

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

[Vitiligo Blog](#) | [Vitiligo Clinicians World Map](#)



[Back To Top ▲](#)

<https://www.umassmed.edu/vitiligo/blog/blog-posts1/2020/01/update-on-il-15-vitiligo-treatment/>

1/18

"Speaking of Vitiligo..."

Update on IL-15 vitiligo treatment

MONDAY, JANUARY 13, 2020 | BY: [JOHN E. HARRIS](#)

Many have asked recently for an update about the treatment to target IL-15 to induce durable responses in patients with vitiligo. There was a lot of excitement around this approach when we published our paper about a year and a half ago in the summer of 2018 (read about it [here](#)), especially from me! The idea was that autoimmune memory cells form within vitiligo spots and are responsible for the return of disease at those exact same spots when treatments are stopped. We discovered that those cells need IL-15 to stay in the skin, and therefore blocking IL-15 removes them, reversing vitiligo, and avoiding relapse of disease when the treatment is stopped. This was all shown in mice, not humans yet. But we did study human skin and found the same cells and same pathways active, so we have good reason to believe that this will work for human patients as well.

Based on these exciting results, I applied for a grant from the Immune Tolerance Network (ITN), a group funded by the National Institutes of Health (NIH) to support human clinical trials to test drugs that could have long-lasting benefit for patients with autoimmune diseases. They thought this was a great idea as well and funded the grant application to prepare for a clinical trial in vitiligo patients. In this trial, we proposed to test an existing antibody that targets the cytokine IL-15. Of course, I helped prepare for the trial, which required getting approval from the FDA to conduct the trial, obtaining the drug, and writing the protocol (or plan) for the trial to follow.

During this process, I obtained support from Medicxi Ventures, a venture capital firm located in London and Geneva, to start my own company to create a drug to target this pathway for vitiligo as well. This is all great news, because it seems that many people (very smart and discerning people) agree that this could be a game-changing new treatment for vitiligo patients. As founder of this new company called [Villaris Therapeutics](#), I have financial ties to the company, and therefore a potential "conflict of interest" or COI with the proposed trial sponsored by the ITN. This means that if I could benefit personally from the success of the trial, there would be undue pressure on me when recruiting subjects, collecting data, etc.

Appropriately, everyone agreed that I could no longer lead the trial for the ITN because of my potential COI with [Villaris Therapeutics](#), and thus the ITN elected a new "protocol chair" and principle investigator to lead the trial. This created a delay, and so the trial did not begin when it was projected, sometime in 2019. It is still planned to start soon, possibly in the spring of 2020, but unexpected delays can always occur, particularly because everyone is making

<https://www.umassmed.edu/vitiligo/blog/blog-posts/1/2020/01/update-on-il-15-vitiligo-treatment/>

[Back To Top ▲](#)

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

sure the study is done safely and correctly. This is not a fast process and requires lots of patience. But it is still moving forward, and everyone is just as excited for the trial as we were over a year ago.

Now, we at [Villarís](#) believe that we are developing an even better drug than anything that's currently available, and we are putting all of our effort into this. It's no secret that our drug will target the IL-15 receptor rather than the cytokine, and for many reasons we think this will be a better strategy, more effective and thus longer-lasting, as well as safer. This is important and worth doing right, so we're taking the time necessary to design this new treatment in a way that will benefit vitiligo patients the most. We actually don't think it will take very long and hope to be testing it in early human trials within the next 2 years. Things are moving quickly because we're passionate about this and it is our only goal. I'm working with the best of the best at Villarís – they're brilliant, passionate, caring, and the personality types to "get it done". Read more about the team and our approach at the company website at <https://villaristherapeutics.com>

So, don't be discouraged that this drug isn't ready yet, things are still moving full steam ahead and everyone just wants to be sure it's safe, effective, and the best it can be. I'll update everyone on progress when I can, but please know that I'm putting the same passion into this that I do everything else, including the clinic, our research, and advocacy work. Thank you for your support!

BLOG TOPIC: [Vitiligo](#) [Vitiligo Research](#) [Vitiligo Treatment](#)

COMMENTS

156 Comments

 [Login](#) ▼

G

Join the discussion...

LOG IN WITH

OR SIGN UP WITH DISQUS 

Name

[Back To Top](#) ▲

 138 **Share****Best** Newest Oldest**D** [disqus_VL4Jw9Ey80](#)

4 years ago

Hi Dr Harris,

Firstly let me thank you for your continued efforts and blog updates regarding vitiligo and your hard work towards finding a cure and durable treatments, it really is encouraging for us vitiligo sufferers to read about there being light at the end of the tunnel...

I was first diagnosed with vitiligo around age 14 when a patch of injured skin on my leg turned white, I also suffer from coeliac disease, another autoimmune condition. My vitiligo was stable for a number of years until I was about 17 and badly burned my hand, where the damaged skin turned into vitiligo (I've done some reading and believe it to be due to the Koebner phenomenon) but it did not spread past the area which was damaged.

In the last few years and particularly recently, vitiligo started to appear on my genital region and the back of my thighs, and has spread across it rapidly, leaving me psychology devastated, I think about it all day every day and it is truly heartbreaking for me, knocks my confidence big time. A doctor initially prescribed me the corticosteroid cream, tacrolimus, but after 3 months using it had no effect and admittedly it was tough to keep on top of applying it twice a day given my lifestyle at the time.

With my vitiligo worsening recently (in my eyes), it is really taking its toll on me mentally, I have

[see more](#)

5 0 Reply • Share ›

**HarrisJ3** Mod[↗ disqus_VL4Jw9Ey80](#)

4 years ago

I've written blog posts about tattooing and MKTP - please take a look at those.

2 1 Reply • Share ›

**ashish dave**[Back To Top ▲](#)

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo



4 years ago

one question always arise in my mind.. when 51% patients get 75% pigmentation back on face and 33% patients get 90% pigmentation back on face ,total 84% patients get more than 75% pigmentation back on [face.in](#) one year just by applying Ruxolitinib cream.and 45% patients get back 50% pigmentation on body...
if this cream is so effective

Why big companies investing millions of dollars in oral jaks?
as i was reading articles.. fda also insist of black box warning on jaks
Even Pfizer pf-6651600, which is expected first oral specific for vitiligo... has so many side effects in short term studies like headaches, stomach infections

And these orals are going to be very expensive and have to take for long periods.. bcos once we stop taking memory cells come again ..

So.. my point is oral jaks will be expensive, has so many side effects.. why companies investing millions in orals?

On other side creams like Ruxolitinib are safe, effective, cheaper than oral and minimum side effects

So, my final question is, dozens of companies are working on oral jaks? Why?

2 0 Reply • Share ›



HarrisJ3 Mod

→ ashish dave



4 years ago

Topicals are really only used for small areas of the body - most patients won't use them for more than 5% of their skin. Also, they do not PREVENT new spots, only treat existing ones. So oral or injection medicines are needed if there is a lot of vitiligo and if it is actively spreading, which I have found occurs in about half of my patients.

1 0 Reply • Share ›

A

All

→ HarrisJ3



4 years ago

Hello dr. Harris

Do you recommend uvb therapy for preventative treatment if the disease is stable?

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

is uvb immunosuppressant? Do you have any recommendations for home units here in Canada? Thanks!

0 0 Reply • Share ›



HarrisJ3 Mod → Ali

4 years ago

UVB can prevent spread of vitiligo and reverse it even if it's stable. We think it is a mild immunosuppressant, only in skin, similar to sun exposure. There are two companies I use for home units, Daavlin, National Biological, and Clarify (this only if it's a small area and not spreading).

1 0 Reply • Share ›

A

Ali → HarrisJ3

4 years ago

Thank you Dr. Harris for the quick response. His vitiligo is currently on the one hand(palm and laterals of fingers. It has been that way for roughly 8 months, and I was wondering if the full body UVB can be used as maintenance to further stabilize the disease from spreading. I'm not sure if this is something that is normally practised or recommend for vitiligo patients. Thanks again!

0 0 Reply • Share ›



HarrisJ3 Mod → Ali

4 years ago

Sounds like segmental vitiligo - see a dermatologist!

0 0 Reply • Share ›

A

Ali → HarrisJ3

4 years ago

One last question I promise 😊. What are the criteria for segmental vitiligo? He is currently seeing a dermatologist but never mentioned anything about the type of vitiligo. I know you can't make diagnosis but

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

was curious about what factors are considered when giving a segmental diagnosis. Thanks again Dr. Harris for all your feedback. I wish all doctors can be as insightful and informative as you on this subject. I will consider visiting your clinic if I can't get anywhere with our local physicians.

0 0 Reply • Share ›



HarrisJ3

Mod

→ Ali

4 years ago

Keep an eye out for a new blog: "Vitiligo Patterns", will be posted very soon and provide an answer for this

0 0 Reply • Share ›

A

Ali

→ HarrisJ3

4 years ago

Much appreciated. Thank you!

0 0 Reply • Share ›

J

Jordan Jarvis

→ ashish dave

4 years ago

Hi Ashish

Please can you email me jordanjarvis92@gmail.com. I was wondering if you can give me some information on ruxolitinib cream and how you purchased it thank you.

0 0 Reply • Share ›

S

suhas wale

4 years ago

Hi sir

If vitiligo spot start initially and it is not totally dipigmented in first month.

If exact that time we will treated this by antibody which blockaded IL 15 then is this spot will stop at that stage exactly ?

1 0 Reply • Share ›

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo



HarrisJ3 Mod

→ suhas wale

4 years ago

The spot should be totally depigmented if it's vitiligo

0 0 Reply • Share ›



Latifa Attieh

→ HarrisJ3

4 years ago

Okay then if this injection works and stops the disease, could MKTP be used to re-pigment areas like nipples and areola and other private areas? Thank you so much for giving us hope.

0 0 Reply • Share ›



HarrisJ3 Mod

→ Latifa Attieh

4 years ago

Yes, it's possible

0 0 Reply • Share ›

K

Kevin

4 years ago edited

Firstly - thank you, John, for this update. I hang on every bit of news you post about your progress with targeting the IL-15 receptor.

I can see why some people may be seeing it as 'conflict of interest', but judging by your dedication in the field, I have no reason to believe otherwise that everything you study and publish is with complete honesty and in the interest of the people who suffer from Vitiligo.

I live in the UK and I'm fully prepared to sacrifice myself to any studies that may be coming soon. I'm pretty sure I've signed up to your mailing list for clinical trials, but if you could advise if there's an official route, I'd love to hear.

I've spent far too much money on treatments over the past 20 years, including various self-prescribed JAK inhibitors and even subjecting myself to potentially life-threatening stuff, purely out of desperation. The financial and psychological impact is unbearable.

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

Once thing I'd love to know is, how do you suspect patients will be eventually treated using this method? Would it be an injected treatment, oral medication or some form of ointment?

No matter how small an update may be, I'm sure others will agree that any news you continue to provide for us on this is will be immensely appreciated.

Thank you, thank you, thank you.

1 0 Reply • Share ›



HarrisJ3 Mod

→ Kevin

4 years ago

Thank you Kevin! I certainly appreciate your trust in me and our work, and we will continue to conduct ourselves in a manner worthy of your trust. Life is too short and reputation too important to play games or otherwise promote self-interest. "Conflicts of Interest" can also be important even simply in how they appear - I would never want a patient or trial subject to think a decision we made was in any but their best interest. So it is best to keep appropriate lines drawn, even though my intentions are good!

Thank you for your interest in our trials - while many of them require that you come for frequent visits to our institution (and therefore should live relatively close to us), others are worldwide and available in many cities. Our newsletter is the best way to stay on top of these as well.

We anticipate the IL-15 treatment will be an injection, but we're still working on it!

1 1 Reply • Share ›

R

Rishabh Singh

3 years ago

Hello Dr John,

I have been living with vitiligo from past 15 years but it never became a problem due to the size of the patches being small and unnoticeable. From past couple of years new patches started appearing on my both wrists so I started treatment with decapeptide and zinc capsules as suggested by dermatologist. The treatment went on for almost a year with the given medicines coupled with targeted phototherapy once a week. Showed good results on the chest region but not on wrists part.

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

Meanwhile I stopped taking phototherapy but continued with the medicines as given above. Due to pandemic I moved to my hometown and saw vitiligo progressing a little. Went to see a doctor and started taking medicines as prescribed with sunlight therapy but I have seen vitiligo progressing to my both palms and fingertips.

Does vitiligo has anything to do with weather change? It started when I moved to North India which is relatively hot. I also have anxiety issues. Can stress also trigger vitiligo?

I will be very grateful to you if you could help me on my queries here. Thanks in advance. 😊

0 0 Reply • Share ›



HarrisJ3 Mod

➔ Rishabh Singh

3 years ago

Stress can trigger vitiligo. The sun helps it!

1 0 Reply • Share ›

P

Polina Redoga

3 years ago

Doctor, Hello! Please tell me, since ruxolitinib treatment will be available in the near future, could you answer the question? If in the future the patient cures vitiligo with ruxolitinib cream, and then stops using the drug, then vitiligo will return to him again?

Thanks for the answer!

0 0 Reply • Share ›



HarrisJ3 Mod

➔ Polina Redoga

3 years ago

It does appear that vitiligo returns once you stop using the treatment.

0 0 Reply • Share ›

Q

qu

3 years ago

Hi Dr Harris are there any updates on IL15 ? Thank you for all you do

0 0 Reply • Share ›

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo



HarrisJ3

Mod

qu

3 years ago

It's coming along well!

3 0 Reply • Share ›



Venkateswara Rao Sunkari

3 years ago

Sir I have 9yrs of daughter she had vitiligo in whole of the head n small patches in whole body can u do some thing pls

0 0 Reply • Share ›

L

LG

3 years ago

Dear Dr. Harris,

You are amazing with your research, knowledge, and genuine concern for vitiligo patients. Thank you so much for all of your work and dedication. My daughter is 13 and has an appointment next week to see if she qualifies for the clinical trial of Ruxolitinib. She is currently on Tacrolimus and light therapy (NB UVB) since June 18th (2020). Her vitiligo is on her face- mostly her chin and around her mouth, a little bit on both eye lids and the left eyebrow area. Her chin is starting to repigment in the typical "polka dot" fashion that I see in photos. There maybe some slight improvement around the mouth in some spots, with no improvement (possible worsening) in some of the other areas around her mouth. The eyebrow area is almost cleared without the dots, but in a more even tone. The eyelid areas just aren't very noticeable but are visible via wood lamp. As for her body areas, she has two patches on her left arm just to the left of the anticubital area (hairy area) that has very evenly filled in with color, and another patch on her dorsal left elbow (not hairy) that has not improved at all. She just developed another area on her upper right arm (frontal and adjacent to the armpit area). I just started putting the tacrolimus on this new spot, so I can't report improvement, or lack of, in that area as of yet.

My question is this- being that we would have to stop her current treatment of tacrolimus and light therapy to participate in the trial, and if she ended up in the unfortunate placebo group, would we lose all of her repigmentation progress she has made, and would there also be a likelihood that it would spread while not getting any treatment at all for the 52 weeks of the trial? Also, and on the other hand,

[see more](#)

[Back To Top ▲](#)

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

0 0 Reply • Share ›



HarrisJ3 Mod

➔ LG

3 years ago

Thanks! I believe that she would have to stop her current treatment for a few weeks before being allowed to even start the trial - might be better to continue her current treatment if she's already responding to it. Eventually we hope to treat younger patients with our IL-15 targeted treatment, will need to see as we develop it!

0 0 Reply • Share ›

J

Jib

3 years ago

Hey Dr Harris

I have this patch on my forehead and was wondering if you could take a look at it and let me know what you think. It's been like this with some minor improvement for like a whole month. No spreading anywhere else whatsoever. If this is vitiligo (fingers crossed its not) when do you think clinical trials will take place for the il-15 drug?



see more

0 0 Reply • Share ›

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo



HarrisJ3 Mod

→ Jib



3 years ago

Hard to tell from just the photo - a dermatologist should be able to help!

0 0 Reply • Share ›

J

Jib

→ HarrisJ3



3 years ago

Just for clarification. Its been exactly like this for a month with the exception that it has actually gotten slightly darker. No changes in the patch in terms of size and i haven't found a single other indication towards vitiligo for a whole month. What are the chances that this isn't vitiligo?. I know the 3 colour vitiligo is colourless in the middle, then pale and then normal colour however this is reddish-brown in the middle and then a light brown for the rest. I can't see a derm right now due to the pandemic, so was hoping if you could tell me the chances of this being vitiligo, and being something else.

0 0 Reply • Share ›



HarrisJ3 Mod

→ Jib



3 years ago

Can't be sure from the photo

0 0 Reply • Share ›

J

Jib

3 years ago

Hi Harris

If you were to take a wild guess, when do you think the new treatment and potential cure would be ready for everyone to use? 2022? 2025?

0 0 Reply • Share ›



HarrisJ3 Mod

→ Jib



3 years ago

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

New treatments in just a couple years, cure may take a while, we're working on it.

0 0 Reply • Share ›

S

Sirisha Ram

3 years ago

Hello Doctor,

Is there any update on IL-15... It has been a while since its discovery and yet the medicine has not seen the light of the day.

May I know if blocking IL-15 would erase the memory in human being without any side effects?

We have participated in the survey asking for speeding up the medicine.

Hanging on to every little info from you.

0 0 Reply • Share ›



HarrisJ3 Mod

➔ Sirisha Ram

3 years ago

It's coming, but this type of research takes a lot of time and resources. Need to ensure safety. I'm afraid that the public has no idea how long it takes to develop a new medicine for human use. . .

0 0 Reply • Share ›

P

Polina Redoga

3 years ago

Doctor, thank you for what you are doing! Tell me, taking into account all the subsequent tests, when do you predict that treatment for vitiligo according to your scheme will be available? What year should I navigate?

0 0 Reply • Share ›



HarrisJ3 Mod

➔ Polina Redoga

3 years ago

First treatments coming in 2-3 years, more will continue to come after that

<https://www.umassmed.edu/vitiligo/blog/blog-posts/2020/01/update-on-il-15-vitiligo-treatment/>

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

first treatments coming in 2-3 years, more will continue to come after that

0 0 Reply • Share ›

M

Madelyn Rosa

→ HarrisJ3

3 years ago

2-3 years for the IL-15 treatment?

0 0 Reply • Share ›



HarrisJ3

Mod

→ Madelyn Rosa

3 years ago

No, for topical ruxolitinib. IL-15 will take longer, hasn't started clinical trials yet, but close

0 0 Reply • Share ›

L

Lisa

3 years ago

Hi, when do you anticipate this treatment being available? Thanks

0 0 Reply • Share ›



HarrisJ3

Mod

→ Lisa

3 years ago

It will take a few years to do this safely, but I can say things are moving quickly!

0 0 Reply • Share ›

M

Marcelo Araujo

3 years ago

Hi Dr Harris , I am based in Montreal CA, is there a clinic nearby that I can attend for trials?

Thank you

0 0 Reply • Share ›



HarrisJ3

Mod

→ Marcelo Araujo

3 years ago

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

Check clinicaltrials.gov for ongoing trials and where they are recruiting

0 0 Reply • Share ›

L

Lisa

3 years ago

When do you anticipate this treatment being available? Many thanks

0 0 Reply • Share ›



HarrisJ3 Mod

→ Lisa

3 years ago

It will take a few years to do the necessary testing to get this approved for patients.

1 0 Reply • Share ›

S

Srini

3 years ago

Hi Harris,

Thanks for the Good News,

I am living in TX, My 5 yrs old daughter got white dots in her right hand 8 months ago, After sometimes it got vanished and after 2 months she got white patches around her eyes and some other parts, One of the doctor suggested to Dr. Amit Pandya , Unfortunately he moved to CA, we consulted with another dermatologist and we get to know it is vitiligo, We are really worrying about this, Could you please give some advise and when will the medicine available for kids?

0 0 Reply • Share ›



HarrisJ3 Mod

→ Srini

3 years ago

The Incyte clinical trial is enrolling children 12 yrs and older, but not younger than that yet

0 0 Reply • Share ›

J

Jordan Baker

3 years ago

Back To Top ▲

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo

Hi Dr. Harris,

I was just wondering what the latest update for the IL -15 vitiligo trials were. When do you think we can expect them and start putting them to use?

0 0 Reply • Share ›



HarrisJ3 Mod

➔ Jordan Baker

3 years ago

Coming soon! The pandemic has caused some uncertainty.

1 0 Reply • Share ›



Tigress

3 years ago

Hi Dr Harris,

My friend seems to have developed vitiligo after buying an over-the-counter whitening cream and trying to get rid of her hyperpigmentation. Im afraid she used up a big tube of cream in such a short amount of time and I told her too much of anything is bad for you even water.

I will go with her to see a dermatologist but the appointment is a month away. She is really depressed I see there is no cure but maybe in the near future with cd-122 antibody. But that seems to be about a decade from now.

Do you think AMG 714 could be a cure too? Does it work the same way as cd-122. Ive read it blocks il-15 so maybe it will get rid of the memory t cells? It looks like AMG 714 is in phase 2 for vitiligo if im not mistaken?

0 0 Reply • Share ›

[Load more comments](#)

[Subscribe](#)

[Privacy](#)

[Do Not Sell My Data](#)

[Back To Top ▲](#)

12/5/23, 10:51 PM

Update on targeting IL-15 as a treatment for vitiligo



This is an official page of UMass Chan Medical School

Ambulatory Care Center • 55 Lake Avenue North, Worcester, MA 01545

Questions or Comments? E-mail: John.Harris@umassmed.edu Phone: 508-334-5979

[Privacy Statement](#)

Back To Top ▲