



## DR VISHESH SOOD

*Rural Individual Fellowship Award*

*University of Cape Town*

*Family Medicine, Tuberculosis (child health)*

*Mention the words “abdominal ultra-sound” and “TB” in the same breath to radiologists and physicians and you can be guaranteed of a debate. However, one thing is certain, for paediatricians it does offer significant value in honing in on a TB diagnosis – when all other factors are considered.*

A final-year radiology registrar, Vishesh Sood, currently at the Red Cross Children’s War Memorial Hospital in Cape Town, explains, “It’s preferable to avoid radiation from CT scans in a young child, while access to MRI is limited, making ultrasound particularly useful.” Radiologists and their colleagues working with children have become somewhat accustomed to the vagaries of abdominal ultrasound tests in indications for TB—and the wide variation in reporting. Abdominal ultrasound is often requested when the diagnosis is “failure to thrive,” with TB being one possible reason.

### Going where few dared

Vishesh decided it was time to grasp the nettle. “I think it’s as simple as nobody getting around to researching this. Consultants are busy and do not necessarily have the time to undertake all of the possible research questions that arise. I came across so much talk about it – it came up all the time, so I decided to go for it.”

He will study “the utility of abdominal ultrasound in the diagnosis of paediatric tuberculosis.” Because abdominal ultrasound can detect features of TB, it has become popular as a diagnostic tool, but discerning whether imaging findings such as enlarged lymph nodes or splenic abscesses are consistent with TB, remains an inexact science.

“We know there is a high likelihood that a scan displaying such features will be abdominal TB, but other diseases can also present this way. We only hope that our colleagues think and report about it in the same way, though at present it tends to be quite variable,” he admits. His research will be aimed at standardising reporting of ultrasound exams for abdominal TB (indeterminate, normal or likely to be TB), and clarifying the parameters for use of the investigation.

He will do this by reviewing hundreds of examination findings over five years (from January 2013 to December 2018) at Red Cross Children’s War Memorial Hospital, calculating the percentage of those considered “positive” for abdominal TB, and the range of diagnostic findings. Two paediatric radiologists will also review the positive findings to see that they agree on the features representing abdominal TB. Vishesh will then correlate this data with several clinical and biochemical parameters pertaining to a TB diagnosis.

He adds that patients infected with HIV will be more likely to disseminate infection, while also considering environmental factors like TB infection in family members.

Asked why the abdomen is a target for diagnosing TB when it normally affects the lungs, Vishesh says in South Africa’s high prevalence of HIV and malnutrition patients routinely present with TB disseminated to the abdomen or brain, TB meningitis being all too tragically common.

### Children innocent victims of TB

"The sad part about it, is that children are innocent bystanders in this epidemic. They are not responsible, it is in their environment. If they are exposed and don't get treated, it's not their fault. Their entire lives can be derailed by a single episode that is treated too late, resulting in advanced lung disease. It affects their growth and development, their ability to go to school, play with their friends and just generally to get on with their lives. Also, once their lungs are damaged, they're predisposed to different kinds of infections throughout their lives," he says. "We see young adults coughing up blood because they previously had TB and now have an aneurysm in their thorax – it is very sad," he adds.

### GP mother a big influence

Vishesh was born in the United Kingdom, with his parents immigrating to South Africa when he was two years old. He subsequently attended Westerford High School in Rondebosch, going on to study medicine at UCT, doing his internship at Tygerberg Academic Hospital and his Community Service in Kimberley. Going into medicine was almost a no-brainer. His mother, Geeta Dua, was a doctor at the Red Cross Children's War Memorial Hospital where she still does sessions.

Vishesh is keen on sub-specialising in cardio-thoracic or interventional imaging where minimally invasive techniques are used to perform complex procedures with significantly less morbidity. "It will require me going overseas to train at some high-volume centre, probably Australia, America or even Canada where my brother is working as a GP." Hopefully, his return to this country will further benefit his patients.



### Improving accuracy is resource-friendly

Besides the obvious patient benefits, the advantages for doctors, when Vishesh succeeds, are manifold. "If I can say that this test will be useful in certain well-defined clinical contexts that support the findings, there will be less pressure on resources all round, meaning that waiting times across disciplines will be reduced." Asked what clutch of interventions he thought would most affect the large

burden of TB across South Africa, Vishesh says that besides TB's social determinants, earlier diagnoses and appropriate interventions that can be followed through are of paramount importance. "One of the biggest problems is treatment for long periods. For various reasons, adherence falters and TB becomes drug resistant. This is a scenario where medicines are hard to come by and you can have 18 months of treatment, with no result."