Diabetic and High Risk Foot Service (DHRFS)

September 2021

Programme

- Access criteria for DHRFS
- Benefits of early referral and why it is important in diabetic foot – case studies
- Brief review of outcome data
  - Podiatric Surgery; what's on offer
  - Training Sessions available for primary care and community nursing and nursing homes.

Aims and objectives

Aims are;
To increase appropriate referrals to diabetic and high risk foot service

Objectives

- Reducing waiting times for access
- Reduce the impact of diabetic foot disease on the Northamptonshire diabetes population

Introduction

We are a team of podiatrists providing assessment, diagnosis and treatment for predominantly high risk and diabetes patients who meet the criteria for our service and we work closely with secondary care specialists in a multi-disciplinary team

- diabetes
- vascular surgery
- Trauma and Orthopaedics (for complex diabetic foot)
- rheumatology,
- NMDT (community diabetes team) Podiatry facilitator – Andy Hornby
- First Contact Practitioners (Podiatrist)
- Primary care and community care colleagues

Core Information 3 – The Team

The team has a robust structure consisting of

- trained clinical assistants,
- assistant practitioners,
- general practice/community podiatrists,
- podiatrists with therapeutic footwear prescription qualifications,
- PODSIs (podiatrists with a special interest in diabetic foot disease)who have all completed the professionally recognised diabetic foot module,
- Advanced Clinical podiatrists who work in the secondary care multidisciplinary Team (MDT)
- Podiatry Clinical facilitator

Core Information 2 - Access

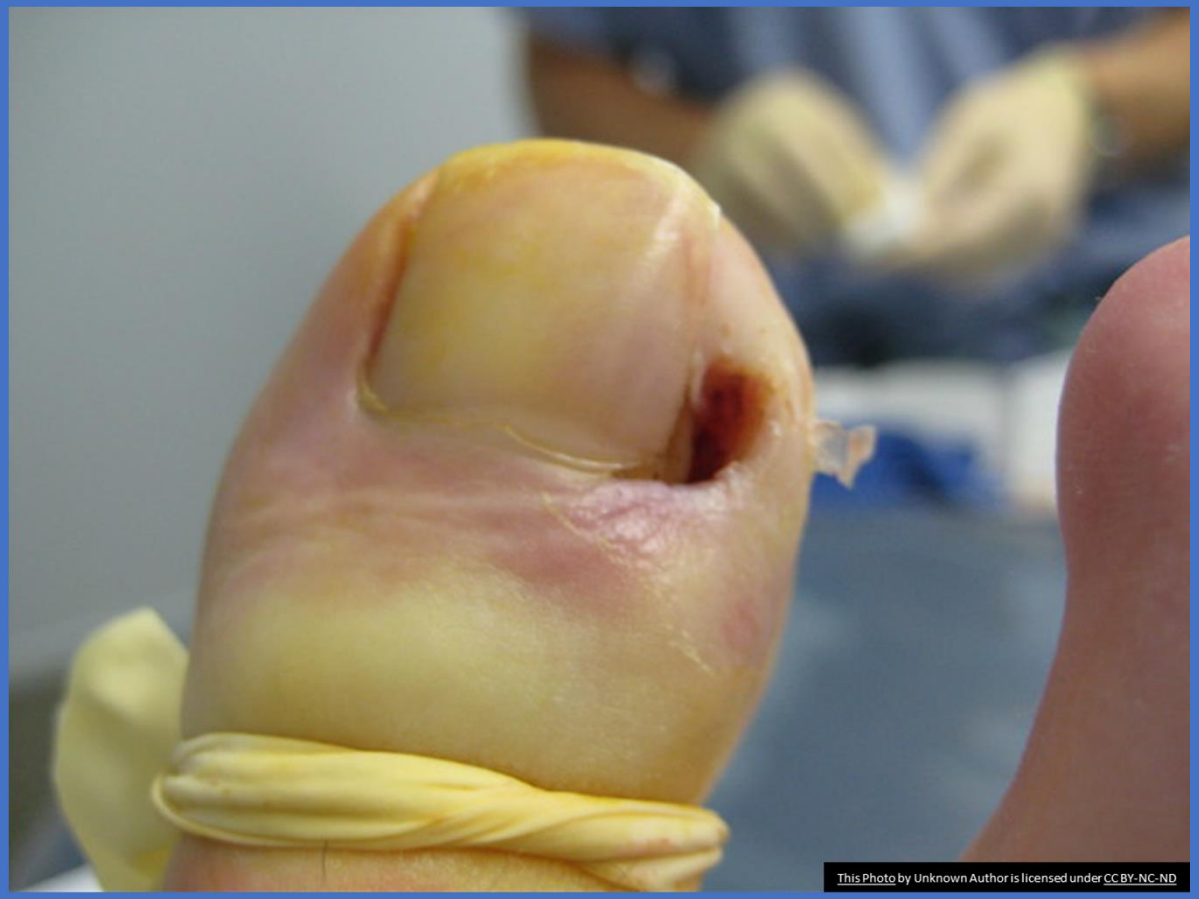
- People who can access the service are people with a complex medical history or a long term condition that directly affects their foot health, plus poor circulation or reduced sensation in their feet that impairs the healing of wounds.
- The service focuses on those patients at risk of or with active foot ulceration and deformity caused by various long term conditions such as diabetes, inflammatory arthritis, neurological and connective tissue disorders
- We also support others with high risk foot conditions, who are vulnerable, as well as children and young people under 18 years of age.
- We offer advice on ways that people can manage their own foot care, choose footwear, and information on other support available.

Core Information – What We Provide

We assess and treat all eligible applicants and offer ongoing care to those at the highest risk with an associated long term condition. We offer

- wound care (24-48hr working hours access for urgent diabetic foot*)
- diabetic foot protection
- short courses of treatment (SCOT)
  - orthotic provision (for eligible groups eg a paediatric MSK service to under eighteens)
  - and nail surgery (for eligible groups).
- We work closely with the local school of podiatry proving educational placements for podiatry students.
- Podiatry clinical facilitator* - advice line and training packages

Nail Surgery is a core qualification



Sites where DHRFS is provided

- Diabetes and High Risk Foot Service - Battle House 24-48hrs access MDFT*
- Diabetes and High Risk Foot Service - Brackley Health Centre
- Diabetes and High Risk Foot Service - Brook Health Centre
- Diabetes and High Risk Foot Service - Danetre Hospital*
- Diabetes and High Risk Foot Service - Isebrook Hospital*
- Diabetes and High Risk Foot Service - Kettering General Hospital 24-48hrs access MDFT*
- Diabetes and High Risk Foot Service - Rectory Road Clinic
- Diabetes and High Risk Foot Service - St James Clinic
- Diabetes and High Risk Foot Service - St Mary's Hospital*
- Diabetes and High Risk Foot Service - Weston Favell Health Centre
- Diabetes and High Risk Foot Service - Willowbrook Health Centre

24-48hour(working hours) access for urgent diabetic foot

Battle House – 01604-545422

Kettering General Hospital- 01536 492207

Andy Hornby – podiatry clinical facilitator advice line
Andy Hornby 07860 957843

24-48hour(working hours) access for urgent diabetic foot

All diabetic acute/urgent foot referrals can now be e-mailed directly to :

- urgentdiabeticfootnorth@nhft.nhs.uk
  (Kettering, Corby, Wellingborough, Rushden, etc.)

- urgentdiabeticfootsouth@nhft.nhs.uk
  (Northampton central and surrounding areas, Daventry, Towcester, Brackley, etc.)

Urgent diabetic foot versus community access

Please note that the following constitutes an “acute/urgent” referral:

- Diabetic foot ulcer,
- Puncture wound in diabetes,
- Infection or inflammation in diabetes,
- Critical limb ischaemia or refer direct to A&E,
- Dry Gangrene (wet gangrene refer direct to A&E)
- suspected Charcot neuroarthropathy

ALL other referrals i.e. All non-urgent diabetic referrals and all non-diabetic referrals that meet the services access criteria should be e-mailed to:
PatientContactCentre@nhft.nhs.uk

Self referral

- ‘nhft podiatry’ search term
- www.nhft.nhs.uk download pdf
- On-line; Once submitted, your form will then be assessed by a podiatrist and you will be contacted by the Patient Contact Centre with the outcome in due course.
- Email ;for information on registering yourself
- email northants.pcc@nhs.net
- phone 03305 556789.

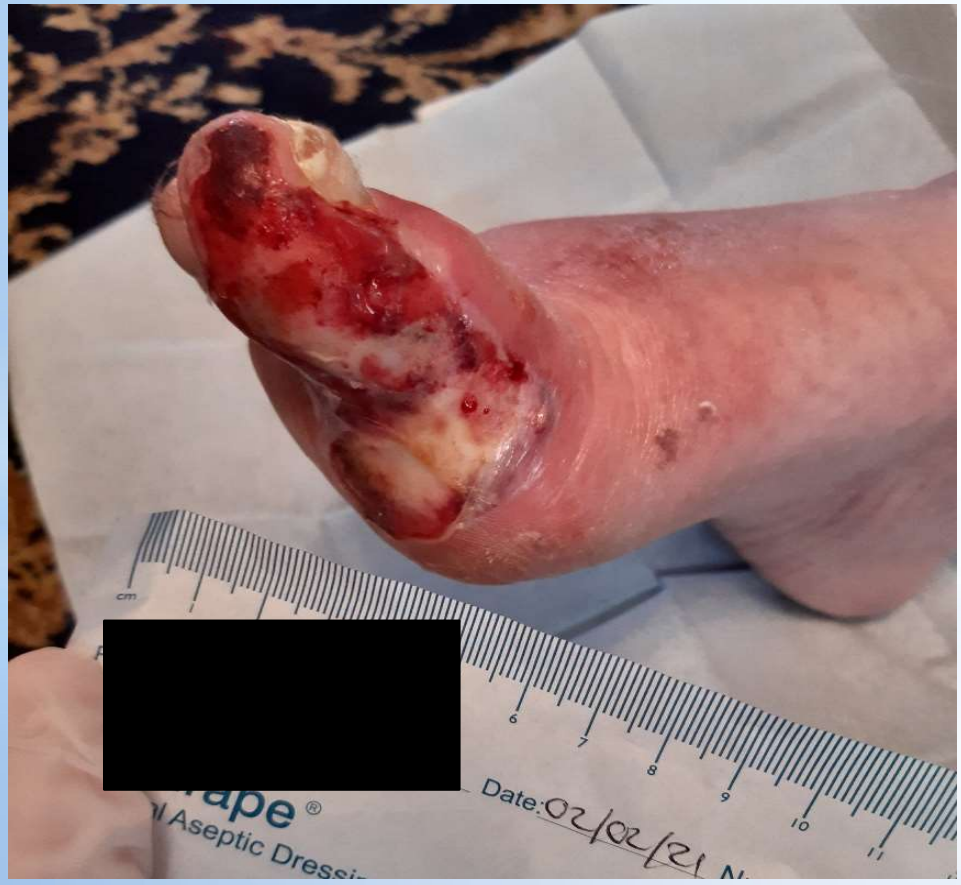
Case Study 1

92 year old male
AF (warfarin)
IHD – MI and coronary stenting
Bisoprolol
Furosemide
Atorvastatin
Lansoprazole
Ex-smoker (50 yrs)

Mobile in home – has stairlift

22 Jan 2021 saw private podiatrist who described an ischaemic ulcer at the tip of his big toe and asked GP to prescribe abx.

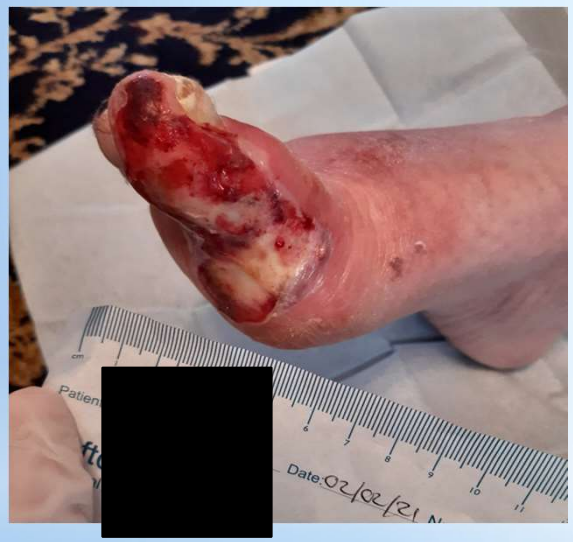
- Seen by District Nurses 2nd February
- Referred to DHRFS 22nd February (1month duration)
- DHRFS Triaged as urgent community as Non DM
- And seen 09.03.2021 (14 days!)

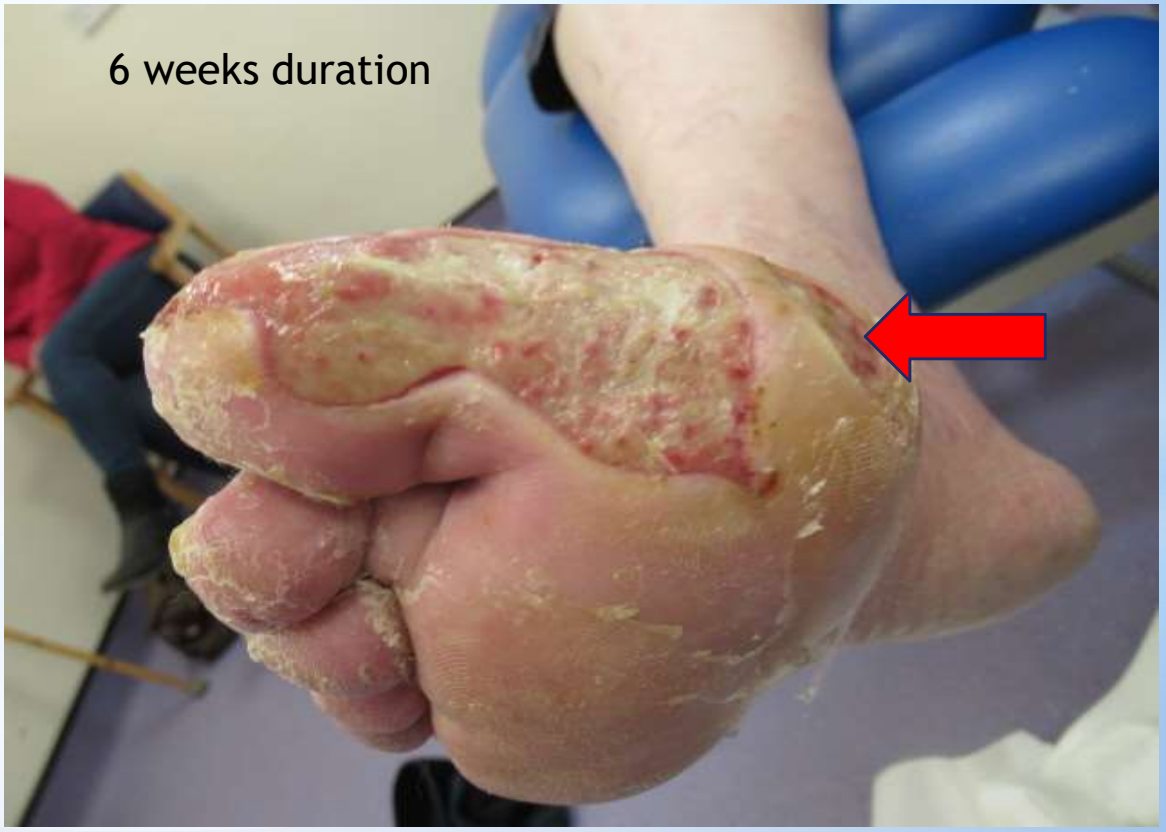


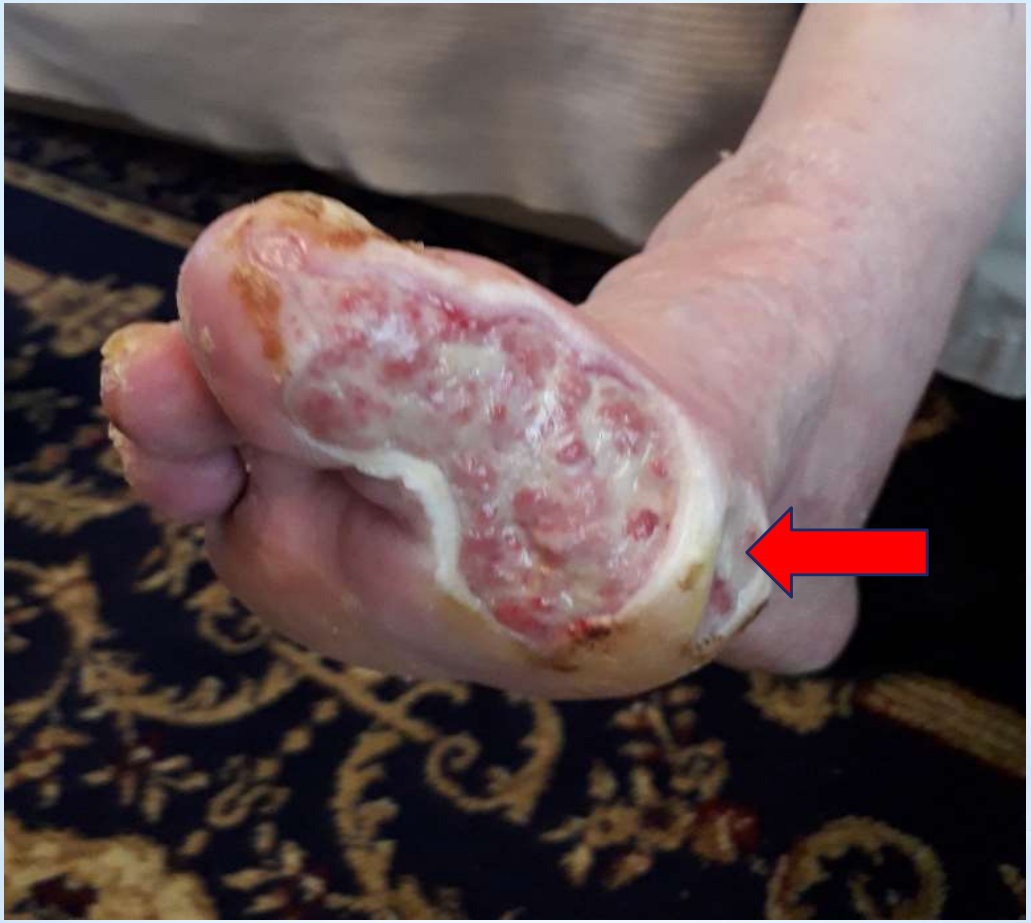
- Seen by Vascular 02.03.2021 – GP referral due to deterioration
- Arterial duplex confirms widely patent vessels throughout

  (albeit calcified);Triphasic flow at the ankle in both AT and PT

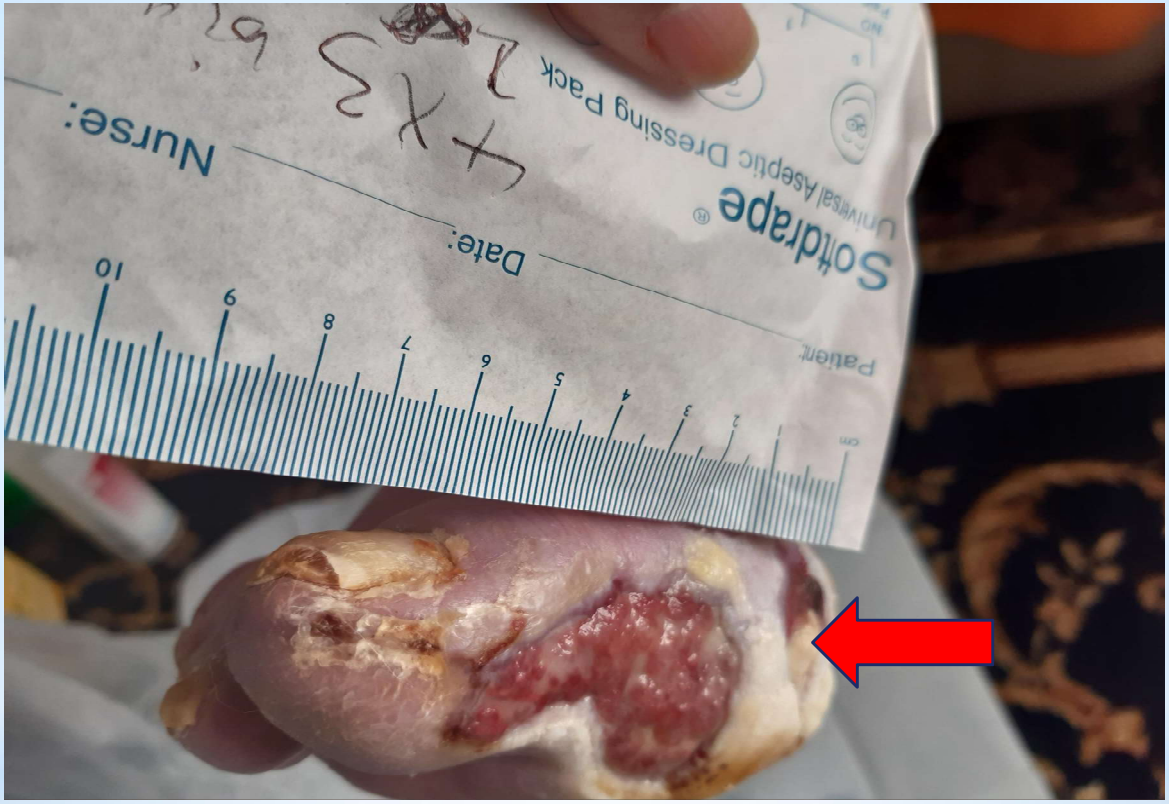
- DHRFS Community Appointment 9th March (RTT 14 days)
- Vascular review planned 16 March
- Approx 15 March GP prescribed flucloxacillin 500mg qds



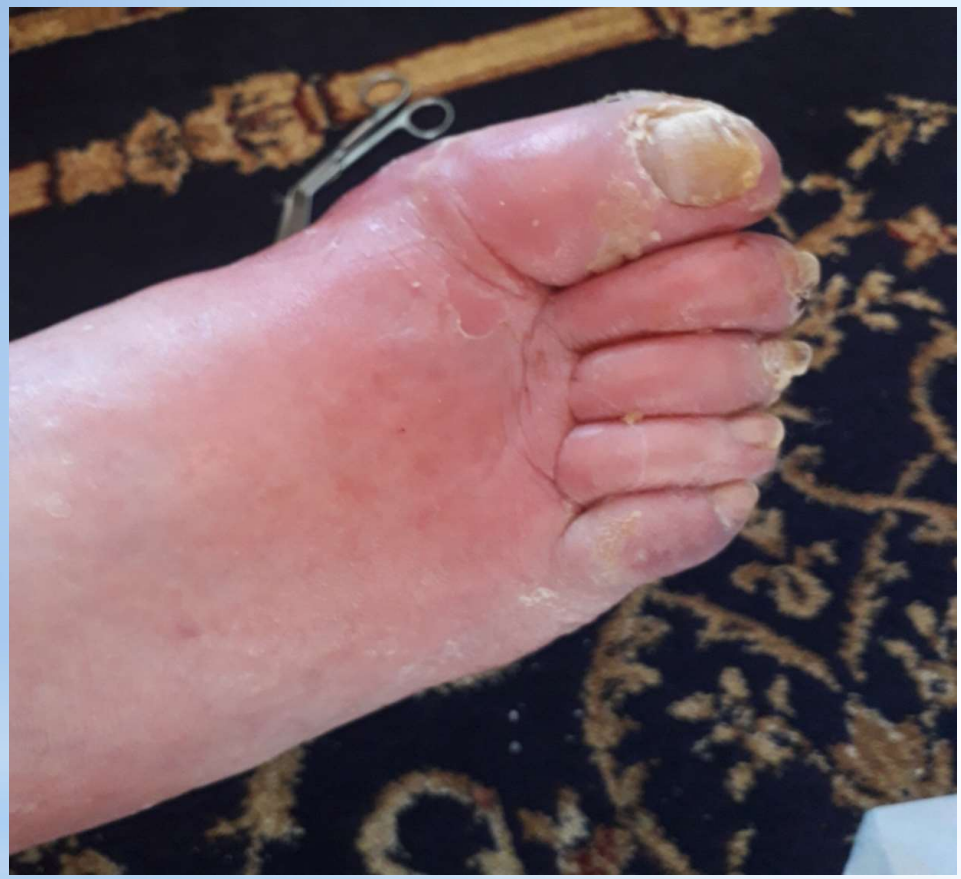


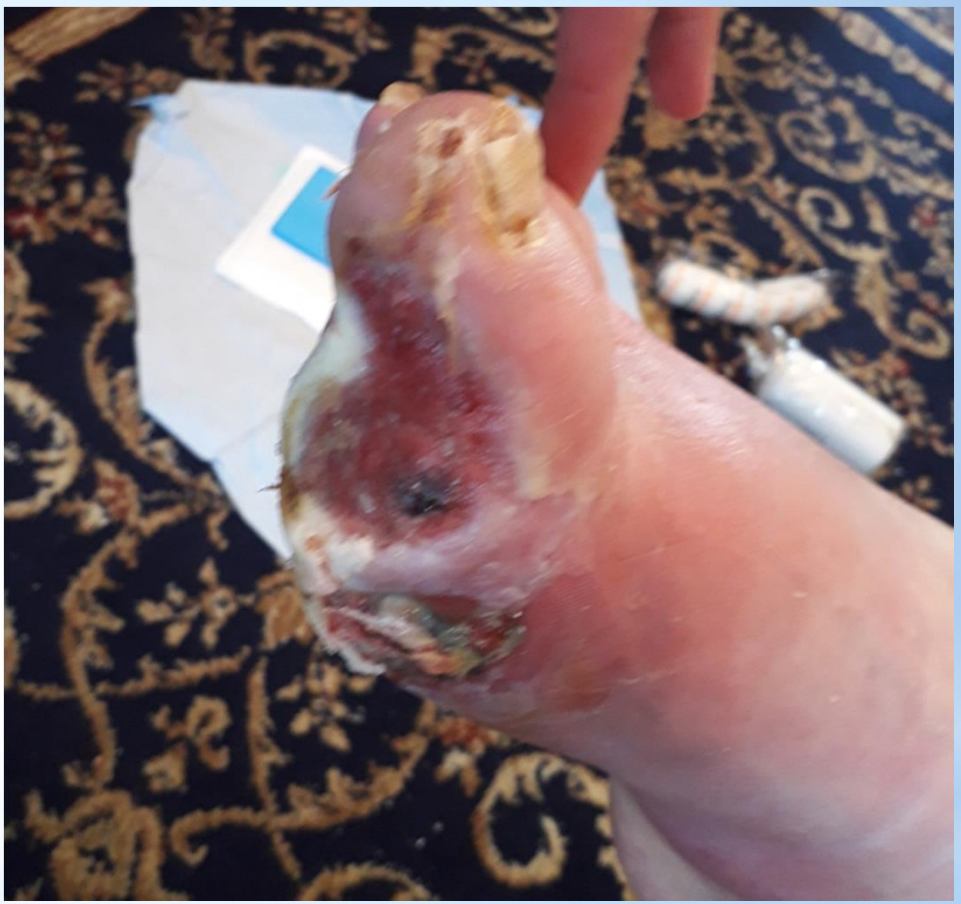


19th March 2021 (2month duration)



19th April 2021 (3 month duration)





23rd April 2021

ADMITTED NGH 27/04/2021
Strep Bacteraemia, admitted with sepsis.

WOUND ; RIGHT 1st MTPJ and base of hallux; pus filled tracking to mid-foot, draining on digital pressure. No Pain!

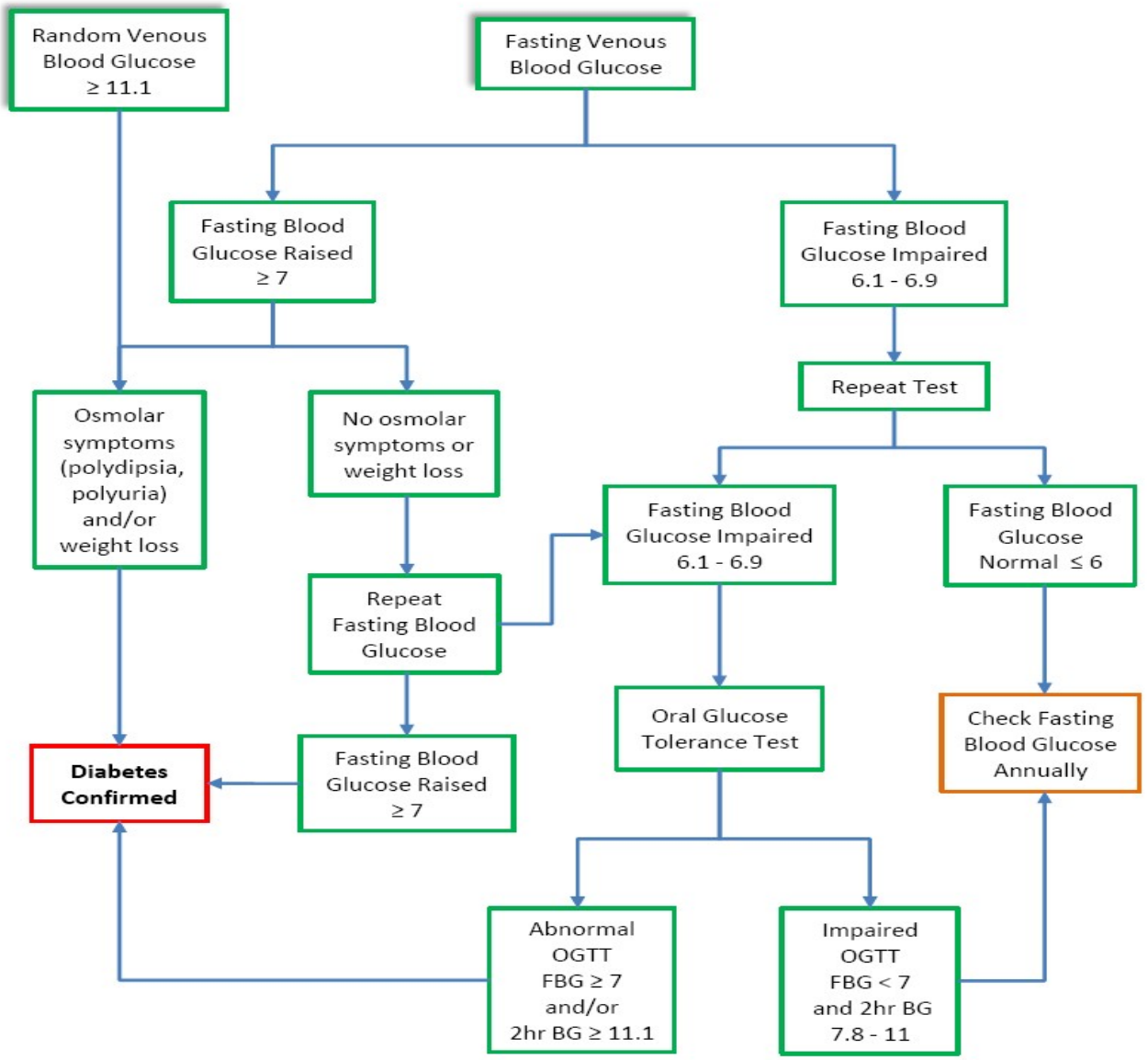
VASCULAR ; Plan to amputate the hallux. No vascular intervention required as pulses palpable.

INFECTION; MRI requested. Patient is on Tazocin and Flucloxacillin; DFT stopped the Flucloxacillin.

METABOLIC; Patient diagnosed with diabetes; HbA1c pre diabetes range – 46
FBS 7.7mmol/mol
Patient to be treated as DM with regular BMs (at least once a day).

Glucose - (across all investigations) [mmol/L]		
Units: mmol/L		
Sample Received Date	**Sample ID**	**Value**
24 Apr 2021 07:49:00	BB705436E	*7.0
23 Apr 2021 19:14:00	BB703577P	*10.1
22 Feb 2021 20:34:00	BB329985F	*6.0
12 Dec 2019 15:19:00	BB969834C	*6.7
07 Apr 2019 19:30:00	BB406195P	*8.1
11 Sep 2014 08:21:00	BB116611P	7.2
09 Nov 2010 14:10:00	BB463701V	5.2
09 Nov 2010 08:48:00	BB470137D	6.6
08 Nov 2010 15:01:00	BB467548S	8.6

DIAGNOSTIC ALGORITHMN



Radiology Examination 912723623: 28 Apr 2021 16:33

MRI Foot Rt

MRI Foot Rt

[redacted]

Clinical Information: No contra indications;Patient admitted with right hallux ulcer and sepsis. Right foot erythematous and oedematous. Raised inflammatory markers. ?suspicious for collection ?evidence of osteomyelitis;Patient is not a diabetic;No Renal impairment;;

Report:

Compared with previous plain radiograph imaging.

1. Extensive soft tissue inflammation and fluid identified at the first MTP joint extending from the skin layer to the joint.
2. Large irregular areas of bone at the first MTP joint (metatarsal head and proximal phalanx) consistent with acute osteomyelitis and septic arthritis.
3. Acute bone oedema also identified at the great toe distal phalanx and interphalangeal joint which may represent infection given the clinical context.
4. Presumed skin ulcer identified at the plantar medial aspect of first MTP joint.

Inflammation also extends to adjacent flexor hallucis tendon.

Moderate increase in signal identified in the foot musculature.

5. Minor degenerative changes identified in the rest of the foot with erosions identified in the mid foot.
6. No other areas of osteomyelitis or inflammation identified.

[redacted]

Acute osteomyelitis & septic arthritis

30/04/21

- Pt referred to orthopaedics by Vascular team due to MRI findings
- Multiple bone fragments found and rough met head. White particles consistent with appearance of gouty tophi found (gout diagnosed 2013)
- Fragments sent for M,C & S
- Plan agreed with orthopaedic team- continue with IV Abx, mainly rest but can weight bear for transfers as now suspected Infected gout & OM


30th April 2021

Ward visit 4/05/21

- Seen with Orthopaedic consultant - Microscopy confirm Monosodium crystals. Bloods show elevated urate levels. Cellulitis responding well to Abx.
- Wound granulating rapidly but rough bone still palpable.
- Orthopod advised no surgical intervention and treat with Abx
- Pt systemically deteriorating and other source of infection to be looked for (treated with Vancomycin and Meropenem and responded).

Urate - (across all investigations) [umol/L]

Reference range: (208 - 506) Units: umol/L

Sample Received Date	Sample ID	Value	Range
04 May 2021 12:50:00	BB726247G	*693	(200 - 430)
01 May 2021 06:30:00	BB739167Q	*567	(200 - 430)
25 Nov 2014 11:43:00	BB937926K	*647	(210 - 510)
05 Feb 2013 17:00:00	BB203164X	*697	(208 - 506)

Sample MM739914T (TISSUE) Collected 30 Apr 2021 13:30 Received 30 Apr 2021 16:34

Gram and routine culture

Specimen Type Bone RIGHT FOOT

Routine Culture

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Routine Culture
  Arcanobacterium haemolyticum ISOLATED
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Synovial Crystal Investigation

Specimen Type Bone RIGHT FOOT

Synovial Crystal Investigation

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Synovial Crystal Investigation
  Monosodium Urate crystals SEEN
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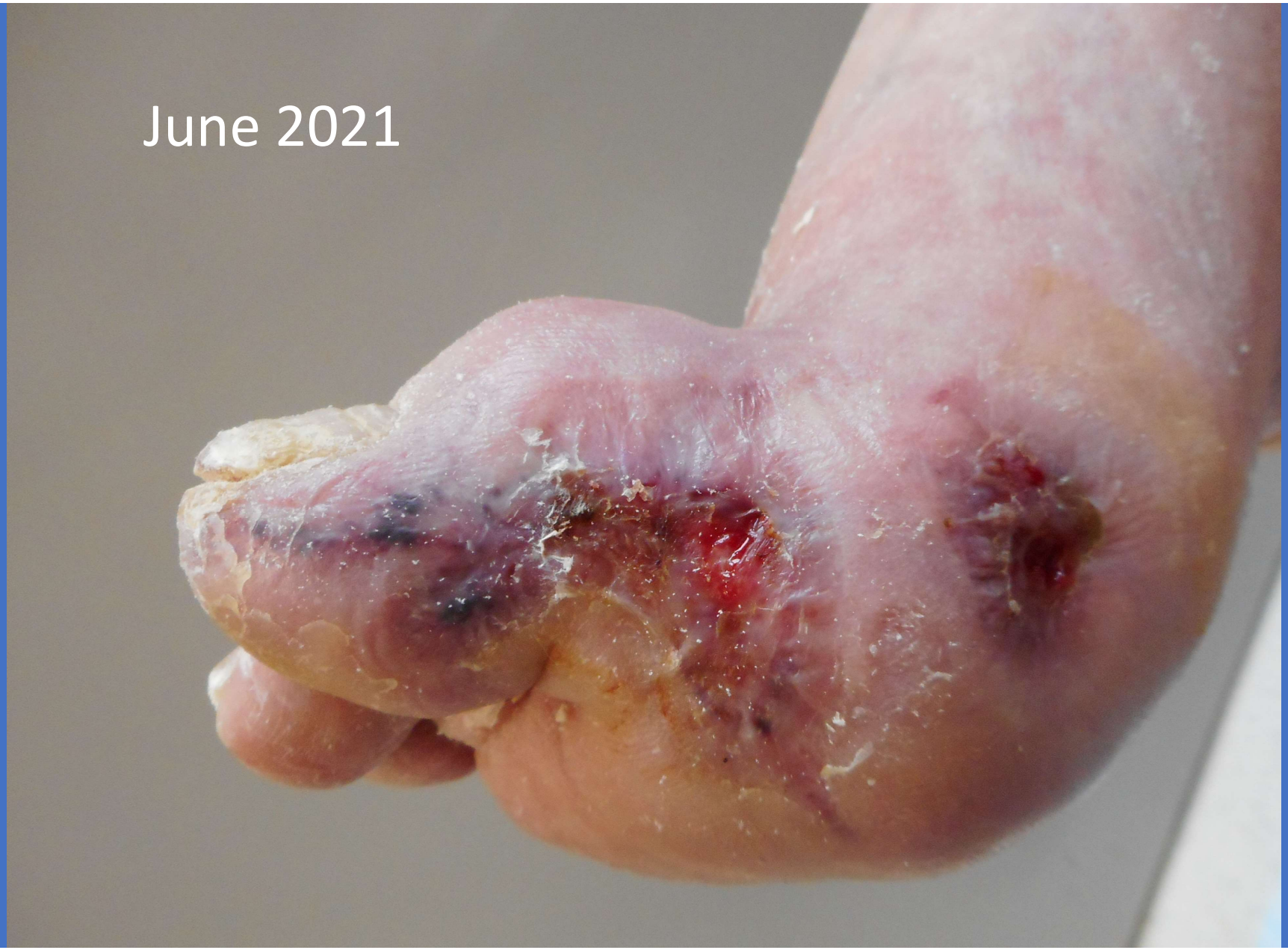
End of May discharged to Corby Community Hospital and followed up by diabetic foot outreach - doxycycline 100mg OD for 6 weeks

End of June 2021 patient at home with ongoing DN care


June 2021

Case Study 2

Case study 2 – lessons from COVID19

- 76 year old female with T2DM
- Regular ‘in remission’/PodSi appointments following several earlier episodes of diabetic foot ulcers including amputation of toe in 2011

Medication

Atorvastatin 40mg tablets take one daily

Gliclazide 80mg tablets take one daily

Omeprazole 20mg gastro-resistant capsules take one daily

Paroxetine 30mg tablets TAKE ONE DAILY

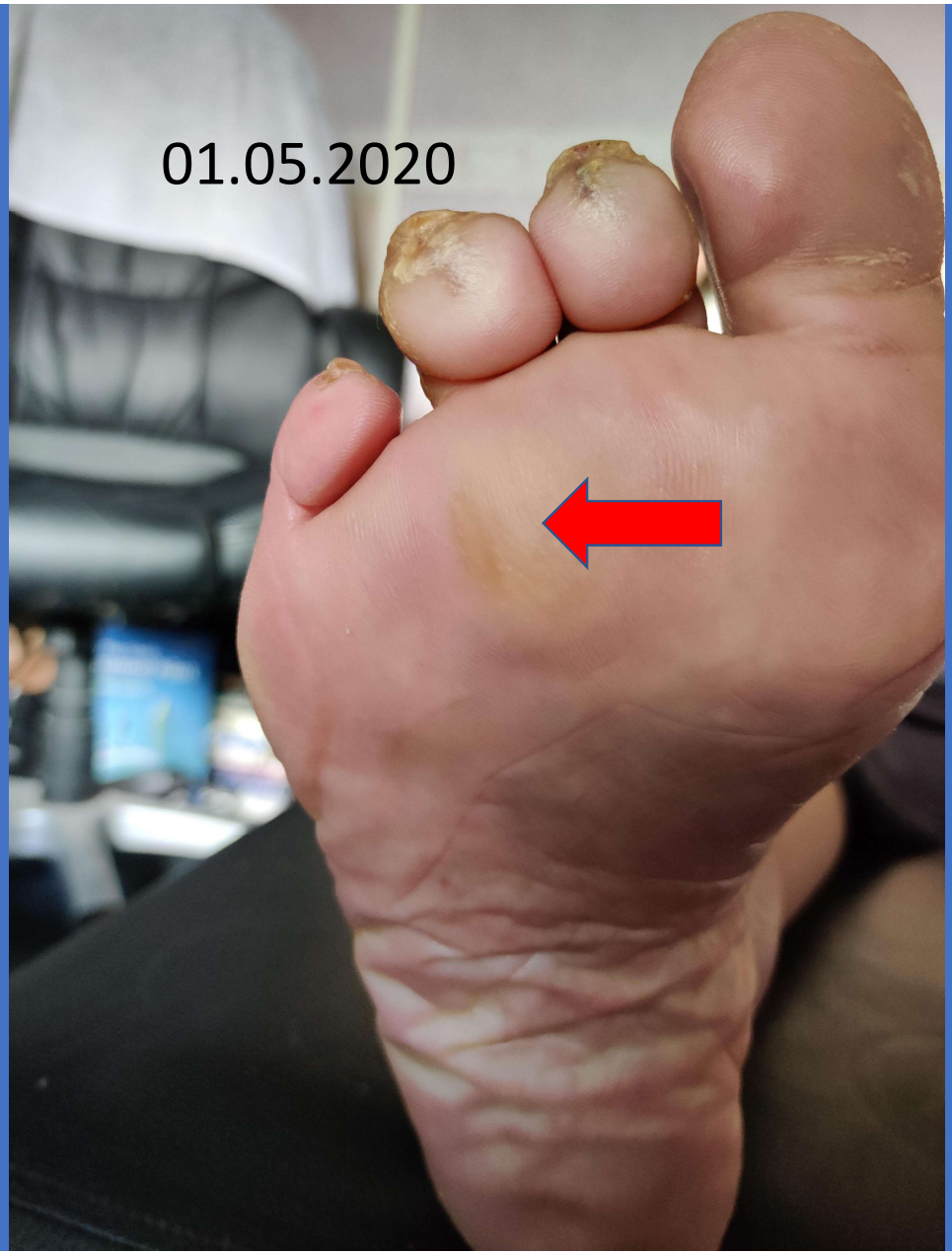
Propranolol 160mg modified-release capsules TAKE ONE DAILY

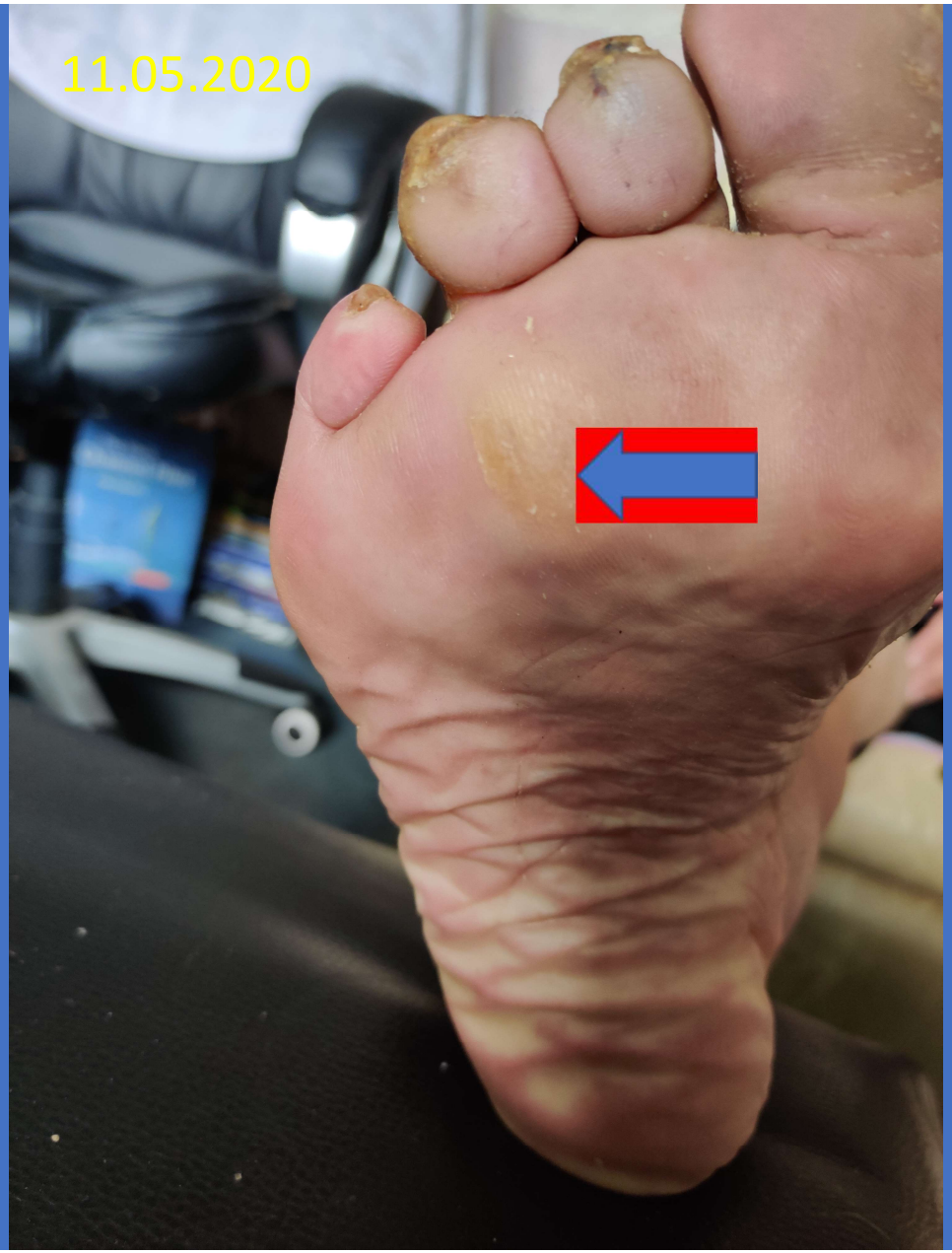
Ramipril 10mg capsules take one daily

Sukkarto SR 1000mg tablets take two tablets with evening meal
Tramadol 50mg capsules take one twice daily

Case study 2

- 23.03.2020 COVID19 Lockdown – suspended DFPP. Patient initiated follow-up commenced (PIFU)
- 22.04.2020 Patient raised concerns over sore foot and was given advice on self management of hard skin
- Over the next month there were further telephone calls and f2f appts offered but patient could not access the service due to buses etc

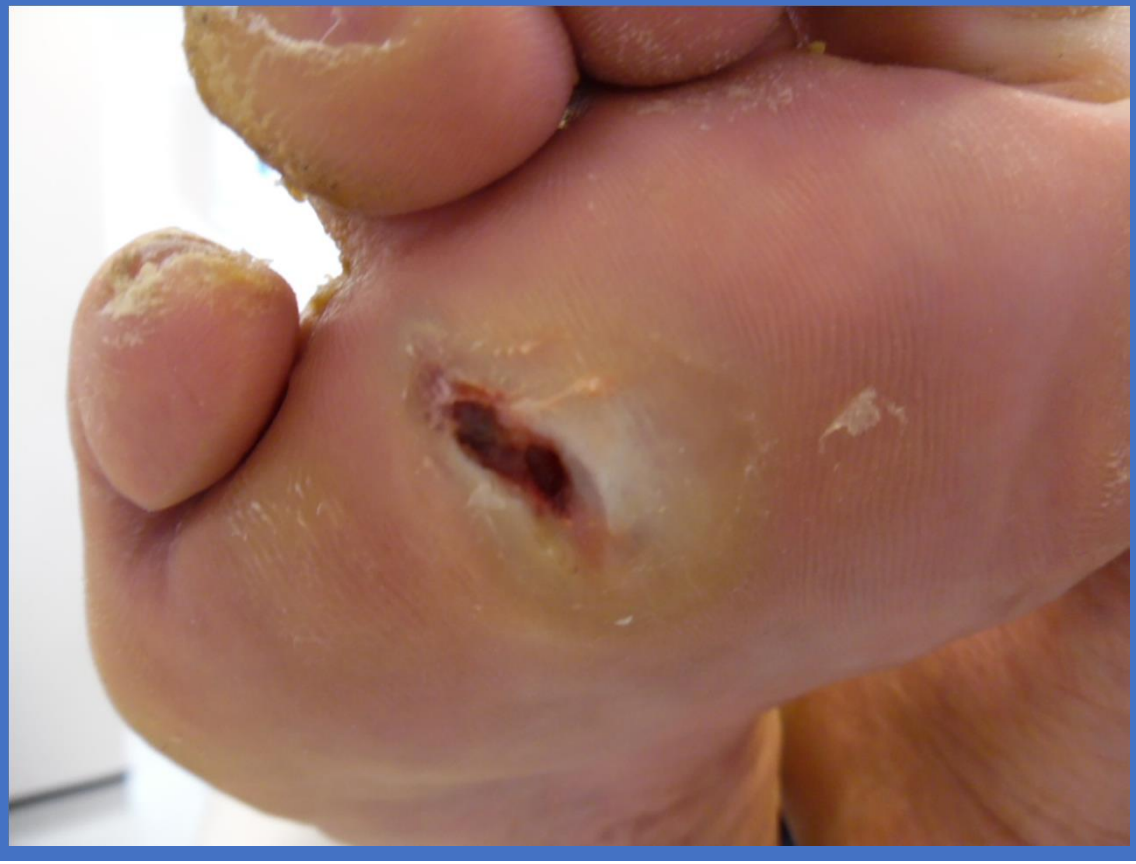

01.05.2020

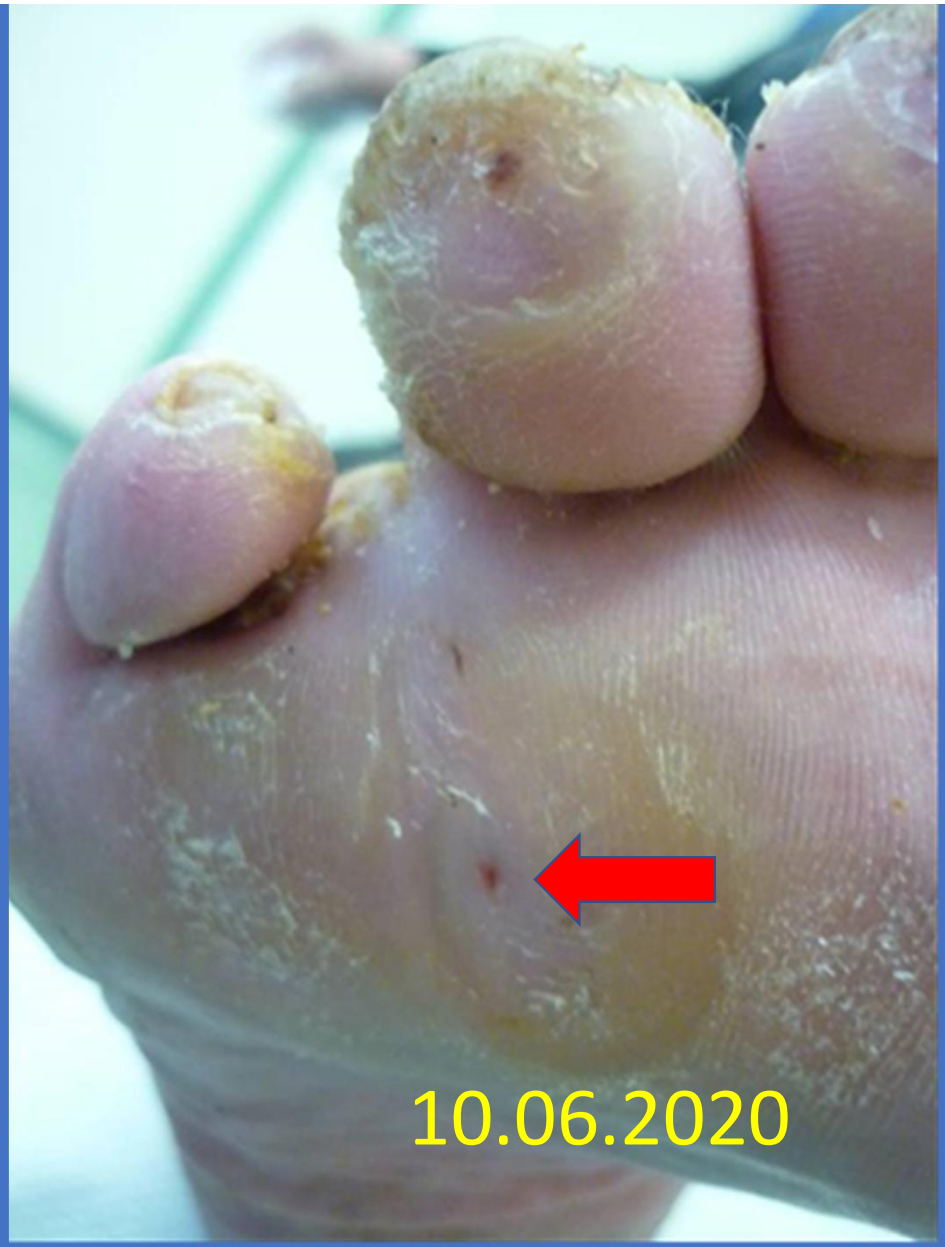

11.05.2020

Case study 2

22.05.2020 Patient has developed ulceration and infection

Antibiotics and offloading provided




10.06.2020

Summary

- ‘Think Glucose ‘ when faced with a challenging foot wound; diabetes will complicate all wound healing and affect a patient’s ability to fight infection even if it is not the primary cause of a foot ulcer
- Early intervention can prevent some ulcers and can prevent deterioration in almost all ulcers
- If in doubt please contact us or NMDT /consultant connect hotline for advice
- Diabetic foot is complex and requires a multi-disciplinary team for best results

Podiatric Surgery

Referral by direct letter or Choose and book

Podiatric Surgery

Podiatric Surgery take referrals for any foot and/or ankle condition which is intractable or recalcitrant despite conservative treatment eg physio or podiatry, and may warrant a surgical opinion.

We are an adult only service.

This can include any degenerative or inflammatory joint process (eg we take both GP and rheumatology referrals for reconstructive joint procedures in end stage rheumatoid arthritis).

Nerve entrapments eg tarsal tunnel syndrome, peroneal entrapment

Common foot pathologies such as hallux valgus, mortons neuroma, toe deformities

Tendinopathies such as tib post dysfunction, Achilles tendinopathy that have failed standard treatment. We perform procedures such as flatfoot reconstruction and lateral ankle stabilisation etc.

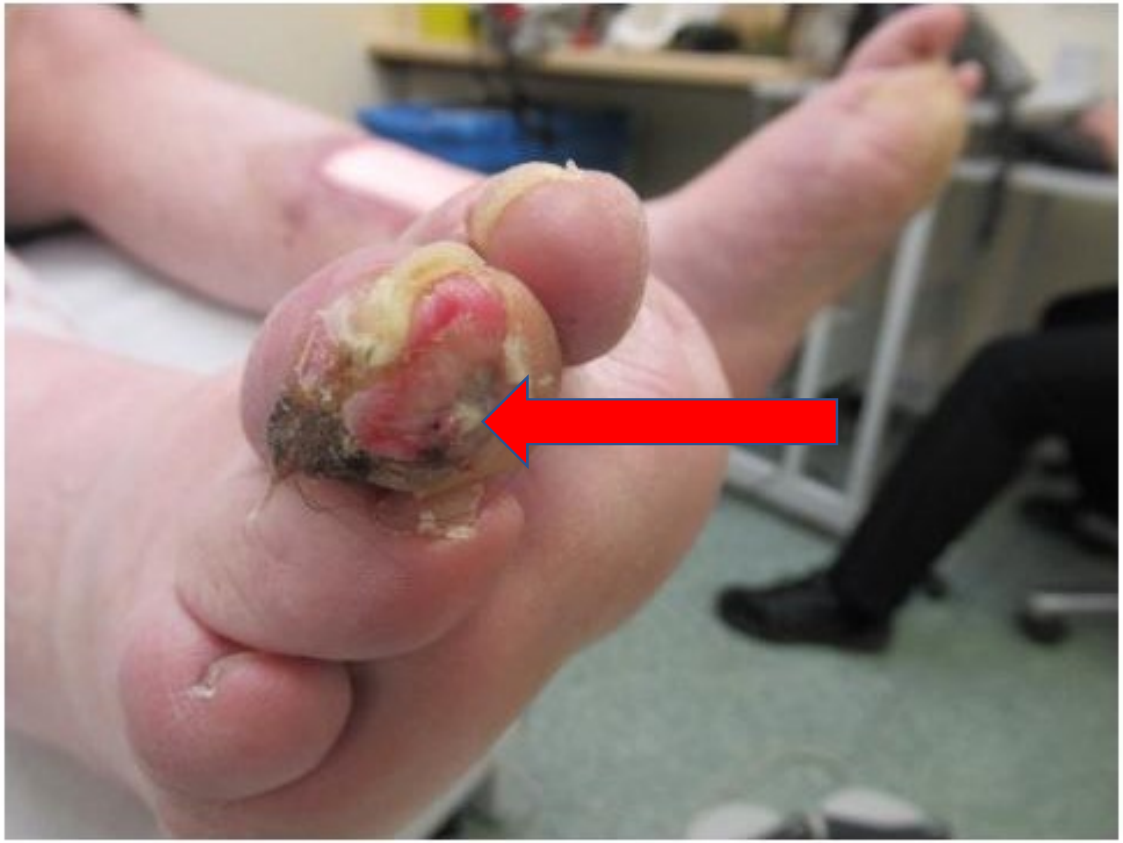
Any foot and ankle exostoses such as posterior calcaneal prominences etc.

Podiatric Surgery

- Provide a range of non-surgical treatment when it isn't offered within other services such as US guided high volume treatment for Achilles, steroid injections and extracorporeal shockwave therapy.

- Plantar fasciitis, we will accept referrals but only in instances where all conservative treatment has failed and a specific request for surgical consideration is required. Most other msk conditions we will perform steroid injection etc ourselves prior to performing surgery.

- Also see foot and ankle tumours, skin conditions and minor amputation (via MDFT)



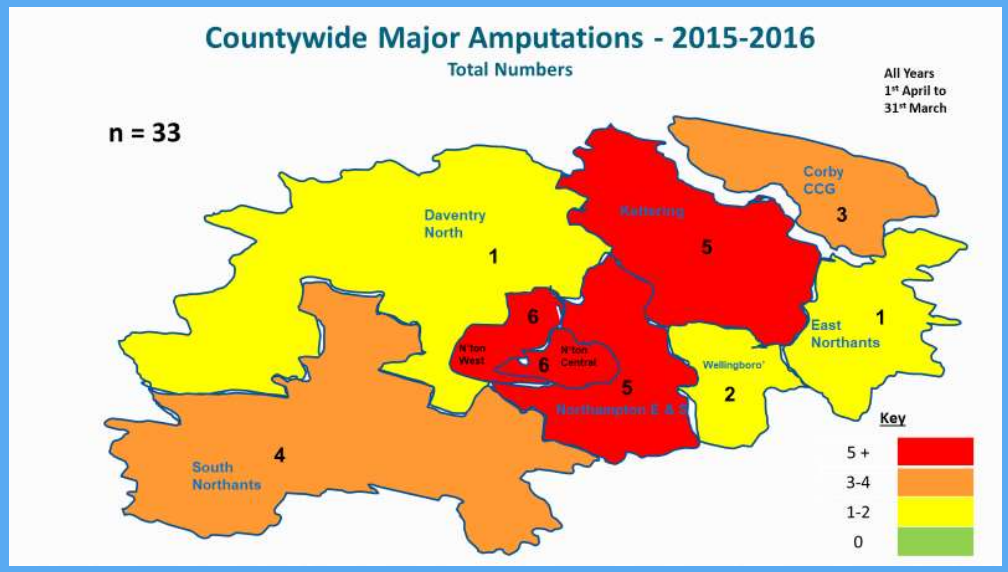
DHRFS Outcomes

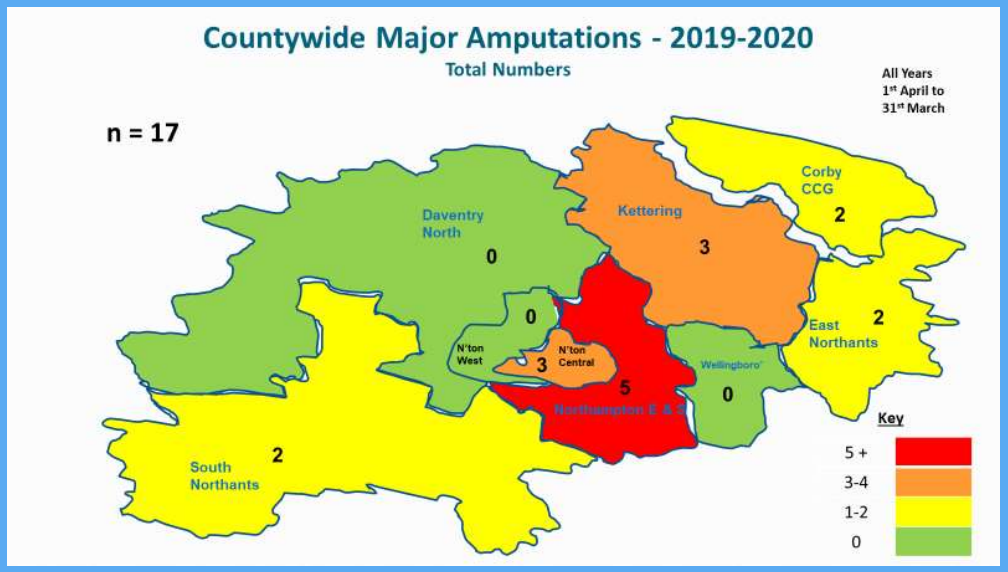
Maria Mousley
AHP Consultant Podiatrist

Andy Hornby
Clinical Link Podiatrist & Educator

MAJOR
Amputations

Major Amputations





Countywide Major Amputations - 2020-2021

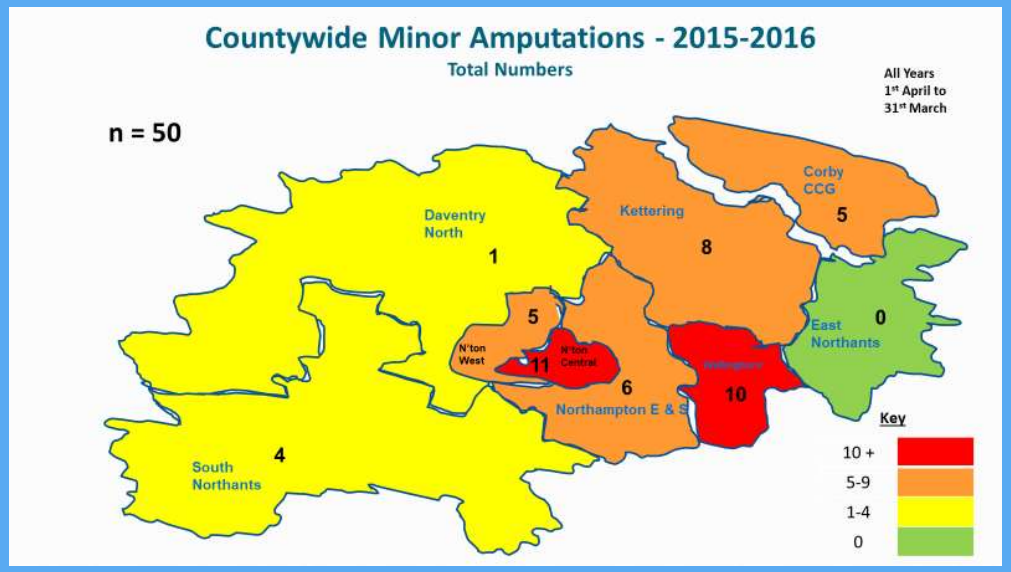
Total Numbers

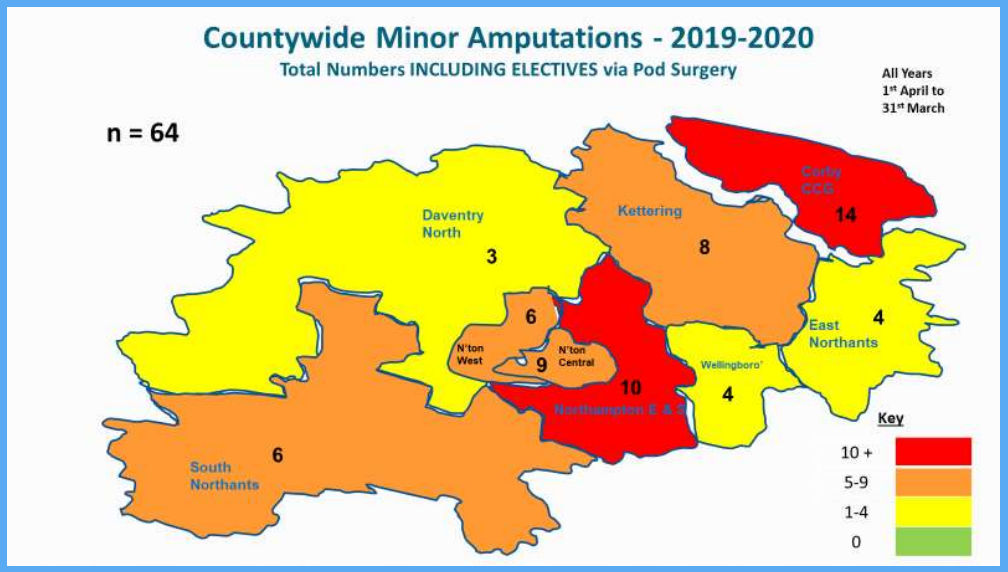
All Years
1st April to
31st March

n = 25

MINOR
Amputations

Minor Amputations



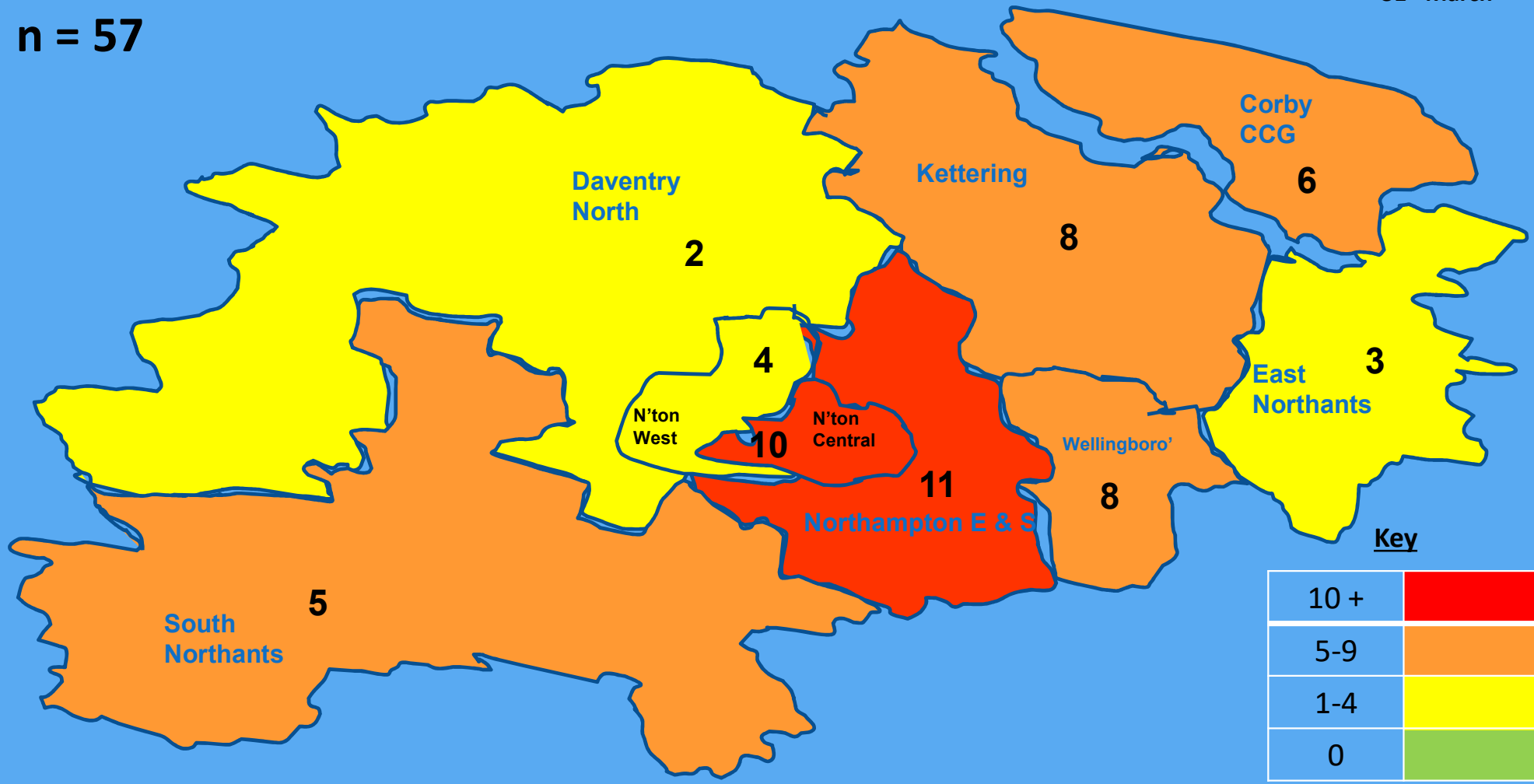


Countywide Minor Amputations - 2020-2021

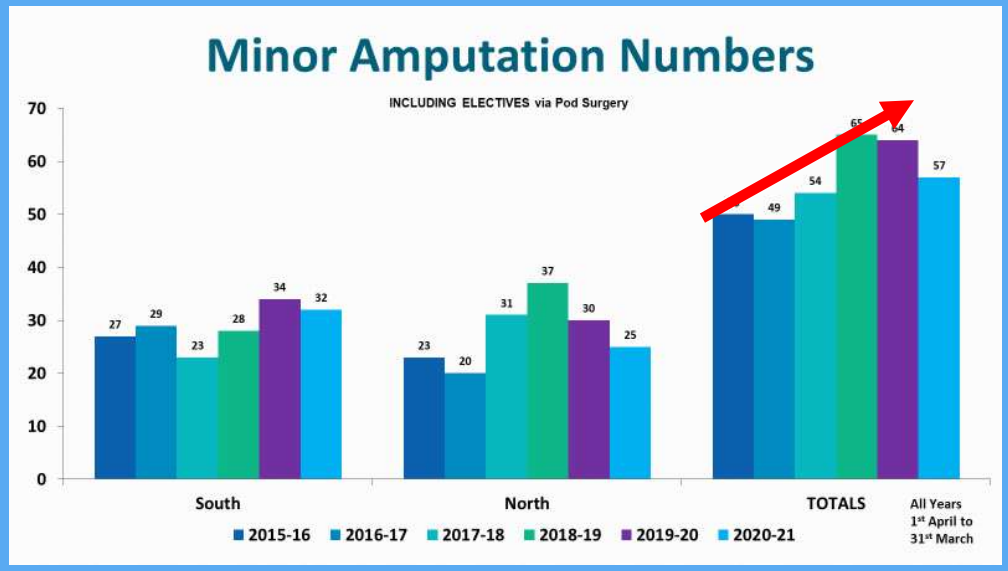
Total Numbers INCLUDING ELECTIVES via Pod Surgery

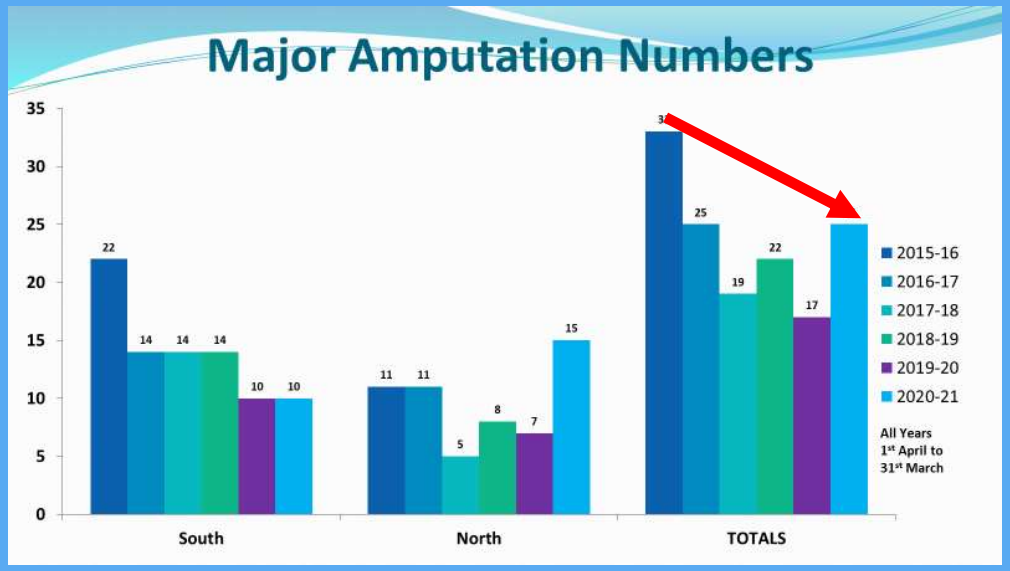
All Years
1st April to
31st March

n = 57



Minor versus Major 2015-2021





Analysis shows

- Trends in majors and minors reflect evidence that that when majors decrease, minors increase and vice versa.
- “Crash-landers” make up circa 18% of numbers of majors and circa 25% of numbers of minors- ….what can we all do about this?
- There is no single contributing factor to the amputation rates, in community foot team, primary care, ACPs or MDT OPD clinics
- Secondary care would benefit from review.

Analysis

- Adhoc delayed referral incidents DSP, primary care, District Nurses are datixed as an incident based on level of harm.
    - These are followed up by Clinical Link Pod and used as positive tool to offer refresher diabetic foot disease and referral process education to the services involved.
- Keep up the great work ; refer, refer, refer

Training Sessions available for primary care and community nursing and nursing homes

- NHFT staff – ESR
- Primary Care, Nursing Homes

LearningAndDevelopment@nhft.nhs.uk

- Bespoke packages for teams at GP Practice etc

email andrew.Hornby@nhft.nhs.uk (fab feedback!!)

The End

Any questions?