

— Reduce —



**RE  
DUCE**

Loop project - National research  
**INTERVIEWS:** Entry # 60



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## PETAR KES

Head doctor



"Professors nephrology book",  
Prof.dr.sc.med. Petar Kes

### **Prof.dr.sc.med. Petar Kes**

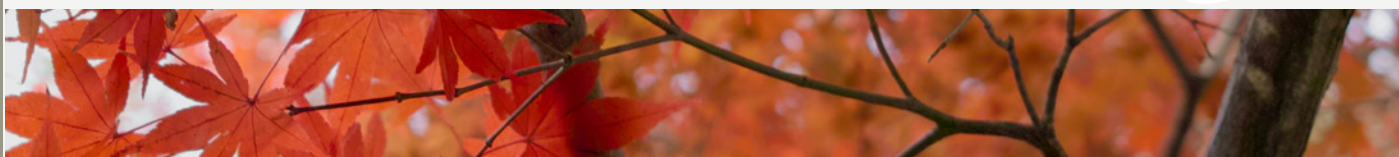
is a doctor and a faculty professor in Zagreb, Croatia. He worked at Sestre Milosrdnice hospital and Rebro hospital as well as a private hospital called Magdalena.

His subspeciality is nephrology, in which he is one of the best, if not the best in Croatia and also amongst the greater ones in the world. For his studies in the field, he has received dozens of recognitions and rewards from domestic and international associations, some of which he is the only one from Croatia to receive, including the famous Croatian award ("Nagrada Grada Zagreba").

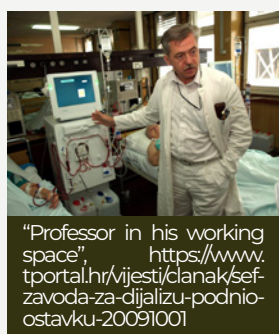
He is mostly known for giving the biggest contribution to Croatian dialysis and kidney transplantation. When he started working approximated waiting time to receive a kidney was about 20 years, while he was working, it got down to about 6 months to a year of waiting, and now when he is retired it is 2 to 6 years. We asked him some questions about the ways he used to save money for the hospital and to reduce waste.

### **REDUCING also means wasting less: tell us how you approached this topic both economically and culturally.**

Hospitals produce a lot of trash that can't be recycled because of its dangerous chemical nature. It is handled by trained personnel who have to wear special equipment while taking care of it.



Generally speaking, it is really uncommon to recycle medical trash. I wasn't really looking for a way to reduce the trash as much as I was actually searching for a way to reuse equipment so more patients could be treated by the same equipment at a lower financial cost.

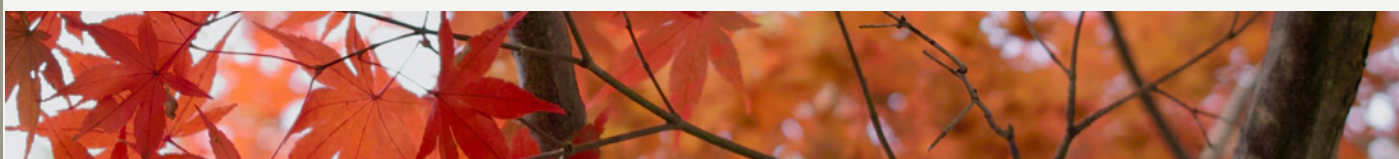


The ways I reused things were not a normal practice in Croatia, since nobody knew how to handle those types of things, and are still not. Since I was reading a lot of foreign literature and science magazines I came up with some of my own original ideas which were inspired by lack of products. When you're dealing with such sensitive machines that can cost up to millions of euros you have to be really careful not to damage them or god forbid hurt a patient in some way.

There are strict rules you have to follow while working with them which you are not taught when you first start working because people that have started working there before you still don't know how to use them.

That is also one of the things that I learned from foreign medical magazines.

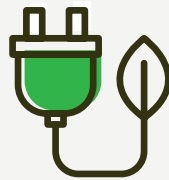
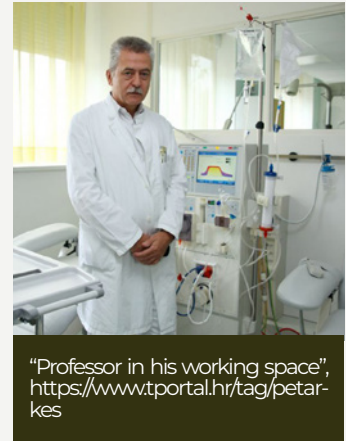
Unfortunately, not everyone is as interested in it as I was so most of hospitals in Croatia that I know of are still less advanced in that field than mine was when I worked there. It not only benefited the hospital by reducing costs but it also had a great impact on the environment with all that plastic we were reusing. Although it was a revolutionary move, and lots of medical experts saw it as one there were still some people who were unhappy because of it.





When you use 2 canisters instead of 100 that is a 5000% decrease from an original price meaning the people that order those products from firms don't get as big of a cut in a deal as they normally would.

It seems outrageous when hearing what those people are doing but that is a reality of that business and it not only happens in medical field but also in many others that have a similar relationship with firms since they are the ones that sponsor congresses so that those who get paid would use their products.



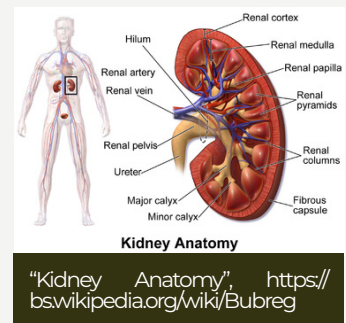
## WHAT THE REDUCTION INVOLVES

### in your activity: give us concrete examples.

In order to save time, money and give everyone the opportunity to be treated the same, I reutilized filters for dialysis which may seem like an obvious move, but it is actually really complicated since it has to go through a special procedure in order to be approved and safe for use on patients. When handling this kind of thing, one bad filter can cost a patient their life.

Before I started working there, they would use filters once and then throw them away, which was the way they were taught to. Filters that were used once and then thrown away were now being used up to 30 times more, meaning it reduced waste by 30 times just by doing one thing.

I also introduced a way of making dialysis solutions by again a special procedure, which I taught my colleagues how to do so they could be doing it as well as I was.



By doing that procedure, instead of using 1200 canisters per month, we used only several of them. After some time of usage they had to be replaced but in comparison with the amount that we were using before, it seems like nothing.





"Svjetski dan bubrega",  
<https://hums.hr/svjetski-dan-bubrega/>

Opposite of what I was doing with those canisters was when I introduced a new type of single-use needles which were never seen before in Croatia. I was amongst the very first few who were using them since I bought them myself abroad. While they were using them for years abroad, we were still using reusable steel needles, which were both hard to clean and use.

Every time you wanted to take someone's blood sample, you needed to disinfect it first, which would take you about half an hour or so.

It might seem off the topic but it's not because those needles are much easier to use and are among those few things in medical garbage that can be recycled.



"Dialysis machines", <https://www.juznevesti.com/Drushtvo/Novih-10-aparata-za-dijalizu-u-niskom-Klinickom.sr.html>

It's funny how instead of taking the example of what others in more advanced societies are doing, we only look at what people around us are doing, which never brings any changes to what we do. A simple thing such as a medical newspaper or journal subscription can bring many ideas from all over the world to any country and any society. The only things that are needed for it to work are will-power and interest in what you are doing.

## **DID your choice also involve raising awareness among collaborators, or the supply chain? Tell us how you handled these instances.**

There aren't really many legal ways in which you can interact with firms and a supply chain although many doctors do since that is where the big money exists. They pay for their lunches, meetings and especially congresses for which they get paid for really well, which is in some way legal but still in no way ethical. Since in medicine you aren't legally allowed to interact with a supply chain, I couldn't do any of that, but I did manage to get other co-workers involved in the process.

I first needed to teach fellow doctors how to do it and then the nurses as well. It wasn't an easy job and it certainly wasn't a one-person job, but I still somehow managed to do it. The simple way it was done was to make them understand the purpose of the procedure, because if it was done right, they needed to spend less time preparing the patients and gained more free time to enjoy due to the time saved.

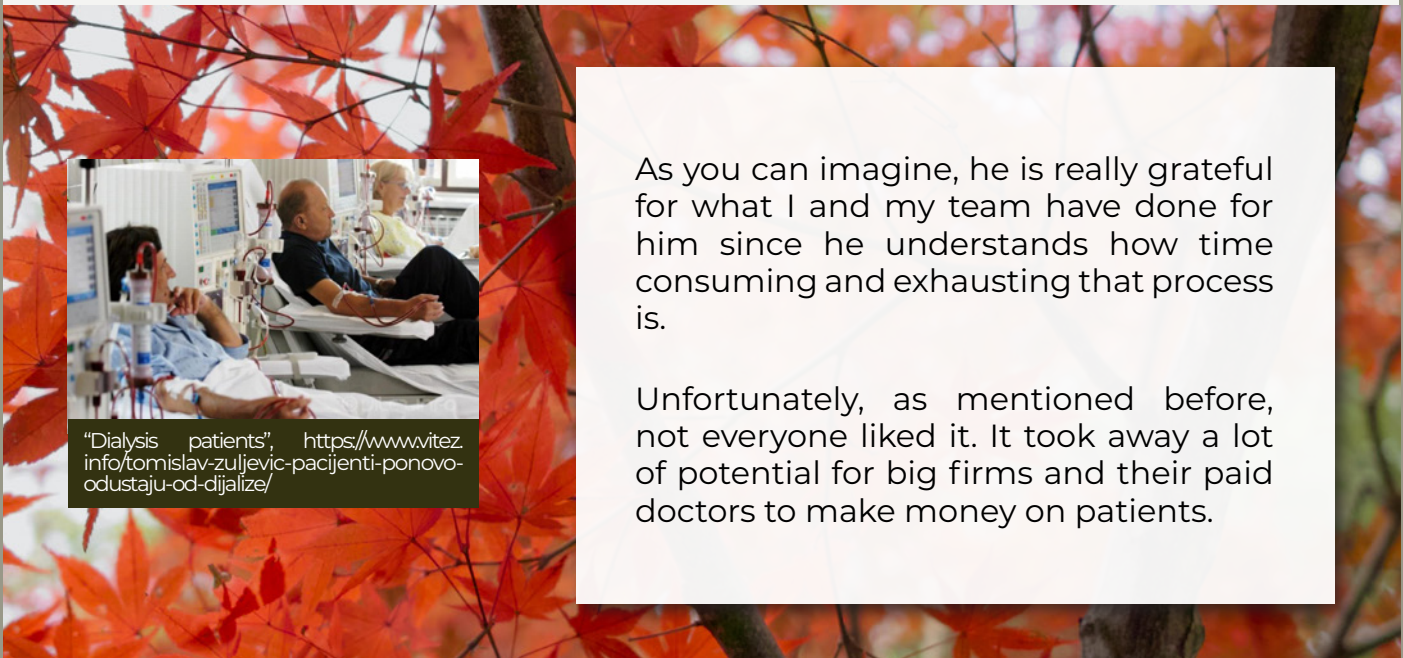
## INTERVIEWS: Entry # 60

To understand it better, an average dialyses usually takes about 4h but it can take up to 8h with some patients. Lying for up to 8h in a bed is as you can imagine also really hard on patients too, so it not only saved doctor's time but also helped patients out.

Patients range from a 1-year-old newborn baby to 75-year-old man. Since even with all the improvements and all the time saving methods, it still takes a long time to do it and most of the patients have to be exposed to it their whole lives because of their conditions, they get really comfortable there and some of them even watch movies, which was the case with my youngest patient.

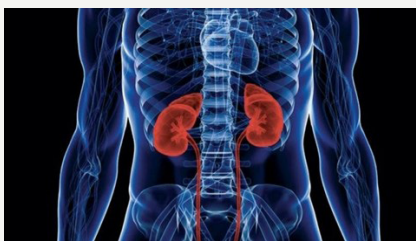


He was only a baby when he first came in and had a very low chance of surviving, which was very common amongs my patients; I put him on dyalises straight away and was treating him until my retirement 20 years later.



As you can imagine, he is really grateful for what I and my team have done for him since he understands how time consuming and exhausting that process is.

Unfortunately, as mentioned before, not everyone liked it. It took away a lot of potential for big firms and their paid doctors to make money on patients.



Although it was hard because of all the pressure we were dealing with, we still made it happen and these improvements were implemented in other hospitals 10 to 20 years after we had done it in ours.

"The position of the kidneys in the body", <https://www.zdravija.com/ovo-su-znakovi-da-vam-otkazuju-bubrezi/>

RE  
DUCE

# QUESTIONNAIRE

## 1. What is the so-called “circular economy”?

A	B	C
18	10	2

## 2. Do you believe that a more sustainable economic system can be equally productive than the current one?

A	B	C
4	23	3

## 3. Which of these consumer choices have you decided to implement in the last 10 years to protect the environment?

A	B	C
14	12	4

## 4. How will the so-called “circular economy” affect the job market?

A	B	C
10	12	8

## 5. In your work, how many strategic choices related to sustainability have been made in the last 10 years?

A	B	C
17	8	5



**6. Which of these 4 “Rs” is more important to ensure a better future for humanity?**

A	B	C	D
7	5	15	3

**7. Which of these 4 “Rs” is most present in your family’s daily life?**

A	B	C	D
12	4	9	5

**8. In your opinion, what link is there between technology and the “circular economy”?**

A	B	C
17	10	3

**9. Do you think we will be able to change the way we consume so as not to affect the environment and its limited resources?**

A	B	C
8	21	1

**10. Are you familiar with the UN 2030 Agenda or have you ever heard of SDGs?**

A	B	C
19	7	4

## QUESTIONNAIRE

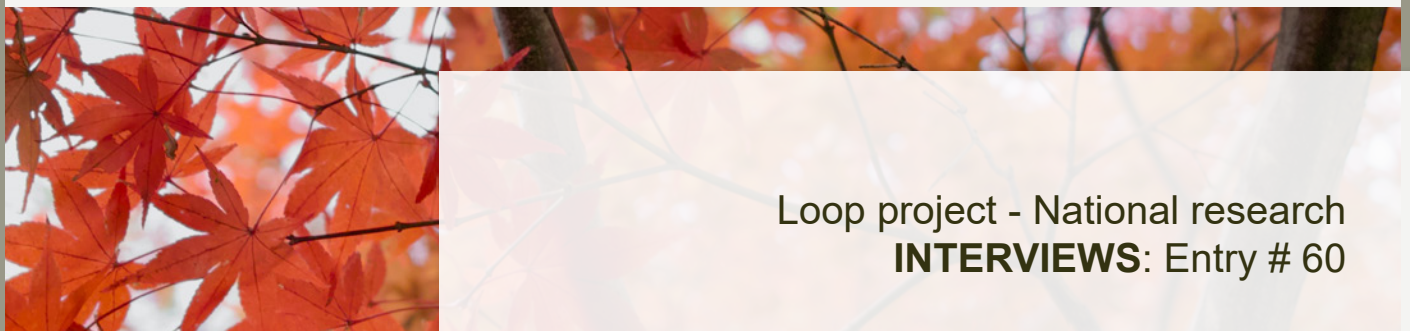
# QUESTIONNAIRE

**11. Do you think that the economy in the past was more sustainable than it is today?**

A	B	C
22	2	6

**12. Which of these 3 statements do you consider the most true and important?**

A	B	C
5	18	7



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