

# Hyd institute designs new medical footwear

## FDDI working on footwear for leprosy, diabetic patients

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The Footwear Design and Development Institute (FDDI), Hyderabad, is quietly transforming the future of footwear, especially medical footwear. Merging innovation with social impact, the institute is working on footwear for leprosy patients and diabetic patients, among a range of other breakthroughs, including the use of plant-based leather for sustainability. The FDDI, which sits on a lush green 25-acre campus at Gachibowli, saw 108 students graduate at this convocation on Monday. Former students attending the ceremony spoke about using such as mango pulp, plant-based leather and mushrooms to ethically produce leather for shoes.

"Nearly 84 per cent of shoes today are non-leather, but there are still ways to produce leather ethically," said Masa Arvind Raj, a recent graduate. The institute

### BREAKTHROUGHS

**FDDI HYDERABAD** are pioneers in medical footwear design, focusing on leprosy and diabetic patients to enhance mobility and comfort.

**PARTNERSHIP WITH** the Lepra Society to develop specialised shoes for patients, addressing healthcare needs.

also boasts 3D printing technology, allowing students to rapidly prototype their designs.

It is the work on medical shoes that sets the institute apart. For leprosy patients, the ability to walk without pain is life-changing and the FDDI's work in this area impacts the lives of these patients. In partnership with the Lepra Society, students have developed shoes that help ease pain and reduce the risk of injury.

"India accounts for 50-60 per cent of global leprosy cases and the collaboration between FDDI and the Lepra Society is addressing an urgent

### EMPHASIS ON PLANT-BASED



Leather alternatives, utilising materials like mango pulp, ethical way of production.

need," said Bijin Samuel Roy, a recent graduate now working at Bewakoof, an online store based in Bengaluru. This research, featured in the International Journal of Scientific Research in Science and Technology (IJSRST), was part of a larger study on mobility and rehabilitation, under the guidance of the head of the footwear design department Prof. M. Abdul Rahuman. Another group of students designed shoes for diabetes patients to help prevent foot ulcers, a common and serious complication in India. This research was pub-

lished in the International Journal of Scientific Research in Science, Engineering and Technology (IJSRSET) in 2023 and authored by Anila Sasi, Navya Srikanth Reddy and Priyanka Rai.

Current students are involved in projects that aim to balance the functionality of diabetic shoes with aesthetics. Rajnandhini Thakur, a final-year student, explained how they're using materials like micro cellulose rubber (MCR) for its ability to absorb shock and reduce the risk of foot ulcers.

But it's not just about medical functionality. "We want these shoes to look good too, so people will like to wear them," she said. In another project, students created custom footwear for a man working at a petrol station who suffers from limb length discrepancy (LLD). After wearing the shoes for two weeks, he reported far greater comfort, which shows the practical impact of such projects.