

0:00:00 -> 0:00:02.49 Support for Yale Cancer Answers
0:00:02.49 -> 0:00:04.98 comes from AstraZeneca, dedicated
0:00:05.057 -> 0:00:07.432 to advancing options and providing
0:00:07.432 -> 0:00:10.42 hope for people living with cancer.
0:00:10.42 -> 0:00:13.728 More information at astrazeneca-us.com.
0:00:13.73 -> 0:00:15.626 Welcome to Yale Cancer Answers with
0:00:15.626 -> 0:00:18.057 your host doctor Anees Chagpar.
0:00:18.057 -> 0:00:19.897 Yale Cancer Answers features the
0:00:19.897 -> 0:00:22.142 latest information on cancer care by
0:00:22.142 -> 0:00:23.59 welcoming oncologists and specialists
0:00:23.59 -> 0:00:26.055 who are on the forefront of the
0:00:26.055 -> 0:00:28.2 battle to fight cancer. This week,
0:00:28.2 -> 0:00:29.955 it's a conversation about understanding
0:00:29.955 -> 0:00:32.09 medical research with Doctor Perry Wilson.
0:00:32.09 -> 0:00:34.505 Doctor Wilson is the course director of
0:00:34.505 -> 0:00:36.313 Interpretation of the medical literature
0:00:36.313 -> 0:00:38.437 at the Yale School of Medicine,
0:00:38.44 -> 0:00:40.558 where Doctor Chagpar is a
0:00:40.558 -> 0:00:41.97 professor of surgical oncology.
0:00:42.78 -> 0:00:45.516 Perry, maybe we can start off by you
0:00:45.516 -> 0:00:48.29 telling us a little bit about yourself
0:00:48.29 -> 0:00:50.845 and what it is that you do.
0:00:50.85 -> 0:00:52.69 I'm a physician,
0:00:52.69 -> 0:00:54.525 and I specialize in internal
0:00:54.525 -> 0:00:55.626 medicine and nephrology,
0:00:55.63 -> 0:00:56.874 which is kidney diseases.
0:00:56.874 -> 0:00:59.299 But most of my time is spent
0:00:59.299 -> 0:01:00.76 doing clinical research.
0:01:00.76 -> 0:01:02.968 So my lab does clinical trials.
0:01:02.97 -> 0:01:05.161 We use a lot of what people
0:01:05.161 -> 0:01:07.369 might call big data approaches.

0:01:07.37 -> 0:01:09.2 Getting data and analysis into
0:01:09.2 -> 0:01:10.664 the electronic health record,
0:01:10.67 -> 0:01:14.41 but I think one of my real passions has been
0:01:14.41 -> 0:01:15.85 trying to explain medical
0:01:15.85 -> 0:01:17.29 research to everyone.
0:01:17.29 -> 0:01:19.81 It's something that I love to do.
0:01:19.81 -> 0:01:21.094 I love medical research.
0:01:21.094 -> 0:01:23.02 I think it's
0:01:23.083 -> 0:01:24.491 transformed humanity over the
0:01:24.491 -> 0:01:27.098 past century and I want to share
0:01:27.098 -> 0:01:28.81 that enthusiasm with people.
0:01:28.81 -> 0:01:30.938 And so I've been, on my
0:01:30.938 -> 0:01:33.351 off hours, writing columns
0:01:33.351 -> 0:01:35.606 about new medical studies trying
0:01:35.606 -> 0:01:38.562 to get people as excited as I am
0:01:38.562 -> 0:01:40.33 about the medical research process.
0:01:41.05 -> 0:01:43.18 And that's such a great
0:01:43.18 -> 0:01:45.66 thing to kick off with because,
0:01:45.66 -> 0:01:47.433 especially this year,
0:01:47.433 -> 0:01:50.388 there's been a lot of
0:01:50.39 -> 0:01:50.786 misinformation,
0:01:50.786 -> 0:01:52.37 a lot of ambiguity,
0:01:52.37 -> 0:01:55.034 a lot of trepidation on the part of
0:01:55.034 -> 0:01:57.907 the general public about medical research,
0:01:57.91 -> 0:02:00.614 so maybe you can start off by talking
0:02:00.614 -> 0:02:04.292 to us a little bit about how that
0:02:04.292 -> 0:02:05.753 misinformation gets propagated
0:02:05.753 -> 0:02:08.207 and what we can do about it.
0:02:08.89 -> 0:02:10.846 Sure, Covid has really turned
0:02:10.846 -> 0:02:13.16 up the level of medical misinformation.
0:02:13.16 -> 0:02:15.874 It's always been out there.

0:02:15.874 -> 0:02:18.583 It's even before the Internet there were
0:02:18.59 -> 0:02:20.67 people coming through
0:02:20.67 -> 0:02:22.75 with their patent medicines and
0:02:22.823 -> 0:02:25.133 tonics and trying to force
0:02:25.133 -> 0:02:27.808 something in a vial on an unsuspecting
0:02:27.808 -> 0:02:30.226 population that will always be there.
0:02:30.23 -> 0:02:32.631 There will always be people trying to
0:02:32.631 -> 0:02:35.269 make a buck from fake information,
0:02:35.27 -> 0:02:37.937 but as the Internet exploded and access
0:02:37.937 -> 0:02:40.079 to information became more available
0:02:40.08 -> 0:02:42.096 as social media exploded and the sharing
0:02:42.096 -> 0:02:43.534 of information became
0:02:43.534 -> 0:02:45.543 exponentially easier and then now with covid,
0:02:45.55 -> 0:02:48.118 it was really this perfect storm of medical
0:02:48.118 -> 0:02:50.158 information that we were
0:02:50.16 -> 0:02:51.6 all hit with.
0:02:51.6 -> 0:02:53.8 It was the first time I can remember
0:02:53.8 -> 0:02:54.976 where literally everyone was
0:02:54.976 -> 0:02:56.971 searching for the same thing on line
0:02:56.971 -> 0:02:58.798 when it comes to medical studies.
0:02:58.8 -> 0:02:59.634 So before covid,
0:02:59.634 -> 0:03:01.58 you had people that were
0:03:01.637 -> 0:03:03.437 looking for the latest diet that
0:03:03.437 -> 0:03:05.42 would help them lose a few pounds.
0:03:05.42 -> 0:03:06.464 And then
0:03:06.464 -> 0:03:08.361 of course you had people who might
0:03:08.361 -> 0:03:10.23 have had a new diagnosis like a
0:03:10.23 -> 0:03:12.048 new cancer diagnosis for example,
0:03:12.05 -> 0:03:13.37 and they're searching that.
0:03:13.37 -> 0:03:14.69 And there's misinformation in
0:03:14.69 -> 0:03:15.75 all those spaces,

0:03:15.75 -> 0:03:18.396 but all of a sudden 2020 comes and every
0:03:18.396 -> 0:03:20.601 single person is searching for any
0:03:20.601 -> 0:03:22.89 information they can find about covid.
0:03:22.89 -> 0:03:24.684 And in that environment you are
0:03:24.684 -> 0:03:27.31 going to get a lot of misinformation
0:03:27.31 -> 0:03:29.69 out there. And that's exactly what happened.
0:03:29.69 -> 0:03:31.162 But you know, Perry,
0:03:31.162 -> 0:03:33.002 it's really interesting because for
0:03:33.002 -> 0:03:35.027 many people they think the Internet
0:03:35.027 -> 0:03:37.01 was really the boon of information
0:03:37.01 -> 0:03:39.243 sharing and a great way for people
0:03:39.243 -> 0:03:41.446 to get high quality information and
0:03:41.446 -> 0:03:43.78 disseminate it across a large population.
0:03:43.78 -> 0:03:46.811 So I think one of the key issues is how do
0:03:46.811 -> 0:03:49.491 people distinguish from good information
0:03:49.491 -> 0:03:51.635 factual information versus misinformation.
0:03:51.64 -> 0:03:53.998 Both of them seem to be
0:03:53.998 -> 0:03:55.57 apparent on the Internet,
0:03:55.57 -> 0:03:58.706 but sometimes it's hard to tell them apart.
0:03:58.71 -> 0:03:59.498 Yeah, absolutely.
0:03:59.498 -> 0:04:00.68 And this is
0:04:00.68 -> 0:04:02.645 one of the double edged
0:04:02.645 -> 0:04:04.61 swords of our information age.
0:04:04.61 -> 0:04:07.368 So one thing I always remind
0:04:07.368 -> 0:04:10.515 people is that there is such a thing
0:04:10.515 -> 0:04:13.259 as a bad medical study. There is
0:04:13.26 -> 0:04:15.969 good data and bad data.
0:04:15.97 -> 0:04:18.497 There are good studies and bad studies,
0:04:18.5 -> 0:04:20.642 and when access to that information
0:04:20.642 -> 0:04:22.858 is so readily available so unfiltered
0:04:22.858 -> 0:04:24.673 or sometimes just filtered through

0:04:24.673 -> 0:04:27.217 the sort of biases of whoever's on
0:04:27.217 -> 0:04:29.246 your social media feed, it
0:04:29.246 -> 0:04:31.154 has become really easy to
0:04:31.154 -> 0:04:32.698 find information that confirms
0:04:32.698 -> 0:04:34.386 your previously held beliefs,
0:04:34.39 -> 0:04:37.07 and if there is one thing I sort
0:04:37.07 -> 0:04:39.725 of caution people against when they
0:04:39.725 -> 0:04:42.105 go looking for information is,
0:04:42.11 -> 0:04:43.916 do it with an open mind.
0:04:43.92 -> 0:04:46.069 Don't try to find things that confirm
0:04:46.069 -> 0:04:48.129 what you already believe to be true,
0:04:48.13 -> 0:04:49.798 because maybe that worked back in
0:04:49.798 -> 0:04:51.975 the day when you went into the
0:04:51.975 -> 0:04:53.311 encyclopedia and everything was
0:04:53.311 -> 0:04:55.485 sort of nicely laid out and had
0:04:55.485 -> 0:04:57.153 been vetted by an editorial board
0:04:57.16 -> 0:04:58.7 and things like that.
0:04:58.7 -> 0:05:01.3 But the problem with social media is
0:05:01.3 -> 0:05:03.395 similar beliefs cluster together. The
0:05:03.395 -> 0:05:05.49 social media algorithms on Twitter
0:05:05.55 -> 0:05:07.776 and Facebook and Instagram and all of
0:05:07.776 -> 0:05:10.447 the social media companies work the same way.
0:05:10.45 -> 0:05:12.646 They are designed to maximize engagement,
0:05:12.65 -> 0:05:14.84 which is eyeballs on the screen,
0:05:14.84 -> 0:05:15.57 clicks, likes,
0:05:15.57 -> 0:05:16.3 retweets etc.
0:05:16.3 -> 0:05:17.395 In that environment,
0:05:17.4 -> 0:05:19.716 things that are nuanced that are
0:05:19.716 -> 0:05:22.012 subtle that don't sort of confirm
0:05:22.012 -> 0:05:24.371 what people want to be true don't
0:05:24.371 -> 0:05:26.188 get a lot of engagement,

0:05:26.19 -> 0:05:28.608 and those things that are more
0:05:28.608 -> 0:05:30.631 exciting and dramatic,
0:05:30.631 -> 0:05:32.997 we've got a cure for covid in
0:05:32.997 -> 0:05:34.9 our medicine chest right now.
0:05:34.9 -> 0:05:37.224 It gets a ton of engagement and one
0:05:37.224 -> 0:05:39.711 of the things that we used to be
0:05:39.711 -> 0:05:41.92 able to do as humans was trust
0:05:41.92 -> 0:05:44.076 what we perceive as the majority opinion
0:05:44.076 -> 0:05:46.696 when a lot of people share an opinion,
0:05:46.7 -> 0:05:49.252 we would go around in our social lives
0:05:49.252 -> 0:05:51.17 and say, oh that's probably true.
0:05:51.81 -> 0:05:53.718 Most people sort of think this,
0:05:53.72 -> 0:05:55.771 and I've heard this from a number
0:05:55.771 -> 0:05:57.55 of people in social media,
0:05:57.55 -> 0:05:59.598 now it's possible to go down a rabbit
0:05:59.598 -> 0:06:01.211 hole of misinformation where every
0:06:01.211 -> 0:06:04.123 voice you see every link you click is
0:06:04.123 -> 0:06:05.807 reinforcing the false information.
0:06:05.81 -> 0:06:08.274 And what you then get is this
0:06:08.274 -> 0:06:09.78 erroneous perception that there's
0:06:09.78 -> 0:06:12.084 this wealth of data out there
0:06:12.084 -> 0:06:13.75 that's supporting your belief,
0:06:13.75 -> 0:06:16.502 when in fact it's all this
0:06:16.502 -> 0:06:18.28 self perpetuating engagement,
0:06:18.28 -> 0:06:21.184 and you've got to be able to
0:06:21.184 -> 0:06:22.819 get out of there.
0:06:22.82 -> 0:06:25.836 The easiest way is right off the bat,
0:06:25.84 -> 0:06:27.396 be honest with yourself.
0:06:27.396 -> 0:06:30.379 Ask yourself what you want to be true,
0:06:30.38 -> 0:06:33.271 and recognize that if you find data
0:06:33.271 -> 0:06:36.119 that supports what you want to be true,

0:06:36.12 -> 0:06:38.742 you even have to be extra
0:06:38.742 -> 0:06:40.75 skeptical about that type of
0:06:40.75 -> 0:06:43.276 data.
0:06:43.28 -> 0:06:46.22 I just finished reading Adam Grant's book,
0:06:46.22 -> 0:06:48.516 Think Again, which for if anybody is
0:06:48.516 -> 0:06:52.667 a big fan of Adam Grant or enjoys
0:06:52.667 -> 0:06:54.212 reading organizational psychologists,
0:06:54.22 -> 0:06:55.852 I highly recommend it.
0:06:55.852 -> 0:06:58.907 But it's exactly to your point about
0:06:58.907 -> 0:07:01.537 rethinking your biases.
0:07:01.54 -> 0:07:03.076 But you know Perry,
0:07:03.076 -> 0:07:04.613 it's really difficult, right?
0:07:04.613 -> 0:07:07.294 Because if you are looking for something,
0:07:07.3 -> 0:07:09.22 something appears to be true,
0:07:09.22 -> 0:07:12.664 it fits with your gut,
0:07:12.67 -> 0:07:14.098 you're more likely to
0:07:14.098 -> 0:07:15.526 think that that's right,
0:07:15.53 -> 0:07:17.666 so are there any objective ways
0:07:17.67 -> 0:07:18.34 for example,
0:07:18.34 -> 0:07:21.464 if patients or the people
0:07:21.464 -> 0:07:24.089 who are listening to our show today,
0:07:24.09 -> 0:07:25.875 they may have just been
0:07:25.875 -> 0:07:26.946 diagnosed with cancer,
0:07:26.95 -> 0:07:29.687 or they may be looking for other
0:07:29.687 -> 0:07:31.239 medical information and it's
0:07:31.239 -> 0:07:33.374 so easy to go to the Internet.
0:07:33.38 -> 0:07:35.16 Information at our fingertips.
0:07:35.16 -> 0:07:38.065 Are there any ways that you can
0:07:38.065 -> 0:07:39.72 really distinguish, intangible ways,
0:07:39.72 -> 0:07:43.02 I good information versus garbage?
0:07:45.463 -> 0:07:47.368 There certainly are and it

0:07:47.37 -> 0:07:49.68 does take a
0:07:49.68 -> 0:07:52.32 little bit of work and
0:07:52.32 -> 0:07:54.738 it's the hardest thing in the
0:07:54.738 -> 0:07:56.35 world to disregard information
0:07:56.425 -> 0:07:58.04 that feels right to you.
0:07:58.04 -> 0:08:01.152 That speaks to you in that way because
0:08:01.152 -> 0:08:04.887 that is a very human thing that we all do.
0:08:04.89 -> 0:08:07.158 But I can
0:08:07.158 -> 0:08:09.469 give you a couple of tips.
0:08:09.47 -> 0:08:11.042 So number one,
0:08:11.042 -> 0:08:12.614 is that biologic plausibility
0:08:12.614 -> 0:08:14.189 is only the start of
0:08:14.19 -> 0:08:16.266 medical research, not the end,
0:08:16.27 -> 0:08:18.22 and what I mean by biologic
0:08:18.22 -> 0:08:19.951 plausibility is when something is
0:08:19.951 -> 0:08:21.816 stated that makes sense biologically.
0:08:23.555 -> 0:08:25.29 To give you an example,
0:08:25.29 -> 0:08:28.76 if I told you that if
0:08:28.76 -> 0:08:31.544 I wrapped my necktie around my head, it would
0:08:31.544 -> 0:08:34.32 help the arthritis in my knees,
0:08:34.32 -> 0:08:35.756 that's not biologically plausible.
0:08:35.756 -> 0:08:37.551 There's no real reason to
0:08:37.551 -> 0:08:39.167 think that that should work,
0:08:39.17 -> 0:08:41.946 so we don't pay much attention to that.
0:08:41.95 -> 0:08:44.032 But there are lots of examples
0:08:44.032 -> 0:08:45.502 of things that seem
0:08:45.502 -> 0:08:47.036 biologically plausible, for example,
0:08:47.036 -> 0:08:49.328 we know that as you age,
0:08:49.33 -> 0:08:51.724 there's more oxidative stress in your
0:08:51.724 -> 0:08:54.039 body and that oxidative stress might
0:08:54.039 -> 0:08:56.655 lead to some of the symptoms of aging

0:08:56.721 -> 0:08:58.876 like arthritis and stuff.
0:08:58.88 -> 0:09:00.95 We also have a chemical called
0:09:00.95 -> 0:09:03.459 vitamin E which is an antioxidant,
0:09:03.46 -> 0:09:05.37 and well reported as an antioxidant.
0:09:05.37 -> 0:09:06.498 It's biologically plausible,
0:09:06.498 -> 0:09:08.754 then that vitamin E would be
0:09:08.754 -> 0:09:10.72 good at helping against aging.
0:09:10.72 -> 0:09:12.248 Maybe might prevent heart
0:09:12.248 -> 0:09:14.158 attacks and things like that.
0:09:14.16 -> 0:09:16.925 Now a lot of people stop there.
0:09:16.93 -> 0:09:18.61 They say, oh that's biologically plausible.
0:09:18.61 -> 0:09:20.01 Oxidation is bad,
0:09:20.01 -> 0:09:21.41 antioxidant is good, vitamin E
0:09:21.41 -> 0:09:23.09 is cheap, it's at my drugstore.
0:09:23.09 -> 0:09:24.49 There's very limited side effects.
0:09:24.49 -> 0:09:25.89 You know this is great.
0:09:25.89 -> 0:09:27.759 It helps to confirm a belief that
0:09:27.759 -> 0:09:30.154 many of us want to be true that we
0:09:30.154 -> 0:09:32.328 can take charge of our lives without
0:09:32.882 -> 0:09:34.262 paying pharmaceutical companies and
0:09:34.262 -> 0:09:35.97 without having side effects.
0:09:35.97 -> 0:09:38.21 So there's a lot going for vitamin E,
0:09:38.21 -> 0:09:39.89 but let me tell you what
0:09:39.89 -> 0:09:41.01 happened with Vitamin E.
0:09:41.01 -> 0:09:42.984 They did a randomized trial of vitamin
0:09:42.984 -> 0:09:45.578 E and people who are at risk of heart
0:09:45.578 -> 0:09:47.26 disease and actually found not only
0:09:47.26 -> 0:09:48.925 was there no difference in
0:09:48.925 -> 0:09:50.59 the rate of heart attacks,
0:09:50.59 -> 0:09:51.918 the people taking vitamin
0:09:51.918 -> 0:09:53.246 E compared to placebo,

0:09:53.25 -> 0:09:54.915 but the people taking vitamin E
0:09:54.915 -> 0:09:56.58 had more heart failure.
0:09:56.58 -> 0:09:58.3 Statistically more heart failure than
0:09:58.3 -> 0:10:00.58 those taking placebo and again and again
0:10:00.58 -> 0:10:01.246 in medicine
0:10:01.246 -> 0:10:02.578 we see biologic plausibility,
0:10:02.58 -> 0:10:04.24 and actual efficacy getting untied.
0:10:04.24 -> 0:10:06.641 So what I tell people is that
0:10:06.641 -> 0:10:08.36 biologically plausible thing that you
0:10:08.36 -> 0:10:10.565 read about, like oh this is interesting,
0:10:10.903 -> 0:10:12.568 it works in cell culture,
0:10:12.57 -> 0:10:14.789 the mice seem to respond to this
0:10:14.789 -> 0:10:17.287 and it all sort of makes sense
0:10:17.29 -> 0:10:19.048 with how we understand the world,
0:10:19.05 -> 0:10:21.094 that's great, but that's only the beginning.
0:10:21.1 -> 0:10:23.436 You really want to see that randomized trial,
0:10:23.44 -> 0:10:24.6 not because
0:10:24.6 -> 0:10:26.67 I'm the kind of guy who
0:10:27.67 -> 0:10:29.17 I'm just following the rules and
0:10:29.222 -> 0:10:31.057 everything needs a randomized trial,
0:10:31.06 -> 0:10:32.525 it's because we've been burned
0:10:32.525 -> 0:10:33.697 so many times before,
0:10:33.7 -> 0:10:36.036 and I think that's what people don't realize.
0:10:36.04 -> 0:10:37.212 It's not like jumping
0:10:37.212 -> 0:10:38.384 through an arbitrary hoop.
0:10:38.39 -> 0:10:40.133 We've been wrong a lot when it
0:10:40.133 -> 0:10:41.61 comes to biologic plausibility,
0:10:41.61 -> 0:10:43.29 so I really do tell people
0:10:43.29 -> 0:10:44.83 we want a randomized trial.
0:10:44.83 -> 0:10:47.85 And if you want to be really sure you're not
0:10:47.85 -> 0:10:49.638 swallowing some patent medicine,

0:10:49.64 -> 0:10:52.313 you want to see a replication of that study.
0:10:52.32 -> 0:10:54.416 You want to see more than one study
0:10:54.416 -> 0:10:56.639 showing the same thing and ideally
0:10:56.639 -> 0:10:58.279 studies done by different people.
0:10:58.28 -> 0:11:00.359 You know different groups across the country
0:11:00.359 -> 0:11:02.448 or in different countries in the world.
0:11:02.45 -> 0:11:04.536 That's how you build an evidence base.
0:11:04.54 -> 0:11:05.431 And of course,
0:11:05.431 -> 0:11:07.188 that's what doctors jobs are, right?
0:11:07.188 -> 0:11:09.064 So one of the easiest things you
0:11:09.064 -> 0:11:11.271 can do if you have a trusted
0:11:11.271 -> 0:11:12.876 healthcare provider in your life,
0:11:12.88 -> 0:11:16.16 it is our job to be doing this and
0:11:16.16 -> 0:11:17.88 ask them. Talk to them.
0:11:17.88 -> 0:11:20.582 We're often excited to talk to you
0:11:20.582 -> 0:11:22.94 about what's real and what's not,
0:11:22.94 -> 0:11:23.716 and again,
0:11:23.716 -> 0:11:25.656 just hear it with an
0:11:25.66 -> 0:11:27.711 open mind.
0:11:27.711 -> 0:11:30.206 In terms of the information of looking
0:11:30.206 -> 0:11:32.27 for randomized control trials,
0:11:32.27 -> 0:11:33.822 especially that are all
0:11:33.822 -> 0:11:35.762 going in the same direction,
0:11:35.77 -> 0:11:38.056 because we've all seen randomized
0:11:38.056 -> 0:11:40.429 control trials that then are disproven
0:11:40.429 -> 0:11:43 by other randomized control trials.
0:11:43 -> 0:11:44.284 But you know, Perry,
0:11:44.284 -> 0:11:46.21 it's so difficult for the general
0:11:46.271 -> 0:11:48.386 public to actually access good
0:11:48.386 -> 0:11:49.655 randomized control trials.
0:11:49.66 -> 0:11:52.676 They're not really going to pubMed and

0:11:52.676 -> 0:11:54.815 searching the medical literature and
0:11:54.815 -> 0:11:57.86 looking at things with a critical eye.
0:11:57.86 -> 0:12:00.7 And in terms of talking to their doctor,
0:12:00.7 -> 0:12:03.185 that's certainly a great way to start.
0:12:03.19 -> 0:12:05.062 But there are also quote doctors
0:12:05.062 -> 0:12:07.623 who you can find on line who
0:12:07.623 -> 0:12:08.865 are spewing misinformation.
0:12:08.87 -> 0:12:12.056 So how do you kind of get around that?
0:12:13.4 -> 0:12:16.469 You've got to be careful,
0:12:16.47 -> 0:12:18.857 really anything that comes from social media,
0:12:18.86 -> 0:12:20.56 whether it's YouTube or Twitter.
0:12:20.56 -> 0:12:22.27 And hey, I'm on Twitter,
0:12:22.27 -> 0:12:24.363 but you do have to be careful
0:12:24.363 -> 0:12:26.699 because of the echo chamber effect.
0:12:26.7 -> 0:12:29.388 Someone can sort of wear the mantle of
0:12:29.388 -> 0:12:31.877 authority on social media based on sort
0:12:31.877 -> 0:12:34.342 of the number of followers and stuff
0:12:34.342 -> 0:12:36.926 that they have and that might make what
0:12:36.93 -> 0:12:38.63 they're saying seem more believable,
0:12:38.63 -> 0:12:40.34 when in fact it's not.
0:12:40.34 -> 0:12:43.156 And so you know, social media is fun.
0:12:43.16 -> 0:12:44.83 And interesting and a great
0:12:44.83 -> 0:12:46.166 place to share pictures.
0:12:46.17 -> 0:12:47.835 It's not where I recommend
0:12:47.835 -> 0:12:49.167 people do their research
0:12:49.17 -> 0:12:50.22 for medical questions.
0:12:50.22 -> 0:12:51.97 There are some absolutely wonderful
0:12:51.97 -> 0:12:53.179 medical reporters out there.
0:12:53.18 -> 0:12:54.52 So if you don't want to read the
0:12:56.85 -> 0:12:58.86 primary literature and
0:12:58.86 -> 0:13:01.198 pick up your copy of the New

0:13:01.198 -> 0:13:02.2 England Journal Medicine,
0:13:02.2 -> 0:13:03.865 there's some great science and
0:13:03.865 -> 0:13:05.197 medicine reporters out there.
0:13:05.2 -> 0:13:07.204 You want to look for reporters
0:13:07.204 -> 0:13:08.54 that that's their beat.
0:13:08.54 -> 0:13:10.876 Because of the slow death
0:13:10.876 -> 0:13:13.53 of the newspaper industry in America
0:13:13.53 -> 0:13:15.525 you get a lot of times the
0:13:15.525 -> 0:13:17.199 science and health, and
0:13:17.199 -> 0:13:18.564 even sports reporters are all
0:13:18.564 -> 0:13:20.367 the same person in some outlets.
0:13:20.37 -> 0:13:22.37 So you want to look for someone whose
0:13:22.37 -> 0:13:24.927 job is to write about health and medicine.
0:13:24.93 -> 0:13:26.64 They are often very well trained
0:13:26.64 -> 0:13:27.78 and are good nuanced
0:13:27.78 -> 0:13:29.49 and if you're
0:13:29.49 -> 0:13:30.92 reading about a new drug,
0:13:30.92 -> 0:13:32.705 a new treatment, you want to read
0:13:32.705 -> 0:13:34.618 from a couple of different people.
0:13:38.04 -> 0:13:39.18 There's some great writing,
0:13:39.18 -> 0:13:40.581 for example, in the Atlantic,
0:13:40.581 -> 0:13:42.52 the science section of the New York
0:13:42.583 -> 0:13:44.395 Times has always been very strong.
0:13:44.4 -> 0:13:47.392 Do they get it right 100% of the time?
0:13:47.392 -> 0:13:47.696 No,
0:13:47.696 -> 0:13:50.63 but that's why you look for other articles.
0:13:50.63 -> 0:13:51.617 That being said,
0:13:51.617 -> 0:13:53.92 it is not impossible for laypeople to
0:13:53.99 -> 0:13:56.51 go into the real medical literature and
0:13:56.51 -> 0:13:58.841 in fact I have a course
0:13:58.841 -> 0:14:00.32 online here at Yale,

0:14:00.32 -> 0:14:01.7 which is free called
0:14:01.7 -> 0:14:02.735 Understanding Medical Research:
0:14:02.74 -> 0:14:04.47 Your Facebook friend is wrong.
0:14:04.47 -> 0:14:06.504 It's on the Coursera platform you
0:14:06.504 -> 0:14:08.584 can search for it and basically
0:14:08.584 -> 0:14:10.866 it is an online course of 15
0:14:10.866 -> 0:14:13.106 minute lectures that you can watch
0:14:13.106 -> 0:14:14.582 over your lunch break
0:14:14.59 -> 0:14:16.782 where I teach you how to find a
0:14:16.782 -> 0:14:18.409 actual medical article,
0:14:18.41 -> 0:14:21.056 go to pub Med and how to find it,
0:14:21.06 -> 0:14:22.236 how to read it,
0:14:22.236 -> 0:14:24 and how to interpret the results.
0:14:24 -> 0:14:25.974 So if any of the listeners
0:14:25.974 -> 0:14:28.11 really want to get deep into this,
0:14:28.11 -> 0:14:30.049 really want to take that next step
0:14:30.049 -> 0:14:31.35 to understanding medical research.
0:14:31.35 -> 0:14:32.815 it's accessible you don't need
0:14:32.815 -> 0:14:33.987 a degree in chemistry.
0:14:33.99 -> 0:14:35.76 You don't need to remember calculus,
0:14:35.76 -> 0:14:37.818 you just need some logical thinking skills,
0:14:37.82 -> 0:14:40.164 and intuition so a little pitch for that course. It's free.
0:14:40.46 -> 0:14:42.49 And it's so
0:14:42.49 -> 0:14:43.989 important for people really to
0:14:43.99 -> 0:14:46.43 do your own research and be
0:14:46.43 -> 0:14:48.698 vigilant about it so that you're not
0:14:48.698 -> 0:14:50.398 taking other people's word for it.
0:14:50.4 -> 0:14:52.212 You're going to the source and
0:14:52.212 -> 0:14:53.75 knowing how to interpret that.
0:14:53.75 -> 0:14:55.472 We're going to take a short
0:14:55.472 -> 0:14:57.11 break for a medical minute,

0:14:57.11 -> 0:14:58.946 but please stay tuned to learn
0:14:58.946 -> 0:15:00.17 more about understanding medical
0:15:00.221 -> 0:15:01.676 research with my guest Doctor
0:15:01.68 -> 0:15:02.29 Perry Wilson.
0:15:02.89 -> 0:15:05.45 Support for Yale Cancer Answers
0:15:05.45 -> 0:15:08.502 comes from AstraZeneca, working to
0:15:08.502 -> 0:15:11.344 eliminate cancer as a cause of death.
0:15:11.35 -> 0:15:13.23 Learn more at astrazeneca-us.com.
0:15:15.28 -> 0:15:17.92 This is a medical minute about
0:15:17.92 -> 0:15:19.68 survivorship. Completing treatment for
0:15:19.749 -> 0:15:22.077 cancer is a very exciting milestone,
0:15:22.08 -> 0:15:25.329 but cancer and its treatment can be a life
0:15:25.329 -> 0:15:28.027 changing experience for cancer survivors.
0:15:28.03 -> 0:15:30.58 The return to normal activities and
0:15:30.58 -> 0:15:32.743 relationships can be difficult and
0:15:32.743 -> 0:15:35.101 some survivors face long term side
0:15:35.101 -> 0:15:37.38 effects resulting from their treatment,
0:15:37.38 -> 0:15:38.712 including heart problems,
0:15:38.712 -> 0:15:40.488 osteoporosis, fertility issues and
0:15:40.488 -> 0:15:42.91 an increased risk of second cancers.
0:15:42.91 -> 0:15:45.215 Resources are available to help
0:15:45.215 -> 0:15:47.059 keep cancer survivors well and
0:15:47.059 -> 0:15:48.81 focused on healthy living.
0:15:48.81 -> 0:15:50.894 More information is available
0:15:50.894 -> 0:15:51.936 at yalecancercenter.org.
0:15:51.94 -> 0:15:55.066 You're listening to Connecticut Public Radio.
0:15:56.45 -> 0:15:58.808 Welcome back to Yale Cancer Answers.
0:15:58.81 -> 0:16:00.966 This is doctor Anees Chagpar
0:16:00.966 -> 0:16:03.457 and I'm joined tonight by my guest
0:16:03.457 -> 0:16:05.707 doctor Perry Wilson and we're talking about
0:16:05.774 -> 0:16:07.85 understanding medical research.

0:16:07.85 -> 0:16:10.594 Perry, before the break
0:16:10.6 -> 0:16:13.365 we were talking about how much misinformation
0:16:13.365 -> 0:16:16.1 really is out there on the Internet,
0:16:16.1 -> 0:16:18.368 whether it's about covid or whether
0:16:18.368 -> 0:16:20.36 it's about cancer or whether
0:16:20.36 -> 0:16:22.385 it's about any topic really,
0:16:22.39 -> 0:16:24.35 whether it's medical or not.
0:16:24.35 -> 0:16:26.876 There is just so much misinformation
0:16:26.876 -> 0:16:28.56 that's propagated out there.
0:16:28.56 -> 0:16:31.768 So let's talk a little bit about some
0:16:31.768 -> 0:16:35.489 of the ways that we can mitigate that.
0:16:35.49 -> 0:16:38.088 You know, aside from being vigilant
0:16:38.09 -> 0:16:39.846 consumers of medical research,
0:16:39.846 -> 0:16:42.893 what else can be done to really
0:16:42.893 -> 0:16:45.836 kind of tamp down on all of the
0:16:45.922 -> 0:16:48.478 misinformation that's out there?
0:16:50.12 -> 0:16:52.857 This is a really hard problem
0:16:52.857 -> 0:16:56.266 that it's clear a lot of the social
0:16:56.266 -> 0:16:58.416 media companies are struggling with.
0:16:58.42 -> 0:17:01.74 As you know you see Facebook and Twitter
0:17:01.74 -> 0:17:03.4 for example, imposing essentially
0:17:03.4 -> 0:17:05.475 fact checking on some tweets,
0:17:05.48 -> 0:17:07.55 particularly surrounding hot button issues.
0:17:07.55 -> 0:17:09.625 For example, vaccination
0:17:09.625 -> 0:17:11.7 where they're literally
0:17:11.7 -> 0:17:14.052 blocking tweets, blocking posts that are
0:17:14.052 -> 0:17:16.561 construed by some of their
0:17:16.561 -> 0:17:19.165 moderators to be potentially anti VAX,
0:17:19.17 -> 0:17:20.172 for example this does
0:17:20.172 -> 0:17:21.842 strike some people as
0:17:21.842 -> 0:17:23.449 heavy handed.

0:17:23.45 -> 0:17:24.602 There are certainly concerns about
0:17:24.602 -> 0:17:26.78 is this going to have a chilling
0:17:26.78 -> 0:17:28.57 effect on speech?
0:17:28.57 -> 0:17:30.81 On the other side, people say that
0:17:30.81 -> 0:17:32.73 these are private companies that
0:17:32.73 -> 0:17:35.047 can do whatever they want
0:17:35.047 -> 0:17:36.889 within the confines of their own platform.
0:17:37.85 -> 0:17:39.13 It strikes me though,
0:17:39.13 -> 0:17:41.05 that it's a bit of whack-a-mole
0:17:41.05 -> 0:17:43.129 and that these efforts
0:17:43.129 -> 0:17:44.889 are reactive rather than proactive.
0:17:44.89 -> 0:17:48.09 What can we do to be more proactive?
0:17:48.09 -> 0:17:50.253 One of the things I've
0:17:50.253 -> 0:17:52.189 seen that's a little clever
0:17:52.19 -> 0:17:54.374 is Twitter has been generating a little
0:17:54.374 -> 0:17:56.78 pop up when you retweet an article
0:17:56.78 -> 0:17:58.88 if it notes that you haven't
0:17:58.88 -> 0:18:00.936 actually read the article.
0:18:04.656 -> 0:18:06.656 That's a whole other topic, right?
0:18:06.999 -> 0:18:08.714 Like how it knows
0:18:08.714 -> 0:18:10.375 whether you've opened the other
0:18:10.375 -> 0:18:12.199 you didn't look at the article,
0:18:12.2 -> 0:18:14.496 but I think what it's doing is
0:18:14.496 -> 0:18:16.458 the article will have a tweet with a link
0:18:20.716 -> 0:18:22.536 and it knows if you've clicked that
0:18:22.536 -> 0:18:24.728 link 'cause it's within Twitter.
0:18:24.73 -> 0:18:27.306 If you haven't and you click retweet,
0:18:27.31 -> 0:18:29.517 it's been saying, hey,
0:18:29.517 -> 0:18:32.086 do you want to maybe read this
0:18:32.086 -> 0:18:33.916 article before you retweet it?
0:18:34.628 -> 0:18:36.764 That is an interesting strategy because

0:18:36.764 -> 0:18:39.447 it takes the emotion slightly down.
0:18:39.45 -> 0:18:41.08 There's a tendency for people
0:18:41.08 -> 0:18:43.226 to share and retweet things that
0:18:43.226 -> 0:18:44.597 are emotionally activating.
0:18:44.6 -> 0:18:46.435 Whether they make you angry
0:18:46.435 -> 0:18:48.261 or make you happy.
0:18:48.261 -> 0:18:50.367 Whether it's a mama cat
0:18:50.367 -> 0:18:51.96 cuddling with baby kittens,
0:18:51.96 -> 0:18:54.697 or whether it's someone saying
0:18:54.697 -> 0:18:56.879 something terrible and caught on tape.
0:18:56.88 -> 0:18:58.505 Both of those strong reactions
0:18:58.505 -> 0:19:00.464 elicit a lot of engagement and
0:19:00.464 -> 0:19:02.403 trying to remove that a little bit,
0:19:02.41 -> 0:19:04.246 giving people a little extra time to say, wait
0:19:04.832 -> 0:19:07.63 do you really want to put this out there?
0:19:07.63 -> 0:19:09.466 Do you want to share this?
0:19:09.47 -> 0:19:11 Might help a little bit.
0:19:13.15 -> 0:19:15.299 My hope lies a lot with
0:19:15.299 -> 0:19:16.22 the younger generations.
0:19:16.22 -> 0:19:16.522 Honestly,
0:19:16.522 -> 0:19:18.334 who are growing up in this
0:19:18.334 -> 0:19:19.91 environment and in my opinion,
0:19:19.91 -> 0:19:22.045 are actually quite a bit more savvy.
0:19:22.67 -> 0:19:24.002 I agree with you.
0:19:24.002 -> 0:19:26.91 I think that even our patients who come in,
0:19:26.91 -> 0:19:30.046 many times the older
0:19:30.046 -> 0:19:32.367 generation sometimes will have heard
0:19:32.367 -> 0:19:35.352 things like sugar feeds cancer or
0:19:35.352 -> 0:19:39.25 it can stop all cancer and some of our
0:19:39.25 -> 0:19:41.89 younger patients or patients families,
0:19:41.89 -> 0:19:44.746 it's remarkable they will have gone

0:19:44.746 -> 0:19:47.66 to the literature and be quizzing
0:19:47.66 -> 0:19:50.873 you on the latest study that was
0:19:50.873 -> 0:19:53.464 published in the New England Journal
0:19:53.464 -> 0:19:56.362 or what just came out at ASCO.
0:19:56.362 -> 0:19:59.77 So it really does behoove us to
0:19:59.869 -> 0:20:03.04 be wary of what's out there now.
0:20:03.938 -> 0:20:06.183 Are there certain places where
0:20:06.183 -> 0:20:09.316 people should go to kind of look
0:20:09.316 -> 0:20:11.838 at the literature if they don't go
0:20:11.838 -> 0:20:14.428 to PubMed directly and again,
0:20:14.43 -> 0:20:17.302 your course will tell them how they can
0:20:17.302 -> 0:20:19.929 actually go to the primary literature,
0:20:19.93 -> 0:20:21.895 but are there certain websites
0:20:21.895 -> 0:20:24.256 that you think are
0:20:24.256 -> 0:20:26.614 generally pretty reliable versus
0:20:26.62 -> 0:20:29.17 kind of taking the latest weird
0:20:29.17 -> 0:20:31.935 theory that's out there?
0:20:31.94 -> 0:20:33.396 As I mentioned,
0:20:33.396 -> 0:20:35.58 some of the large news organizations
0:20:35.653 -> 0:20:37.365 that have dedicated science
0:20:37.365 -> 0:20:39.44 writers are a great tool,
0:20:39.44 -> 0:20:42.6 but if you really want dedicated sites,
0:20:42.6 -> 0:20:44.97 there's a couple of good sites,
0:20:44.97 -> 0:20:46.95 Medscape.com, and Full disclosure,
0:20:46.95 -> 0:20:49.743 I have a weekly column on medscape.com
0:20:49.743 -> 0:20:52.866 but Medscape.com is a medical news website.
0:20:52.87 -> 0:20:55.252 It's an offshoot of WebMD which
0:20:55.252 -> 0:20:57.61 actually does a very nice job.
0:20:57.61 -> 0:20:59.67 They have dedicated reporters covering
0:20:59.67 -> 0:21:01.142 the latest medical studies,
0:21:01.142 -> 0:21:02.982 which is quite good, stat.com,

0:21:02.99 -> 0:21:05.312 which is another medical news focused
0:21:05.312 -> 0:21:07.79 website is quite good and
0:21:07.79 -> 0:21:10.094 as you're exploring there
0:21:10.094 -> 0:21:12.219 are other sites as well.
0:21:12.22 -> 0:21:15.164 And when you're exploring a site,
0:21:15.17 -> 0:21:18.005 I think one of the real hints as
0:21:18.005 -> 0:21:20.703 you're reading through as a reader to
0:21:20.703 -> 0:21:23.887 know about the quality here is
0:21:23.887 -> 0:21:26.996 look for emotion in the writing and if
0:21:26.996 -> 0:21:30.02 there is too much be worried.
0:21:30.02 -> 0:21:32.05 Real medical reading is often not
0:21:32.05 -> 0:21:33.674 the most exciting thing.
0:21:33.68 -> 0:21:35.26 This is not Hemingway.
0:21:35.26 -> 0:21:37.63 This is reporting on often nuanced
0:21:37.703 -> 0:21:40.199 medical studies and drugs that have
0:21:40.2 -> 0:21:43.035 some benefit but some risks.
0:21:43.04 -> 0:21:46.296 And if your reporting is expressive of that,
0:21:46.3 -> 0:21:49.17 then it's good reporting, latest
0:21:49.17 -> 0:21:51.589 breakthrough, Miracle Cure, New Silver Bullet.
0:21:51.59 -> 0:21:54.026 The end of blank diseases in sight.
0:21:54.03 -> 0:21:56.08 These highly emotional headlines are
0:21:56.08 -> 0:21:59.792 a good red flag that you're not on a
0:21:59.792 -> 0:22:02.168 site that's taking this very seriously.
0:22:02.39 -> 0:22:05.432 I mean it goes back to the old
0:22:05.432 -> 0:22:08.676 adage of if it sounds too good to be true,
0:22:08.68 -> 0:22:11.99 it likely is, and so I'll add to your list.
0:22:11.99 -> 0:22:15.158 I think that there are some
0:22:15.158 -> 0:22:16.452 good professional organizations
0:22:16.452 -> 0:22:19.026 that people can turn to.
0:22:19.03 -> 0:22:23.356 ASCO has some websites that are dedicated
0:22:23.356 -> 0:22:24.592 to patient information, cancer.net,

0:22:24.6 -> 0:22:28.32 for example, the American Cancer Society.
0:22:28.32 -> 0:22:31.405 Cancer.org has some great information
0:22:31.405 -> 0:22:35.813 and there are a variety of associations
0:22:35.813 -> 0:22:39.455 for whatever cancer my ail you,
0:22:39.46 -> 0:22:43.06 whether it's breast cancer or leukemia
0:22:43.06 -> 0:22:47.499 or colon and rectal cancer.
0:22:47.5 -> 0:22:48.859 Go to the
0:22:48.859 -> 0:22:50.671 organizations that are really
0:22:50.671 -> 0:22:52.879 doing the research into this,
0:22:52.88 -> 0:22:54.815 because very often they will
0:22:54.815 -> 0:22:57.558 publish that data and a good hint
0:22:57.558 -> 0:22:59.736 is to look for the footnotes,
0:22:59.74 -> 0:23:02.379 because very often they will lead you
0:23:02.379 -> 0:23:05.183 to the studies and to the literature
0:23:05.183 -> 0:23:07.577 that they're citing in making the
0:23:07.652 -> 0:23:10.404 claim that they they have so and so.
0:23:10.41 -> 0:23:13.839 We have some of that data for
0:23:13.839 -> 0:23:16.5 cancer, and I think that
0:23:16.5 -> 0:23:18.66 because cancer has been around
0:23:18.66 -> 0:23:20.388 for a long time,
0:23:20.39 -> 0:23:23.63 a lot of the misinformation now I think it's
0:23:23.63 -> 0:23:26.341 starting to die down. There still are some
0:23:26.341 -> 0:23:29.019 old wives tales out there like
0:23:29.02 -> 0:23:31.09 sugar feeds cancer or tumeric
0:23:31.09 -> 0:23:32.81 will cure all cancers.
0:23:32.81 -> 0:23:34.75 PS for our listeners,
0:23:34.75 -> 0:23:38.18 neither of those two statements are true.
0:23:38.18 -> 0:23:39.828 But for novel diseases,
0:23:39.828 -> 0:23:42.722 things like Covid, it's a lot harder.
0:23:42.722 -> 0:23:44.374 I think for people,
0:23:44.38 -> 0:23:46.028 especially initially to weed

0:23:46.028 -> 0:23:48.088 out some of that misinformation.
0:23:48.09 -> 0:23:50.974 So what are some of the misinformation
0:23:50.98 -> 0:23:53.212 hot buttons that you found
0:23:53.212 -> 0:23:55.247 out there that are propagated
0:23:55.247 -> 0:23:57.587 that you'd like to dispel?
0:23:57.59 -> 0:23:58.42 Oh my
0:23:58.42 -> 0:24:00.742 gosh, Covid has really given
0:24:00.742 -> 0:24:03.679 those of us who like to correct
0:24:03.679 -> 0:24:05.849 the record in Medicine a lot to do.
0:24:05.85 -> 0:24:08.41 It's been a full time job in Covid
0:24:08.41 -> 0:24:11.482 and I think in part it gets back to
0:24:11.482 -> 0:24:14.17 that idea of motivated reasoning.
0:24:14.17 -> 0:24:15.93 We all hate this pandemic.
0:24:15.93 -> 0:24:18.204 Every single one of us wants
0:24:18.204 -> 0:24:20.858 nothing more than for it to be over,
0:24:20.86 -> 0:24:23.149 and if there were some simple cure
0:24:23.149 -> 0:24:25.363 that was cheap and effective and
0:24:25.363 -> 0:24:27.544 worked 100% of the time oh my gosh,
0:24:27.544 -> 0:24:28.948 it would be amazing.
0:24:28.95 -> 0:24:31.442 We all want that and so you
0:24:31.442 -> 0:24:33.259 had this proliferation of data
0:24:33.259 -> 0:24:34.939 coming out early in Covid
0:24:34.94 -> 0:24:37.397 and I think that's sort of prototypical.
0:24:37.4 -> 0:24:39.205 One was the study surrounding
0:24:39.205 -> 0:24:39.927 Hydroxychloroquine which
0:24:39.93 -> 0:24:41.38 is an anti-malarial drug
0:24:41.38 -> 0:24:42.83 that's also used for lupus,
0:24:42.83 -> 0:24:44.28 which is an autoimmune disease.
0:24:44.28 -> 0:24:46.536 An old drug that with a lot of
0:24:46.536 -> 0:24:48.603 experience with and the truth is
0:24:48.603 -> 0:24:50.66 relatively safe as some drugs go,

0:24:50.66 -> 0:24:52.823 although there can be risks of cardiac
0:24:52.823 -> 0:24:54.428 arrhythmias in people who take it,
0:24:54.43 -> 0:24:55.3 but it's not
0:24:55.88 -> 0:24:58.49 the most toxic drug in the world,
0:24:58.49 -> 0:25:00.23 and some early studies,
0:25:00.23 -> 0:25:01.665 10-20 people suggested that maybe
0:25:01.665 -> 0:25:03.709 they get a little better faster now.
0:25:03.71 -> 0:25:05.942 Skip ahead and I'll tell you that large
0:25:05.942 -> 0:25:07.768 clinical trials have been done
0:25:07.77 -> 0:25:09.822 now I think we're at 9 or 10 large
0:25:09.822 -> 0:25:11.648 clinical trials of hydroxychloroquine.
0:25:11.65 -> 0:25:13.162 All of them negative.
0:25:14.676 -> 0:25:16.188 That's fairly well confirmed,
0:25:16.19 -> 0:25:18.075 but initially there was this
0:25:18.075 -> 0:25:19.583 huge enthusiasm surrounding it.
0:25:19.59 -> 0:25:22.25 And to the point where you know
0:25:22.25 -> 0:25:23.827 people were stockpiling the
0:25:23.827 -> 0:25:25.637 stuff people were taking it,
0:25:25.64 -> 0:25:29.42 and I think it fed what we wanted to believe,
0:25:29.42 -> 0:25:32.059 which was that there was a solution.
0:25:32.06 -> 0:25:35.03 And unfortunately the truth
0:25:35.03 -> 0:25:37.305 it's rare that things work that well.
0:25:37.31 -> 0:25:38.92 It's just unlikely that no
0:25:38.92 -> 0:25:40.9 matter what comes down the pipe,
0:25:40.9 -> 0:25:42.937 the cure is going to be something
0:25:42.937 -> 0:25:44.606 in your medicine cabinet that
0:25:44.606 -> 0:25:46.436 just doesn't happen very often.
0:25:46.766 -> 0:25:48.07 The exception being maybe
0:25:48.07 -> 0:25:49.7 like scurvy and vitamin C,
0:25:49.7 -> 0:25:52.059 and even that took a randomized trial
0:25:52.059 -> 0:25:54.586 to figure out back on the high seas.

0:25:54.59 -> 0:25:57.198 So that was certainly a big one.
0:25:58.83 -> 0:25:59.817 What's more concerning,
0:25:59.817 -> 0:26:02.12 I think even then the medication stuff
0:26:02.179 -> 0:26:04.039 is the vaccination issues in covid,
0:26:04.04 -> 0:26:05.73 so these are new vaccines.
0:26:05.73 -> 0:26:08.047 A lot of vaccine hesitancy at baseline
0:26:08.047 -> 0:26:10.357 kind of brought up to a degree by
0:26:10.357 -> 0:26:12.493 the fact that there are some new
0:26:12.493 -> 0:26:14.125 technologies in these vaccines,
0:26:14.13 -> 0:26:15.422 like MRNA technology,
0:26:15.422 -> 0:26:17.037 which I will point out,
0:26:17.04 -> 0:26:19.184 is new in the sense that we've never
0:26:19.184 -> 0:26:21.557 done it broadscale treatment with it,
0:26:21.56 -> 0:26:22.884 but is not new.
0:26:22.884 -> 0:26:24.539 It's actually been in clinical
0:26:24.539 -> 0:26:26.728 use for more than a decade now,
0:26:26.73 -> 0:26:28.656 but still new stuff for people,
0:26:28.66 -> 0:26:30.928 and we're seeing a lot of misinformation
0:26:30.928 -> 0:26:32.86 about what is in the vaccine,
0:26:32.86 -> 0:26:34.48 how the trials were done.
0:26:34.48 -> 0:26:36.818 I was reading on social media that
0:26:36.82 -> 0:26:39.118 people were saying that the trials
0:26:39.118 -> 0:26:41.029 were inoculating their volunteers with
0:26:41.029 -> 0:26:43.248 Covid when they walked through the door,
0:26:43.25 -> 0:26:45.422 which is a trial design
0:26:45.422 -> 0:26:46.87 that is quite controversial
0:26:46.941 -> 0:26:49.076 and is not what happened in these
0:26:49.076 -> 0:26:51.458 large clinical trials.
0:26:51.46 -> 0:26:54.001 And the problem of course with this
0:26:54.001 -> 0:26:56.531 misinformation is that this really does hurt
0:26:56.531 -> 0:26:58.956 our ability to end this pandemic, because

0:26:58.956 -> 0:27:01.804 the vaccines are the best tools we have.
0:27:03.95 -> 0:27:05.378 There's lots of misinformation
0:27:05.378 -> 0:27:07.242 around masks as well.
0:27:07.242 -> 0:27:09.406 You still see posts saying that
0:27:09.406 -> 0:27:11.134 masks reduce your blood oxygen content
0:27:11.134 -> 0:27:12.988 or increase the carbon dioxide content.
0:27:12.99 -> 0:27:13.878 You're a surgeon.
0:27:13.878 -> 0:27:15.358 My wife is a surgeon.
0:27:15.36 -> 0:27:17.028 She is wearing a mask for
0:27:17.028 -> 0:27:18.93 8 hours a day, every day,
0:27:18.93 -> 0:27:21.009 and her oxygen level is perfectly fine.
0:27:21.01 -> 0:27:22.756 She doesn't get lung disease or
0:27:22.756 -> 0:27:24.27 infections that's still out there,
0:27:24.27 -> 0:27:25.39 and it really does
0:27:25.39 -> 0:27:26.79 hurt our ability
0:27:26.79 -> 0:27:28.429 to end the pandemic faster.
0:27:28.43 -> 0:27:29.875 We're kind of shooting ourselves
0:27:29.875 -> 0:27:31.7 in the foot with this stuff.
0:27:32.29 -> 0:27:33.775 The other big
0:27:33.775 -> 0:27:34.963 piece of misinformation, I
0:27:34.97 -> 0:27:36.986 was watching the news the other
0:27:36.986 -> 0:27:38.98 day and they were saying that
0:27:38.98 -> 0:27:42.055 33% of Americans that
0:27:42.055 -> 0:27:45.815 were surveyed in this one poll
0:27:45.815 -> 0:27:49.199 felt that Covid was not real.
0:27:49.2 -> 0:27:51.288 And you kind of shake your head and
0:27:51.288 -> 0:27:53.665 you say we're now over half a million
0:27:53.665 -> 0:27:55.795 people dead in this country of a
0:27:55.795 -> 0:27:57.839 disease that you think is not real.
0:28:01.05 -> 0:28:02.146 And for people, including myself,
0:28:02.146 -> 0:28:04.718 and I'm sure you as well have cared for

0:28:04.718 -> 0:28:06.458 these patients in the hospital that
0:28:06.458 -> 0:28:08.6 it's particularly painful to hear that.
0:28:08.6 -> 0:28:10.637 And of course, some of us have
0:28:10.637 -> 0:28:12.53 lost loved ones to the disease.
0:28:12.53 -> 0:28:14.336 But you know, again
0:28:14.34 -> 0:28:16.37 I'm trying to do my best to
0:28:16.37 -> 0:28:17.959 understand where this comes from,
0:28:17.96 -> 0:28:19.622 and I do think it comes
0:28:19.622 -> 0:28:21.589 from a place of desire.
0:28:21.59 -> 0:28:23.998 Why do people believe that it's not real?
0:28:24 -> 0:28:26.416 Because they don't want it to be real,
0:28:26.42 -> 0:28:28.226 and if we just ask people,
0:28:28.23 -> 0:28:29.88 be aware of your motivations
0:28:29.88 -> 0:28:32.632 and be skeptical of data that only
0:28:32.632 -> 0:28:34.74 confirms what you want to be true,
0:28:34.74 -> 0:28:36.36 people will be in good shape.
0:28:37 -> 0:28:39.232 Doctor Perry Wilson is the course
0:28:39.232 -> 0:28:41.488 director of Interpretation of the medical
0:28:41.488 -> 0:28:43.966 literature at the Yale School of Medicine.
0:28:43.97 -> 0:28:45.442 If you have questions,
0:28:45.442 -> 0:28:46.914 the address is canceranswers@yale.edu
0:28:46.914 -> 0:28:48.945 and past editions of the program
0:28:48.945 -> 0:28:50.799 are available in audio and written
0:28:50.861 -> 0:28:52.409 form at yalecancercenter.org.
0:28:52.41 -> 0:28:54.946 We hope you'll join us next week to
0:28:54.946 -> 0:28:57.418 learn more about the fight against
0:28:57.418 -> 0:29:00.064 cancer here on Connecticut Public Radio.