

# The COVID-19 response of the orthotic diabetes service in NHS Lanarkshire

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## Key words

- COVID 19
- Diabetes Foot Service
- Diabetes Podiatry
- Orthotics

## Article points

1. The response by the orthotic diabetes service due to the reduced service and challenges that COVID-19 spurred.
2. Changes in practice and new orthoses used due to an urgent need within the constraints of the pandemic.
3. Guidance released from International Working Group on the Diabetic Foot, FDUK and British Association of Prosthetists and Orthotists was used to support clinicians during the pandemic.
4. There were new technologies used during COVID-19, which now form part of current practice and extended clinician roles have been developed.

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**As a direct consequence of the COVID-19 pandemic, the orthotic outpatient service in NHS Lanarkshire, Scotland, was suspended on March 20, 2020. There was an urgent need to keep high risk patients safe and only attend acute sites if they needed urgent treatment. New practices had to be developed to manage patients safely while reducing infection risk and provide the best treatment possible within the constraints of the pandemic. The service had to adapt and change our prescriptive practice maintaining our clinical reasoning and practicing safe practice. There was also the move to new technologies to assess patients with virtual technology, such as video consultations and the orthotic service developed a formal approach to triaging if an urgent face to face appointment was required. These now form part of our current practice. Due to an urgent need, clinical practice has improved and developed, which can only improve the service provided clinicians that benefits our patients.**

**O**n March 20, 2020, the orthotic outpatient service in NHS Lanarkshire, Scotland, was suspended. In these unprecedented times, there was a steep learning curve as new practices had to be developed to manage patients safely, while reducing infection risk and provide the best treatment possible within the constraints of the pandemic.

Due to the pandemic, it had been discussed at the author's multidisciplinary meetings due to the uncertainty of COVID-19 there was a need to keep high risk patients safe and to only attend acute sites if they required urgent treatment and to reduce footfall in the acute sites. The diabetes podiatry and orthotic services continued on a reduced capacity for urgent cases where patients were risk stratified for their treatment needs where only most urgent cases were being seen.

There was the protection/shielding of vulnerable groups early on in the pandemic. Older people and those with significant comorbidities were seen to be

at risk of poorer outcomes of COVID-19 infection. Patients were also understandably reluctant to attend hospital due to the unknown infection risk.

In NHS Lanarkshire, the two diabetes specialist orthotists were initially redeployed to diabetes podiatry to assist podiatry due to the uncertainty of staff absences due to staff shielding/COVID infection and staff self-isolation. Allied health professionals were also being redeployed to high pressure areas and wards, so it was the aim to assist podiatry in staff absences.

Two of the orthotists were also trained in phlebotomy in case extra staff were required at diabetes podiatry or on the wards for phlebotomy due to staff shortages. This included formal face-to-face training and supervised practice with the phlebotomy nursing staff.

The redeployed orthotist's role was to attend the wards with the podiatrists for inpatients, supporting the podiatrist in clinic for outpatients in a podiatry assistant role and tasks such as triaging telephone

calls from patients and community podiatrists to assess priority with risk stratification and if face to face or 'near me' appointments were required. Near Me is a web-based platform that offers video call access for patients to NHS services and runs on the Attend Anywhere platform.

As a multidisciplinary team and orthotists, we had to adapt our previous practice to this reduced service while still maintaining safe practice. At the start of the pandemic, new guidance was released from the International Working Group of the Diabetic Foot (IWGDF) to try to keep patients with diabetic foot disease-free from hospital, which involved collaborating abilities and expertise to provide the best care possible for patients with diabetic foot disease (IWGDF, 2019).

On the March 23, 2020 guidance was released from Foot in Diabetes UK (FDUK). These were provided to support clinicians during the COVID-19 pandemic in line with current practice. The guidance was to assist the identification of and management of people with critical/limb-threatening ischaemia or infection (FDUK, 2020).

When the outpatient clinics at the start of the pandemic were suspended, we went through our clinic lists of high-risk patients that needed to be monitored and telephoned these patients for remote reviews. Patients were advised on self management to monitor their feet if there was any new ulceration/rubbing from their footwear/insoles, increased swelling/temperature increase/change in foot shape or pain and advised to contact the department if required for advice then triaged if an urgent face to face appointment was required.

With regards to patients in total contact casts for charcot neuroarthropathy, there was the uncertainty of using cast saws due to the aerosol effect and the move to reduce visits to the acute sites, these patients that were in casts were transferred to knee-high removable walkers. They were advised on self management and if possible to purchase infrared thermometers themselves to check their temperature differences at home and this was reviewed virtually with telephone consultations. They were also given advice on monitoring if there was any foot/ankle shape change/swelling increase.

Orthotic manufacturing facilities also closed down at this time which meant that we could not manufacture anything custom made/bespoke. We

had to adapt and change our prescriptive practice maintaining our clinical reasoning and keeping safe practice.

We started using alternative stock orthoses. In particular, we started prescribing the VACOCast Diabetic Boot (OPED) knee-high removable walker for the treatment of Charcot neuroarthropathy where our previous practice was using the Aircast XP Diabetic Walker (DJO Global) with a custom total contact insole. This was due to the bead technology of the VACOCast Diabetic, which conforms to the plantar aspect of the foot and ankle while still applying the principles of load sharing/immobilisation, which is evidence-based for clinical effectiveness. The VACOCast Diabetic was also used for plantar ulceration in place of our previous practice, which was a load redistribution cast or knee-high removable walker with a total contact insole.

Orthotics supplied these stock items to diabetes podiatry to have at their clinics if they were required as there was also the added difficulty that we were advised at that time not to work cross site of the three acute sites in NHS Lanarkshire to avoid cross infection in different staff teams. The two diabetes orthotists had previously worked cross site at NHS Lanarkshire's three sites and this was no longer advised, presenting the added difficulty of no diabetes orthotist at one of the sites.

There was the uncertainty if the orthotic suppliers would cease operations and no longer supply stock items and if the UK distributors would not be able to obtain stock items from abroad. To try and pre-empt this, 3 months-worth of stock items were ordered to ensure there was stock available if required. These stock items were supplied to the diabetes podiatry clinics on the three acute sites in NHS Lanarkshire. This was for the prevention of cross-site infection, as cross-site working was not recommended to avoid cross infection in different staff teams, which also had the added difficulty of where the two diabetes orthotists who previously covered the three acute sites, there was then one acute site that did not have a diabetes orthotist attending.

The stock items ordered included knee-high diabetic removable walkers (Aircast XP Diabetic Walker) for charcot neuroarthropathy and offloading, PRAFOs (Anatomical Concepts)

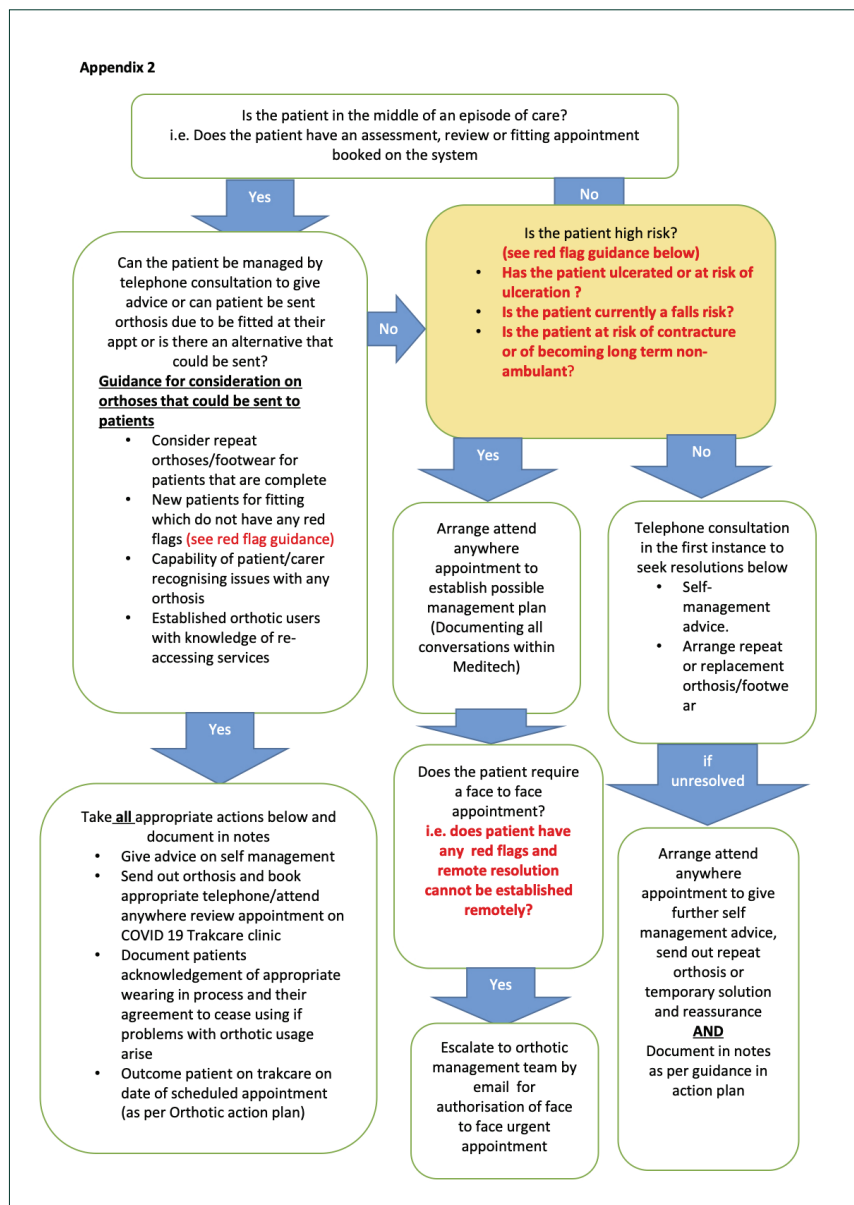


Figure 1. Clinical triage process for current orthotic patient caseload during COVID-19.

and Soft Pro boots (Ossur) for heel relief. Darco All Purpose and MedSurg shoes (both Algeos; which are flat and rockered shoes), hindfoot relief and forefoot relief shoes, peg assist insoles for Darco shoes for deflective treatment and Diabetic Interpod insoles (Algeos) for shock absorbency and cushioning.

Items were posted to patients as there was no outpatient clinics, such as temporary footwear for swelling/dressings and stock diabetic insoles to provide cushioning/shock absorbency. These was reviewed remotely by telephone and near me video consultations.

Virtual technology was used for multidisciplinary Microsoft Teams meetings, which were previously face-to-face meetings to discuss patient cases/treatment plans, keep up-to-date and also importantly, peer support. Initially, due to not being able to work cross site and social distancing, we held daily Microsoft Teams meetings to check in with each other and any updates/concerns as we were unable to meet face to face.

In April 2020, the orthotic service in NHS Lanarkshire developed a clinical triage process for our current orthotic caseload. This was a more formal approach to triaging and virtual consultations.

This paper gave guidance on the clinical triage and prioritisation of existing patients to promote self-management during a time when out-patient clinics have ceased due to COVID-19. It was important that the orthotic service delivered a person-centred and structured approach to help patients where physically possible.

The temporary cessation of the out-patient services required the orthotic service to take a pragmatic approach in light of patients who cannot attend clinics but still require orthotic intervention. An approach needed to be adopted to allow patients to stay safe while in self-isolation and mitigate any potential risks (e.g. falls or ulceration) due to their current orthotic needs (Figure 1).

On the April 9, 2020, the British Association of Prosthetists and Orthotists (BAPO) published guidelines for Virtual Patient Assessment and these were referred to for our virtual consultations (BAPO, 2020).

This included telephone assessments/review and near me appointments where we could assess any changes in deformity/pain and any new pressure areas/ulceration to then plan how to manage these patients effectively.

Following the current caseload being managed, new referrals were triaged to the risk pathway and managed remotely where possible and triaged to a waiting list to be seen when out patients resumed based on priority. When it was possible to start seeing patients in a home setting but outpatient services had not resumed, we started domiciliary visits with the required personal protective equipment (PPE).

We found that during lockdown, there was

an initial reduction in the numbers of patients presenting during the first lockdown with active ulceration and Charcot neuroarthropathy and it was seen that ulcers actually healed in the first lockdown, most likely due to the fact that they were at home and not on their feet as much, so in effect doing their own offloading. However, there feels to be a significant increase in the numbers of patients now presenting with worsening Charcot neuroarthropathy and ulcers, who also appear to be less physically fit. This has put extra demand on our service.

During these unprecedented times, we had a steep learning curve where we had to adapt/change our previous practice while maintain safe practice for our patients and using our orthotic principles/diabetes management and preventative measures. It was a very challenging time for us, however, we developed new skills and competencies and expanded our roles.

The pandemic forced us to practice with new technologies, which now form part of our current practice. We now use the virtual technology of near me and telephone consultations. There has been a move to a combined approach of Microsoft Teams and face-to-face meetings where there is now not the requirement to travel to

meetings with easier access for everyone. Training and conferences also moved online during the pandemic which has continued to an extent which is more easily accessible.

We have developed new skills/competencies, such as phlebotomy and some orthotists have since been trained as vaccinators and assessors in the ongoing vaccination programme.

Our prescriptive practise has evolved using different orthoses we had not used previously, such as implementing the use of the VACOCast Diabetic walker combined with our previous practices increasing our treatment options.

This was a challenging time for everyone, however, due to an urgent need our clinical practice has improved and developed and this can only improve us as clinicians and as a department that benefits our patient care. ■

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