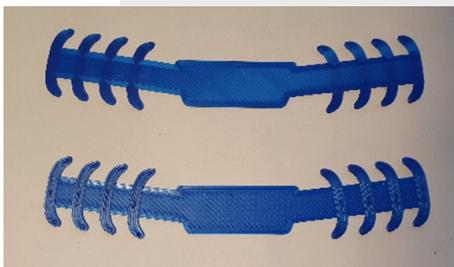# 3D PRINTED EAR SAVERS

Technical Architect David Collins 3D prints ear savers to help NHS staff and key workers.

"More and more people needed them so I kept printing them out"

David Collins, Technical Architect at Dunstan Thomas, has been using some of his time away from the office to help key workers on the fight against COVID-19 by printing out ear savers to reduce soreness and irritation around the ears, created by wearing protective masks.

These ear savers, pictured below, help the wearer to pin the face mask around the points, thus reducing strain on the skin on and around the ears. David said *"Although it's not a frontline medical device, these ear savers make wearing masks easier and generally more comfortable for doctors, nurses and other clinicians".*

David continued: *"It started when a friend of mine got in touch and mentioned that they were running low on these ear savers. He knew I had a 3D printer and asked if I could help. It was something I could easily do, so I began printing them out, and more and more people needed them so I kept printing them out".*

So far, David has printed about 160 ear savers, over 100 of which have been posted. The rest will be sent out imminently, as David continues to regularly print out more to meet incoming orders. The ear savers are made from a material called PLA, which is plastic made from renewable materials such as corn and starch.

The tool is printed out using a FDM 3D printer, which was been customised with a glass bed (depicted below) and upgraded firmware, taking roughly 75 minutes to print 7 ear savers. The process involves finding an appropriate design to get blueprints, which will tell the printer what to do. In the process of making these, David has tried a few different publically available designs; the first was sturdy but took a long time to print, so David opted for a more flexible, time efficient design.

Once completed, the ear savers are vacuum packed and sent out in envelopes, as demonstrated below. These can then be sent out at the start or end of the workday to be delivered to the recipient as soon as possible. David is not doing this for any commercial gain.

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