

Dr. Kristen Cezat ([00:04](#)):

Hello, welcome to DISCI discussions in spinal cord injury science brought to you by the, APTA, ANPT spinal cord injury special interest group. In this podcast, we bring you interviews with researchers and clinical leaders in spinal cord injury rehabilitation. Thank you so much for joining us today. My name is Kristen Cezat

Dr. Uzair "Z" Hammad ([00:21](#)):

And I'm Uzair Hammad,

Dr. Kristen Cezat ([00:23](#)):

And we are your hosts of discuss.

Dr. Uzair "Z" Hammad ([00:25](#)):

We have a very special guest for you all today and are thrilled to be speaking with him about his research. We will be speaking with Dr. Scivolletto, an international leader in spinal cord injury research. He and his colleagues have recently published a paper titled reliability and validity of international standards for neurological classification of spinal cord injury in patients with non-traumatic spinal cord lesions in spinal cord in July, 2021, which is the official journal of the international spinal cord society.

Dr. Kristen Cezat ([00:57](#)):

Dr. Scivolletto is a specialist in neurology and in physical medicine and rehabilitation, he has been involved in the cure and research for sci for the largest part of his career in his professional life. For more than 25 years at present, he is the head of a spinal rehabilitation sCI lab at St. Del Lucia foundation in Rome, Italy. And he is the vice president of the Italian spinal cord injury society and the chair of the scientific committee of the international spinal cord society. His research is focused on the non traumatic lesions on the study of outcome measures of for spinal cord injury and on urological issues, following spinal cord injury, and partly on the use of robotic rehabilitation. He has several collaborations with well recognized experts within Italy, Europe, and USA. Welcome to Dr. Scivolletto your work has provided me so much guidance in the past decade over my whole career. So we are so excited to speak with you today.

Dr. Giorgio Scivoletto ([01:48](#)):

Good morning. Thank you very much. And thank you for inviting me. I'm very pleased and honored to be with you and to discuss my, my work. It's not only my work, it's a collaborative work which has been held in here in Italy, but we think it's important

Dr. Kristen Cezat ([02:06](#)):

As do we. All right, so let's go ahead and dive in.

Dr. Uzair "Z" Hammad ([02:08](#)):

Awesome. So Dr. Scivolletto, I'm sure you and our listeners who are familiar with the literature regarding spinal cord injury rehab would agree that traumatic spinal cord injury research studies far outweigh that of non traumatic spinal cord injury. Could you give us a little bit of background information as to why you think that may maybe

Dr. Giorgio Scivoletto (02:35):

Yes, you're completely right. And I completely agree with you that most of the research and most of the literature on spinal cord injuries focused on traumatic spinal cord injury, but in the last 25 years let's say since I began to work with spinal cord injury patients, there has been a constant increase in the number of subjects with non-traumatic spinal cord injury, which has exactly the same severity and the same problems of traumatic ones. And this will probably increase more and more, at least in the Western world together with the aging of the population. The problem is that most of the literature is focused on traumatic spinal cord injury. And we don't even know the exact incidence and the exact prevalence of non-traumatic spinal cord injuries or the lesions.

Dr. Giorgio Scivoletto (03:37):

And in some articles you can find an incidence of six patients per million and, and another 80 patients per million, which is obviously difficult to evaluate. And for example, in my work, the admissions for nontraumatic spinal cord injuries raised to more than half and probably 60% of the total admissions. So the, the, the problem is constantly increasing. And the reason why I can't completely explain why this happened is probably because subjects with nontraumatic spinal cord injuries have a less severe lesion, so, or are usually cared for in neurological wards or in geriatric ward. And they don't get admitted to specialized spinal cord units, which is a mistake per se, because the consequences of non traumatic spinal cord injuries are exactly the same of traumatic ones and the right place to be cared for for these patients is specialized spinal cord unit, like the non traumatic counterparts.

Dr. Uzair "Z" Hammad (04:58):

Yeah, you make a great point. People with traumatic spinal cord injuries are usually brought to trauma centers or specialized spinal cord injury care centers upon their injury. But realistically those with non-traumatic injuries end up in a variety of local and community hospitals and outpatient clinics, not necessarily specializing in spinal cord injury.

Dr. Giorgio Scivoletto (05:21):

Thank you,

Dr. Kristen Cezat (05:23):

Dr. Scivoletto as your group's paper seems to be the first to investigate the validity and reliability of the use of the ins ski in the non traumatic spinal cord injury population. Describe to our listeners what exactly inspired this study.

Dr. Giorgio Scivoletto (05:36):

Yes. You know, the, the ins are the gold standard to evaluate patients with the spinal cord injury and both because they are common language. And they describe quite clearly the situation of a patient and I can send the patient to the US or to Japan by describing its motor scores and sensory scores and level of injury and completeness of injury. And they have strong prognostic importance. However, they have been developed and validated only in subjects with the traumatic spinal cord injury. And there is no validation for patients with non traumatic spinal cord injury. I discussed this with other researchers involved in non traumatic spinal cord injuries several times. And at the end had the chance to study this issue. And I had the people working with me who were interested in studying these issues. And we started the, the, the project

Dr. Kristen Cezat ([06:51](#)):

That that's so interesting as a clinician who treats, you know, in a spinal cord injury clinic every day, we use the ISNCSCI in traumatic spinal cord injury to have conversation with each other, to guide our conversation with our clients, to guide our prognosis based on the literature. We use the ISNSCI and non traumatic as well, but we really don't have that same information like you discussed, and it's such a gap for those of us in clinical practice to have educated conversations with our clients. So after the release of this study, it's, it's going be so beneficial for future research to be able to use this tool. So that way we and the clinics can have better educated conversation with our clients. So thank you for that.

Dr. Giorgio Scivoletto ([07:31](#)):

Yes. And I forgot to say that one important part of this the use of the, the ins the, is the research because the ins often used to evaluate patients at the baseline examination. And sometimes they're also used for, as an outcome evaluation, although they're not the most precise outcome outcome tool. And, but if you want to use the inky for research in SP in non-traumatic spinal cord injury, they obviously have to be validated for this particular population. And that's another reason why we decided to, to, to start this project, you know, for example, another article that we published last year was the, a comparison between patients with ischemic or traumatic spark or injuries. And we found based on the database, the European multicenter study spinal cord injury database. And we found that ischemic and traumatic patients have more or less the same outcome. But we didn't know exactly if the ISK had the same validity in ischemic patients and in traumatic ones. So that's another reason why I think our, our work is important.

Dr. Uzair "Z" Hammad ([09:09](#)):

Absolutely. So let's dive a little bit deeper into that then, because I think it'll be important for our listeners to maybe understand what specifically, what answer you were looking to answer in this study before we move forward,

Dr. Giorgio Scivoletto ([09:25](#)):

The answer we are looking is if was if the ISNCSCI had the same psychometric characteristics in patients with nontraumatic spinal cord injury that they show with in patients with traumatic ones. And you know, if you want to use an assessment instrument as a research tool, or simply in the clinical setting you have to be sure that the, this tool is valid and is about you, you have to know about his reputability validity and other psychometric characteristics that were complete, and this information was completely lacking for patients with nontraumatic spinal cord injury. So we performed this study with this in mind trying to discover if the psychometric characteristics were as good as in the traumatic population.

Dr. Uzair "Z" Hammad ([10:35](#)):

Fair enough. Thank you.

Dr. Kristen Cezat ([10:37](#)):

Yes. Now that we better understand exactly what you were looking for, discuss with us, what the findings were from this study, and maybe any limitations that you faced along the way in your project.

Dr. Giorgio Scivoletto ([10:48](#)):

The findings were good, but not so good. We were waiting for, unfortunately, because the <inaudible> demonstrated to be valid and repeatable in the patients with the non-traumatic populations, but the values of these validity were lower than those that were, have been found in the traumatic population. And the other studies probably this is because most of our patients had an incomplete lesion and, you know, that assessing incomplete patients within incomplete lesion is much more difficult than assessing patients with complete injuries. And while all the validation study for the ink in the traumatic populations had much more patients with complete lesions. And that could, that's the only explanation for this difference and the validity of the, the instruments as, because all the assessors who performed the, the ins in this group of patients were well aware of this instrument.

Dr. Giorgio Scivoletto ([12:08](#)):

They were certified and by the European multi center study. And we had a lot of experience in assessing these patients, but anyway, there were difference between the two examiners and these reflects on the results of the, of the study. Some part of the ins were more valid, for example, the motor score and the completeness of the lesion and the level for some parts of the instruments. For example, the sensory score, there were more differences and valid score were lower, but I think that globally, we can say that ISNCSCI could be used without great problems in assessing patients with non-traumatic spinal cord injuries. Why one thing that we did not perform because it, it, it would require a longer study with different team is to assess the prognostic value of the of the scheme and less would be important.

Dr. Giorgio Scivoletto ([13:26](#)):

And this would be one of the things that we do in the next future, because you know, apart from depicting the characteristic of the patients they scale used, as you said before also to assess the prognosis of the, the patients and to discuss the prognosis with the patients and is they are of helping talking with the patients about their future and probably with the, also with the insurances or other payer for, for, for, for our services. And so it would be important to, to discover whether in patients with nontraumatic spinal cord injury, they, the inky had have the same prognostic value. And we did not perform this part of the study, but we have this very clear in mind, and we do the study in the next future.

Dr. Kristen Cezat ([14:33](#)):

That is so interesting. We are really excited to know that using the ins ski tool now in our non traumatic population, we, as clinicians can have assurance that, that it is valid and reliable, but we definitely in the clinical world would very much be interested in knowing that prognostic value here at, at our, at my organization, as soon as we have a client with a spinal cord injury, we immediately have a family meeting to discuss all of the questions that the family may have about their injury. And for those with non traumatic spinal cord injuries, we often find ourselves saying, you know, the literature is, is, is sparse compared to that of traumatic. So we discuss someone who may have a similar injury in a traumatic and based off of the research there, but that we can't necessarily say with the same with the same accuracy. So it would be so beneficial for us. And then also same for, for things like equipment, selection and length of stay and things like that. It would be the prognosis aspect is, is a huge area that would be very interesting for us.

Dr. Giorgio Scivoletto ([15:32](#)):

It would be beneficial, you know, here in Italy, we have different health systems. So we don't have to struggle with insurances for the <inaudible> or for other things like that for instrument provision or

something like that. But we still have to discuss with the patients at their prognosis. And probably we have more difficulties with the architecture barriers because our towns are much older than in the us. And there are, there are still apartments without an elevator. And so we, we have to discuss with the patients is if they have not to resolve to, to solve the problem, solve architecture barriers, but to completely change their apartment because it's not possible to, to go back to the same apartment. And this is part of a, an important part of our job. And we have to based our discussion on something which is reliable and valid. Otherwise we can tell anything to the, to the patients, different problems, same solution. I hope

Dr. Kristen Cezat ([16:54](#)):

Clinicians all across the world feel the same pain in these conversations.

Dr. Giorgio Scivoletto ([16:58](#)):

It's painful conversations some sometimes, and it's difficult to convince the patients of their prognosis. And this is another, another reason why we need to have reliable in assessment instruments.

Dr. Kristen Cezat ([17:20](#)):

Absolutely. Thank you so much.

Dr. Uzair "Z" Hammad ([17:22](#)):

Okay. Dr. Scivoletto, you've been so generous with your time. So one final question, what impact do you hope this work will have on clinical practice and for those living with spinal cord injury?

Dr. Giorgio Scivoletto ([17:39](#)):

You know I don't think they, this work, we have an immediate impact on those living with the span cord injury. I think the important things is that we this, the established that the instrument is valid both for clinical use and for research and in the next future, this we have for example, researchers to decide if we can, if they could include patients with not traumatic spinal cord injuries in some clinical trials. And if they do include patients with not traumatic spinal cord injuries, they would be sure that they will have an valid assessment tool. For example, we are involved in a clinical trial physical therapy with university of Sydney and knowing that we can randomize both patients with traumatic and non traumatic cord injury. Absolutely. In this sense, it's, our work is important. And to, to evaluate the results of the tool, the results of the study, and to evaluate patients before randomization.

Dr. Kristen Cezat ([19:12](#)):

Well, Dr. Scivoletto , thank you so much for joining us. Your work today that we've discussed has really laid the foundation for future studies and for a very large impact in non traumatic spinal cord injury and clinical practice. Those, those not just in the research world, but those of us in clinical practice every day are really appreciative of your dedication to providing really clinical, meaningful research to the spinal cord injuries, community and society. It's helped me over my career. I know every time I have a, a question that I, I look to the literature, so often your, your research pops up.

Dr. Giorgio Scivoletto ([19:44](#)):

Yes. And <laugh>, my name is pops up.

Dr. Kristen Cezat ([19:47](#)):

Your name is there. Yes. And, and you really appreciate that because sometimes the articles don't always translate into immediate practice, but, but yours do so we, we very much appreciate the hard work you do for us.

Dr. Giorgio Scivoletto ([19:59](#)):

I, a very good, I, I must recognize, I must always thank my very good teacher, which is from the us John, who was based in Philadelphia. Now he's retired. And he taught me how to perform this clinical research. And he taught me, most of what I know about clinical practice on spinal cord injury. And most of all, he showed me his dedication to patients with spinal cord injury, which is the most important things for us and for clinical practice. So,

Dr. Kristen Cezat ([20:45](#)):

Well, thank you so much for your important work. And thank you for talking with us here on discos today, and for passing along this important information to our listeners. Is there anything that you would like, is there anything you'd like to leave with our listeners today before we disconnect?

Dr. Giorgio Scivoletto ([20:59](#)):

No, I would only try to encourage young people to join the Spinal cord injury community because I don't know in the us, but in Italy, it's much more and more difficult to find young doctors on the physical therapists or occupational therapists who are interested in spinal cord injury patients. And, and I know, and I agree that it's a difficult field of clinical practice and of research, but, and I know the, the, the numbers of patients is low, but anyway, it's important that they receive the right care in the right place. And so it's the, I would like to encourage all young people to, to join our community, to join DISCUS, to join the American injury association or one of the two, both of both would be better of course,

Dr. Kristen Cezat ([22:07](#)):

<Laugh> <laugh>,

Dr. Giorgio Scivoletto ([22:10](#)):

But to dedicate to the, to two cord injury patients. And I want to thank, of course, I, I would like to, to thank you for inviting me in, for dedicating me this time to, to show my results, my research.

Dr. Kristen Cezat ([22:28](#)):

Oh, it was our pleasure.

Dr. Uzair "Z" Hammad ([22:30](#)):

Yeah. Dr. Scivoletto, thank you so much for making the time to be here, but that will be the end of our chat for today. And thank you and our discuss listeners so much for joining us for this episode today, we are Uzair Hammad and

Dr. Kristen Cezat ([22:43](#)):

Kristin Cezat.

This transcript was exported on May 15, 2022 - view latest version [here](#).

Dr. Uzair "Z" Hammad ([22:44](#)):

You're a host until next time.