonable level of confidence in scientific results that are published in premier, peer-reviewed journals, such as those published by the American Chemical Society. It is also reasonable to be more open-minded about other publications that have not gone through the peer-review process.

Hi thanks for the AMA! Can you offer any insight into why some people believe that using balms, cremes and moisturisers can have a negative impact on the skin that can create the need to use balms, cremes and moisturisers?

[thedefone2](#)

We are all different and our make-up is such that our bodily systems do generally adapt to a given stimulus. Hence we are often not surprised when a particular treatment becomes progressively less effective with time. The American Chemical Society put out a short video on moisturizers recently <https://www.youtube.com/watch?v=QdNPiW4ZULk>

Combination prescription products consisting of clindamycin and benzoyl peroxide exist in various combinations of percent strengths. These combo products are WAY more expensive than just getting a prescription for topical clindamycin and buying benzoyl peroxide OTC. Is there any advantage to pay the absurd price/copay for the prescription combo product (other than than simply having to apply only one item with the combo product)?

[DrJimSchohn](#)

These combination products are approved and efficacy has then been demonstrated. And usually for a combination product, the combination needs to be demonstrated to work better than a product with either of the two actives alone.

There is, though, the individual variability. You may realize less benefit from the product than someone else. So then it would be potentially worth trying one of these products and, if it does yield benefit, making then the cost-benefit judgment call

I'm a long time sufferer of eczema, and was wondering what new discoveries have been made about treatments? I haven't been to the doctor in years since steroids have done no good for me. Thank you in advance!

[lucidia](#)

Corticosteroids have indeed been the mainstay of treatment - but there are other prescription products such as tacrolimus and others also in the pipeline.

It might well be worth another visit to your dermatologist - and I do empathize. My daughter has struggled with atopic eczema for many years.

Any tips for getting rid of Keratosis pilaris?

[ktferretti](#)

Sorry, no - that is more of a question for a dermatologist.

It is not an indication for which we have yet done product research.

Do you plan to test the efficacy of your products in double-blind control trials?

[fat-lobyte](#)

At Tioga Research we are a pre-IND (IND=investigational new drug application) CRO (contract research organization), so we do not participate directly in clinical trials.

But it is the intent of our pharmaceutical clients to test the efficacy of formulations that we help to discover and develop in placebo-controlled, double blind clinical trials as part of the process of moving towards patients ultimately being able to realize the benefits of the new product(s)

Why does Benzamycin topical have to be kept cold?

[eldy](#)

With any drug product we assess its stability, usually in the container in which it is shipped and from which it is dispensed. Ove the time from when the formulation is made, to when it is actually bought and used, we want the level of degradation to be at most small. This stability requirement often prevents a formulation from being commercializable.

As chemists, we appreciate that different ingredients in formulation may react with each other and the rate of this reaction will almost always increase with temperature (about 2-fold for each 10 degree C temperature rise). In the case of benzamycin topical, I anticipate that at room temperature the formulation does not meet the required stability metrics, but it does so when refrigerated.