

Repetitive Use Syndrome
Webcast
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Andrew:

Hello. Once again this is Andrew Schorr happy to be doing Patient Power for you on the Northwestern Memorial website where we connect you every two weeks with leading medical experts. And we're with an orthopedic surgeon today, Dr. Charles Carroll. He is on the medical staff of Northwestern Memorial. He is also associate professor of clinical orthopedic surgery at the Feinberg School of Medicine at Northwestern.

Dr. Carroll, thanks for being with us.

Dr. Carroll:

Oh, it's my pleasure. Thank you very much for allowing me to do this.

Andrew:

Dr. Carroll, one of the things that comes up for probably I would think millions of people are repetitive stress injuries. It's some joint, it becomes inflamed, it's painful, then you can't use it as much, you can't maybe do your work, do what you like to do for exercise, for play. How widespread are these? And help us understand the kind of these joints problems that happen. And do they just happen to us as we get older and we just have to grin and bear it?

Dr. Carroll:

Well, no, Andrew. Some of it occurs in the younger population. Some will be involved in those who are in great athletic condition and play professional sports. Others of these injuries occur in those who are more deconditioned. You might see it in an office worker. You might see it in a factory worker. You might see it in a utility worker who is using jackhammers and trying to do things to break concrete. All of these injuries over time can affect your muscles, your tendons, your nerves, and, as you mentioned, the joints.

And they're very common throughout our population because we're very active. And with the baby boomers not wanting to slow down, as we get older we continue to push our bodies to the limit. So these injuries are very common. Many of them can be treated simply and with conservative treatment, but some actually will go on to require surgical care and fairly significant rehabilitation.

It crosses all spectrum of ages, sex, color, creed, you name it. You see it everywhere, and it's something you see a lot of now in our service-based economy in the United States in our office as orthopedic surgeons.

Andrew:

Now, I was at the supermarket earlier, and there was a woman, May, who works there, she's worked in the deli department for years, and she was on light duty. They had her just greeting people and helping them as they came to the supermarket. And she had this sort of splint on her wrist. And I said, Well, May, what happened? And she said, Well, you know, I'm always chopping and preparing things in the deli, and then I just started to get pain in the joint. So here she was, chop, chop, chop with those big knives, you know, all the time for years. Is that an example of repetitive stress injury on the job?

Dr. Carroll:

That's a very common example you'll see in folks who work in the deli or the meat departments of supermarkets or large chains of food stores, or in a fish market for example. And the cutting can do one of a number of things. The first thing it can do would be to cause irritation of the tendons around the wrist. And a very common one, and sometimes we see this in young women having babies as well, is called de Quervain's tenosynovitis. And that's a pretty big name to remember, but it's pain at the base of your thumb and your wrist.

And if you could look at your wrist and imagine what a cutting motion would do, it goes back and forth from the thumb side to the baby finger side of your hand. There's some tendons at the base of your thumb that go through a sheath, and they get irritated. And when they get irritated they hurt, and a splint can be very helpful at diminishing those symptoms.

You might see it in a young mother or a middle-aged mother, depending on the age of the woman, or sometimes husbands as well or fathers, from lifting children. It's kind of the same thing, but it's in reverse. You bring the child to your shoulder or your head or whatever, and you go from the baby finger side of your hand to the thumb side. Same kind of thing.

Other things that might be affecting might be carpal tunnel syndrome. Repetitive use of the hand, grasping, flexing our fingers can sometimes irritate the nerve at the wrist which can cause pain and numbness in tingling. Other things might be something called a trigger finger or stenosing tenosynovitis, which is more easy to remember as trigger finger, from the same mechanism. The tendons as they go to your fingers get irritated in the sheath and the palm, and it might crack or pop or snap or lock. And all of these things can come from that type of work or work similar to it, or from leisurely activities. So things like that need to be considered.

Another thing that can occur might be arthritis in the base of your thumb or your wrist from something like that. Women who crochet or sew or do things like that can put a lot of force at the base of the thumb which can result in some basilar joint arthritis as we mature. So it's a whole spectrum of things we look for.

Andrew:

Now, the lady who's on light duty at the supermarket, of course she's hoping that that splint will help her get better and she'll get back to the job she thoroughly likes and wants to get off that light duty. So often, and I know it varies by injury, but can this sort of splinting or rest or just doing something different often be the cure, if you will?

Dr. Carroll:

It can be very much a great help or a cure, as you said. A splint can keep an injured area from working in a way it shouldn't work. Certainly, avoiding the activity or changing your activity may let the injured or tired areas rest and allow them to heal, and it may take two to three months to do that. Judicious use of an antiinflammatory can be very helpful, watching out for your stomach and your gastrointestinal tract. But all of these things can work in concert to allow your hand or your arm to heal and your symptoms to go away.

Andrew:

Now, that's what I did is I had some shoulder problems. And then as a runner, of course, I was out there running, and, you know, you can get a little fanatic about that. You get into that and it's an activity that makes you feel good. But I started to have pain in the side of my knee, and I think if I'm not mistaken there's something called the ilial tibial band. So maybe that's not uncommon in runners. And then there was like this sac of fluid. And it was getting just--I kept making it worse, and I remember my knee even kind of locked up on me, and I ended up getting a cortisone shot. Would that be another kind of intervention?

Dr. Carroll:

Certainly. When I mentioned the activity modification and the splints that would be your entry-level form of treatment, meaning at the beginning. Sometimes some rehab helps, but if it doesn't then after a number of weeks or months your physician might consider giving a cortisone injection which might then permanently cut down the inflammation. In your case, for example, it allowed it to heal, and you went back to running or whatever activity you wanted. So that's the next level of treatment. A shot or two can be very helpful in these types of problems.

Andrew:

Now, what about heat and cold? Where does that come in? I've interviewed some athletic trainers and I know they use that a lot related to acute inflammation and then over time. Where does that come into the mix? Just things we can do at home?

Dr. Carroll:

What I typically tell patients--and I've worked with trainers and tennis players and basketball players and, you name it, I've seen it over my years in practice at Northwestern--is that cold is very helpful after an activity which has caused an inflammation. An example of that might be if your child or your family member is a baseball pitcher, and after they've pitched eight or nine innings you might put ice on their shoulder. It cuts down the inflammation or the swelling that occurs from use. The same thing can apply to a knee after running or another joint after another activity, such as your elbow after playing tennis or your other side of your elbow, the inner side of the elbow, after playing golf. So ice can be very helpful after those activities. And if you suffer a contusion or a direct injury ice can be helpful for 48 to 72 hours to cut down the pain and swelling.

Now, I use heat kind of in a different way. After the initial inflammation has calmed down, sometimes heat can be very helpful four, six, seven, ten days later as loosening up stiff structures. Vis-a-vis if you strain your knee you might put ice on it for a couple of days to cut down the inflammation, but then it gets stiff. And to loosen that up, heat can be very helpful in the shower or with a heating pad or with a hot water bottle to allow that heat to go in, which allows tissues to stretch but also allows blood flow to improve which can improve your condition by allowing further healing. So after 72 hours I use heat to loosen things up, and then I continue to use the ice to cool things down if they've gotten inflamed with an activity.

Andrew:

We're visiting with Dr. Charles Carroll, who's an orthopedic surgeon on the medical staff of Northwestern Memorial.

So, Dr. Carroll, we talked about what people might do in sports or at work or whatever, raising a child, where they're using that joint and it becomes inflamed. And we talked about various antiinflammatories they might take or splinting, cortisone shot maybe in some joints or cold and heat. But sometimes you need to do more. So what happens--when do you decide you need to do more, and what would that be?

Dr. Carroll:

I think the first thing you have to discuss with your patient or a patient is what conservative treatment have they had, has it been complete, and what has it done. And in patients where they've not seen a relief of things--and I'll use carpal tunnel, for example, you might try a cortisone shot and splinting for carpal tunnel. But if the symptoms persist and the physical findings are consistent, one might get a nerve test. Most of the time it shows something, sometimes it doesn't.

But when the conservative treatment fails over a period of three, six, nine months, sometimes longer, and the symptoms are really giving you difficulty with activities of daily living as well as directed activity such as your job, then surgery might be helpful.

When you kind of look at the upper extremity, for example, it might help carpal tunnel syndrome where the nerve is compressed at the wrist. It might help a trigger finger where the tendon is snapping and not resolving that problem with an injection or two or three. It might help that same de Quervain's tenosynovitis of the wrist if that doesn't respond. You might see it with tennis elbow or impingement of your shoulder, and sometimes I see it with ulnar nerve problems with the elbow, which is the funny bone. Everybody has hit their funny bone, but sometimes that acts up.

But it's truly the failure of the conservative treatment which has been appropriate and adequate that leads you to a surgical consideration. It's not for everybody. Some people choose to live with their symptoms. What our job is then to make sure the symptoms aren't causing permanent nerve damage or loss of muscle or things of that sort or permanent stiffness. But it is a solution when conservative treatment has been performed and fails over a number of months.

Andrew:

So in America we have an aging population and a lot of people, husbands and wives, everybody's working in the family and more and more office workers, and so this term you use, carpal tunnel syndrome, is one we hear a lot more often now related to people in white collar office jobs. So when do we determine that that is something, you know, we need to work, we want to do the job we've done, where some surgical approach would make sense? It sounds like you wait several months.

Dr. Carroll:

You certainly do. And there's a number of considerations to consider, Andrew. One is your patient. Nobody in their, I guess, right mind, for lack of a better term is eager to have something done to them surgically. But if time has gone by and conservative treatment has not been effective and the symptoms are really interfering with sleep--carpal tunnel, for example, can keep you up at night or make your hand hurt so you can't sleep--eventually you'll get to the point that you'll look at the alternative of a surgical procedure as it might apply to your problem. As I said, not everything needs surgery, but, again, it can be helpful.

But you want to have the proper physical findings for carpal tunnel syndrome. You want to have the proper numbness, meaning in the proper fingers. If it's in the thumb or the index and the long finger, part of the ring finger, that's consistent with carpal tunnel. If it's the nonpalmer aspect of your hand, that might not be. So I think you want the correct diagnosis as well. So you want to work through

these things, and then use the surgery judiciously to try to improve the condition. But, yes, most people wait a number of months because they're not ready to have something done, and the disease process might not require it.

Andrew:

Now, it sounds different than what we think of, let's say--we're recording this now in the summer, we're in the heat of baseball season. You know, when there are problems with a pitcher, they usually get on it, and then pretty quickly it seems, they're having shoulder or elbow surgery, whatever it may be, and I'm sure you've done it, and then they're out for the season or longer. They don't--you know, it's like do not pass go often, have surgery. Where it sounds like for the typical American we're going to take a more conservative approach.

Dr. Carroll:

I would agree with that statement with the following thought to consider. Even in our professional athletes--and knowing the physicians who have taken care of them, who do take care of them, I've taken care of them myself--we certainly will entertain the conservative approach as well. But sometimes the wear and tear that they put on these areas is such that surgery is the only solution or makes the most sense to get them back to a very high level of performance. But again, if you follow the sports pages pretty carefully nobody jumps into that either. There's multiple opinions in places, you know, back and forth between different doctors.

But for the average American, me included, we're going to go slowly into those things, because, one, we want to make sure it fits what we need, and, two, we're truly ready to have it. So no we don't rush into surgery though sometimes it might be warranted sooner than later.

Andrew:

Okay. But you are an orthopedic surgeon, so when it comes to using your surgical skill have we really been able to refine the various producers we use so that people will be hopefully pain-free and get back to using these different joints to their full extent before long?

Dr. Carroll:

Well, over the past 20 to 25 years, which has been my experience so far as an orthopedic surgeon, finishing all my training and the like, I've seen a number of things change. I think, one, we're better at diagnosing things. Two, I think we have a better understanding of some of the disease processes and how to conservatively treat them. But on the surgical side we're making smaller incisions. We're doing less soft tissue dissection.

We're doing less damage to the human body with our surgical procedures. Things like arthroscopic surgery, which can be utilized in the wrist, the elbow and the shoulder, can also decrease the soft tissue hit or damage, for lack of a better term,

that we create by doing the surgical procedures. So we're doing them better. And I think with less injury to soft tissue and more direct surgery we get better outcomes and a quicker rehabilitation.

And the last thing I talk about is our rehab skills have gotten better. We do rehabilitation and therapy much better now than we did 25 years ago. So I think you look at your physical therapist and your occupational therapist and the people that work with them, they're much more aware of the issues. They're much more knowledgeable of physiology and the anatomy, like we are as surgeons, and we can work as a team to get someone back in the game as it were, be it the supermarket or playing for the Chicago Cubs, whatever it might be. All of these things can be done a lot quicker and a lot more to the point.

Andrew:

Dr. Carroll, so if somebody gets to the point where they're pain is not going away, it's affecting their job or their favorite sport or picking up their kid, how do we know, first of all, when to seek care, bring it up with our primary care doctor what we're doing at home just doesn't seem to be working? And then when do you sort of pull the trigger, for lack of a better term, and say, Well, should I see an orthopedic specialist?

Dr. Carroll:

I think most people will give it the school of observation at home, for lack of a better term, or watch it themselves for a week or two. Most people don't rush off to seeing a physician. One, it's sometimes hard to get in, and, two, none of us are inclined to see doctors unnecessarily. But if something persists over, oh, let's say seven, ten, 14 days, then I think probably it requires some attention if it's not getting better. Unless it's obviously you fell on something and you might have a fracture and that hurts a lot, then you might get that seen within a day or the same day.

But if it's just a tendonitis or a strain, you might give it a week. But if it hasn't really gotten better in two weeks or so, maybe a little bit less time than that, you might want to talk to your primary care, and he or she may then refer you on to speak to an orthopedic in the office or see one of them so that it doesn't get too far afield. So I think in the first week or two you might keep an eye on it, but after that it probably warrants some form of attention.

Andrew:

Now, one of the things I that I wanted to ask you about is you're an orthopedic surgeon but the first part of our program has been talking about very conservative, nonsurgical approaches. So I'm happy to hear that from a surgeon. It doesn't sound like you're eager to do the surgery when it may not be--you know, when there are other approaches that could do the job.

Dr. Carroll:

No, I think when you look at the issue at least as I see it, I'm a physician first and a surgeon second. So I think you're hearing that bias that I have in the way I speak about it. But also if you look at the organizations like the American Society for Surgery of the Hand and the American Academy of Orthopedic Surgeons, who I'm not speaking for, but if you look at the tenants of things we talk about in those meetings and that those organizations try to teach us through courses and the like, we emphasize conservative treatment. And the failure of that conservative treatment then becomes a reason to operate, as opposed to operate first and then worry about the consequences later. So I think you're seeing a slightly different approach in terms of philosophy as time has gone on in a lot of physicians. I don't think I'm the only one.

Andrew:

I think it's great. So if you happen to go to one, and they're recommended--and we're talking about not a life-threatening condition, and they're recommending surgery, and I can do that for you next Tuesday, come on down, what's your thought about second opinions in that situation or just generally?

Dr. Carroll:

I encourage patients personally to see second opinions, and sometimes I ask them to when they kind of have that look in their face like they don't either believe or understand what I'm saying. And I try to speak in fairly straightforward, simple terms so people understand what I'm talking about, but I think second opinions are very helpful and healthy.

I say that for two reasons. One, from the physician's standpoint a highly educated patient from my perspective is a great one to take care of. Education comes from many sources now. So a second opinion is wonderful that the patient might get some more education.

Number two, from the patient's side, if you hear things from two or three different people about the same problem in a similar fashion you probably will be somewhat secure in doing something about it. But if you hear dramatically different opinions on that, most of us will go, as people, with a more conservative opinion if we understand the risks and the benefits of the treatment.

So I think the physician that says to me, as a person, that you need surgery next Tuesday for a nonthreatening or a nontraumatic condition--and I've been in a situation where I had surgery on my hand from one of my younger partners when I knew the minute I heard it I needed surgery, but that was a different situation. But if you hear someone say I've got some room for you next Tuesday, you're not so sure, just say, Yes, Doctor, I'll think about it. I might consider a second opinion.

Your physician, from my perspective, shouldn't take much umbrage at that, shouldn't get upset. He should offer, That would be great. You'll know more, and if you know more it will be easier for you to make that decision and therefore go through the treatment. And in my experience the more educated patients seem to travel through the system a lot easier, have a lot fewer questions and have a much more positive experience. So I encourage them.

Andrew:

One of the things I wanted to ask you about is within orthopedics there are doctors who have special interests or subspecialties, like when we talk about hand surgery, and I know that's one of your special interests. Should that be something that someone should ask the doctor about as well? So if you have carpal tunnel that maybe you want to find something who really treats a lot of that rather than somebody who specializes in the shoulder, for example.

Dr. Carroll:

Well, in the city of Chicago, or a large city like New York or Baltimore or Seattle, you might have a number of specialists around that might specialize in different areas. So you might have that latitude to request that level of expertise and experience. If you live in a more less-populated area or somewhere where there's not as many people around, you might not have someone who has quite the same experience because there's less of the problem around.

So I think the things you want to look at is, one, the qualifications of your physician. Are they board certified, and if not, why not. Sometimes younger physicians are still working through the process but are board eligible and are very good. But I think if you have the latitude, clearly, if you can find someone who does more of something than less the odds are that they will have dealt with the problems, the complications and probably can give you a better chance for a fairly easy transition are through your process.

But I don't want to leave those listening to me thinking that I have to go to a hand surgeon for every hand problem, because a properly trained orthopedic surgeon may have the skills to do this. Some plastic surgeons have the skills to do it. And even some general surgeons can still take care of hand problems. But most of us for hands, for example, have trained in hand surgery. But again, I think more experience you have the better you are as a physician.

There are areas now in orthopedics of total joint surgery where hips and knee replacements are done by total joint surgeons. There are spine surgeons in orthopedic that concentrate only on the spine, and some of them do cervical spine, some do thoracic and lumbar. So there's some difference there. Sports medicine

covers a lot of different areas. There are pediatric orthopedic surgeons who can take care of the kids. There are not any yet that concentrate on men versus women, but it wouldn't surprise me that one day there's a whole field of women's orthopedics.

But I think you can look at all these different areas, and even foot and ankle, and find someone who has the experience, the training and the qualifications to take care of your problems. But I have to reiterate a very well trained orthopedic surgeon can take care of many different problems and not necessarily be a subspecialist in any of them.

Andrew:

And of course these repetitive stress injuries are so common I think it's something that all orthopedists see. Now, you mentioned earlier about the team approach. And I imagine at Northwestern you have that, because there are doctors, there are nurses and there are certainly physical therapists. So how does that work at Northwestern with everybody working together? Because if you move forward, you try the more conservative approaches and you have assistance there. Maybe at some point surgery could come in, and then you have rehabilitation and recovery. It sounds like you need a whole team.

Dr. Carroll:

You really do. And we have all of that at Northwestern, as they do at other institutions as well. But we incorporate through the different practices and groups philosophy of good care, collegiality and communication. So I think that we work through the different medical specialties very well here at Northwestern, be it endocrinology and orthopedics or general surgery or the like. So the doctors are on the same page. In the hospital setting itself and some of the physicians in their offices will have nurses as well that they work with that help with communication, organizing the patient care and organizing the surgical care.

Clearly in the operating room when I do a surgical procedure I have an anesthesiologist or nurse anesthetist, I'll have a circulating nurse or technician, and I'll have a nurse that also maybe scrubbed with me. So we work as a team to make sure the equipment is there, that the patient safely transitions in and out of surgery. We do something at Northwestern called a time out where we discuss what we're doing, who the patient is and making sure that we don't commit any errors or make any errors with wrong site surgery or something like that.

And then afterwards the nurses are very helpful in the postoperative recovery area and then taking care of you on the floor if you have to stay around the hospital. And as you transition back to an outpatient setting, the physical therapists at Northwestern through the hospital or the doctors' offices, or the occupational therapists as it might apply in my office as a hand surgeon, again, they're there to educate, facilitate, move your joints, teach you, splint you, help you work through

the acute recovery and then into the more chronic recovery. And if it works well, and it usually does, it just transitions through all of that relatively seamlessly. You, the patient, don't even know it.

Andrew:

When I think of repetitive stress injuries I think of maybe a higher level of responsibility of the patient to do what they can, whether it's cease search activities, change certain activities, try certain antiinflammatories, the heat, the cold, the splints that might be recommended, etc., or physical therapy before or instead of surgery, physical therapy after, whatever. It sounds like a real partnership that we, the patient, have some work to do to try to get back on our feet and have the full range of motion activities that we really want to have.

Dr. Carroll:

I think you summed it up real well with the word "partnership," and I think that in these days where everybody wants to have some opinion about healthcare, the most effective healthcare is when the doctor and the patient are in a partnership together. And I think the doctor has his or her responsibility--and we've touched based on some of that--but I would agree that the optimal recovery for any particular patient would certainly be--considered to be present when the patient partnered with the doctor and then participated fully, like you described. Because without that all the education that I give, all the things that I talked about, if they're not utilized, they don't work and nothing happens. So I think if we can partner the patients will have a much better outcome than if they don't.

Andrew:

Dr. Carroll, there's just one other thing I wanted to ask about too, and that is there are a few million people with an inflammatory condition, rheumatoid arthritis, and they might have initially some pain in a joint or something like that. How do we get the proper diagnosis, the proper screening to see is it simply a repetitive stress injury or is it something more?

Dr. Carroll:

I think that can come from one of two or three sources. One, your primary care physician, if they see in of the swollen or inflamed boggy joints or some deviation of the digits or changes in your feet or hip or knee problems and start to suspect it, and if they do they can draw some blood testing, like a rheumatoid factor, to see if that shows up. They being the primary care physician talking to their patients then have two options. They can refer you to see a rheumatologist who would look further at x-rays and examinations and blood tests to correlate all the finding for the diagnosis, or to an orthopedist who might not do the medical management, meaning the blood tests and the medications, but could also make the diagnosis.

Clearly all three groups of physicians have to work together to modulate medications and preserve joint function. Because now with our medications being

better, often we don't have to do surgery for rheumatoid arthritis quite like we used to. But I think the key thing is differentiating the swelling from repetition from rheumatoid arthritis, which would take one or two of the different sets of physicians to look at it and think about both of them.

Andrew:

So, Dr. Carroll, just to come full circle related to repetitive stress injuries, which probably affect many millions of us as we get older, whether we're at work or doing other things that we love to do, do you feel pretty good that we have a range of approaches now that can help most people so that it's not pain that we have to live with for the rest of our lives?

Dr. Carroll:

I do. I believe that over the past number of years we've improved our conservative treatments. Our medications have gotten better. We still don't have the perfect antiinflammatory as all of us know looking at what goes on with the different ones that have been out there, but I think we're much better at it than we used to. With judicious therapy, education, joint preservation activities, I think we're able to maintain a high level of activity in our lifestyle with a lot less wear and tear.

But the key thing is we're now seeing it and recognizing it as opposed to just saying, Oh, Miss May, to use your example, You've just got some rheumatism, I'll see you later.

Andrew:

Right. Right. And one last thing is, all of us would like to prevent it if we could. So going back to the woman who was in the deli or the person who sits at a desk all day and types on the computer, whatever the situation is, are there some simple things we can do to try to head off the problem before it occurs?

Dr. Carroll:

I think the most important thing that I see is to have proper ergonomics, and then during the course of your day stop every hour or so and stretch or vary your job activity, whatever it might be, which can cut back some of that in the work place. Other thing that I see as a physician is a very deconditioned population. So I think if you're able to maintain adequate physical activity outside of work and life, meaning exercise three or four times a week doing aerobics and strength training, I think that makes a big difference, and especially as we get older. Because one of the things that happens to us besides getting stiff is we lose our muscle mass.

So if we're able to maintain cardiovascular activity, maintain weight training so we keep or muscle mass or keep it from totally going away, I think that makes it a lot easier to prevent these injuries.

The other thing is to think about Am I in a situation where I am going to get a repetitive stress injury and I'm not paying attention? So I think recognition of the fact that it may occur, to me is just as important. And then seeking out proper healthcare if they do show up.

Andrew:

That's all great advice from Dr. Charles Carroll, orthopedic surgeon on the staff of Northwestern Memorial and an associate professor of clinical orthopedic surgery at the Feinberg School of Medicine at Northwestern. Dr. Carroll, thank you so much for being with us on Patient Power.

Dr. Carroll:

Oh, it's my pleasure. I have certainly enjoyed the time I've had, and it certainly has passed very quickly. Hope to do it again sometime.

Andrew:

Thank you, sir. And for our listeners just remember that there's a replay of this program you can listen to whenever you want with a transcript. Tell your friends. And we have a whole library of programs connecting you with experts at Northwestern Memorial, and it's all there for you at healthnet.nmh.org. Thanks for being with us. Remember, knowledge can be the best medicine of all. I'm Andrew Schorr.

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