Can pressure monitoring influence non-concordant patients and carers in their decision making with regards to repositioning and pressure ulcer prevention in the community?

Nicci Aylward-Wotton
Tissue Viability Nurse Consultant
Peninsula Community Health, England.
Nicci.Aylward-Wotton@pch-cic.nhs.uk

Bridie Kent
Professor
Plymouth University, England

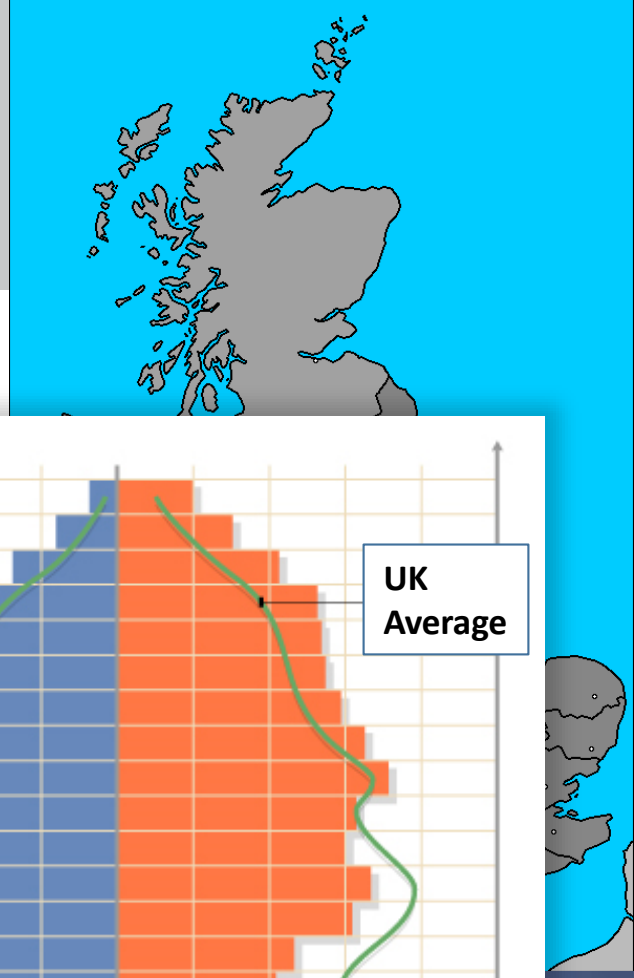
Peninsula Community Health

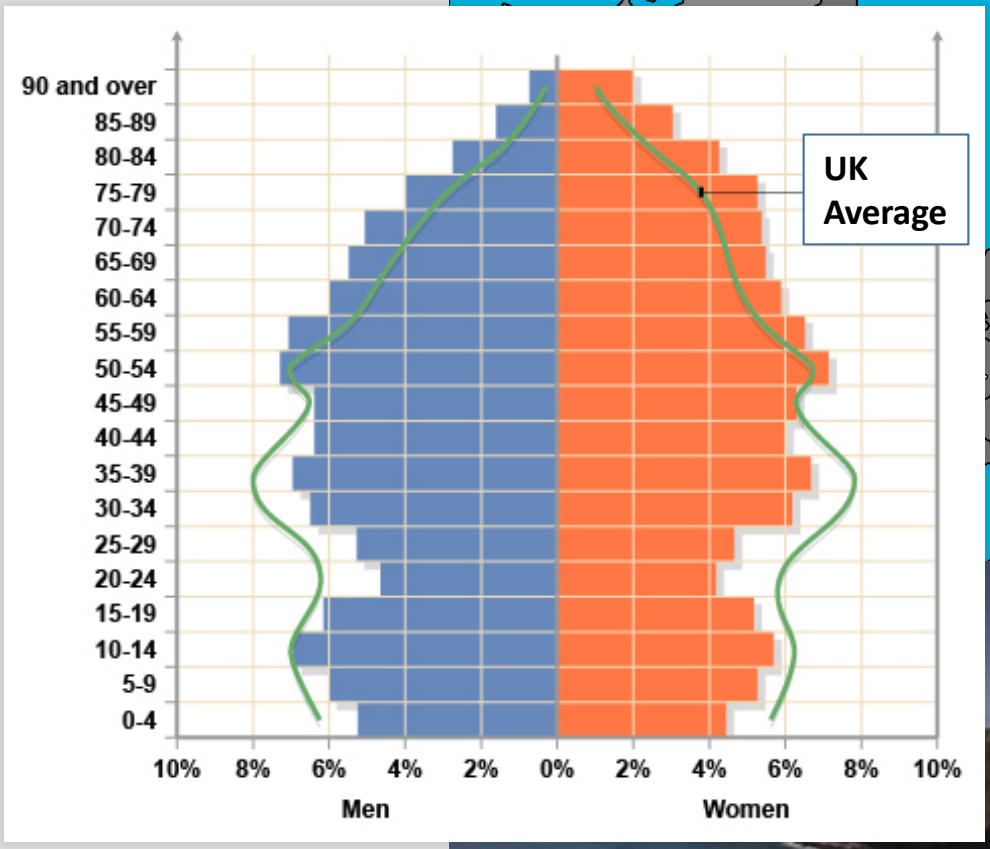
RESEARCH WITH PLYMOUTH UNIVERSITY

Thank you:
- The Regional Innovation Fund
- Burdett Trust Nursing Charity
- Sumed

Background

- Higher than average elderly population, total population 525,000
- Between 5-7 Category 3-4 pressure ulcers develop per month
- 50% of these patients classified as non concordant by nurses
- High number of patients reported as being in chairs for 24 hours





Objectives

- Can pressure ulcers be reduced following use of the pressure monitor (PM)?
- Can PM facilitate patient decision-making in avoiding specific positions?
- Can the PM identify positions which are not compatible with healing?
- Is the PM easy to use, is the PM acceptable and comfortable?

Pressure Map or Pressure Monitor?

Non-Concordance

- Hippocrates described the importance of compliance over 2000 years ago
- Concordance – nature of interaction between the clinician and the patient. Negotiation between equals
- Does the pressure monitor have the ability to provide a visual image which increases understanding and equalises the relationship between the clinician and patient?

Recruitment

- Referral to the Tissue Viability Team
- Patients over 18 living in their own home (including nursing home)
- High risk of developing pressure ulcers using the Rockwood Frailty Index of 5 or above or with existing pressure damage which is deteriorating or static
- The patients either were refusing/reluctant to use equipment or current equipment was not effective or uncomfortable

Intervention

- Pressure sensor pad set up on pressure relieving equipment following risk assessment and remained there for a number of days
- Data collected electronically via the ForeSite PT system
- Results fed back to patient immediately and the following day with training and alteration in positioning, repositioning or equipment

Data analysis

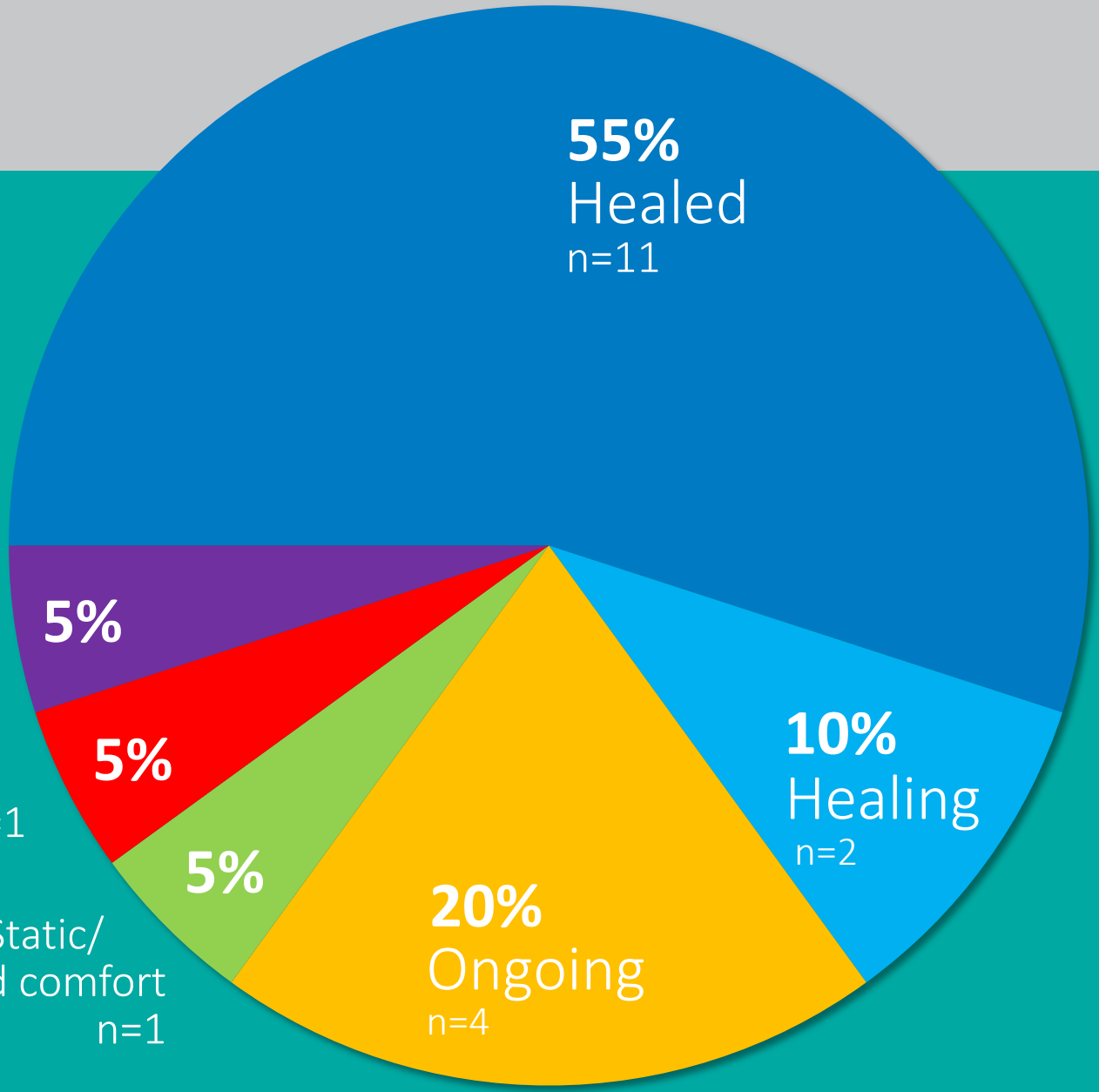
Method

Data analysis followed usual convention:

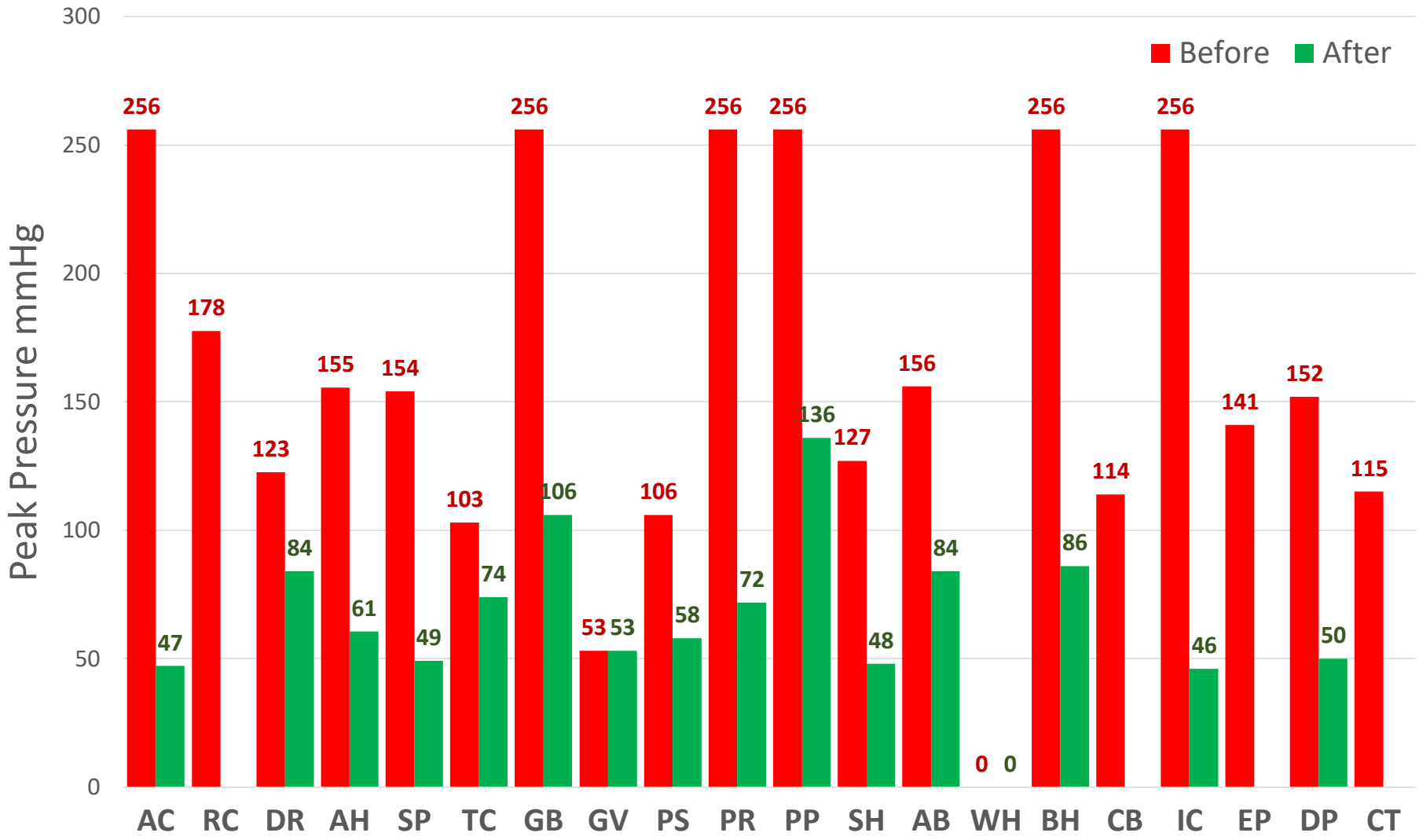
- Quantitative analysis assisted by SPSS to explore the differences between T1, T2 and T3 time-points
- Qualitative data will be analysed thematically
- Collected at baseline, pressure map removal and 4 week follow up

- Quantitative information including demographics, medical history, medication and pressure ulcer details
- Qualitative analysis using patient/carers questionnaires
- Wound size at beginning and completion
- Collect average pressure/peak pressure/surface area cm^2

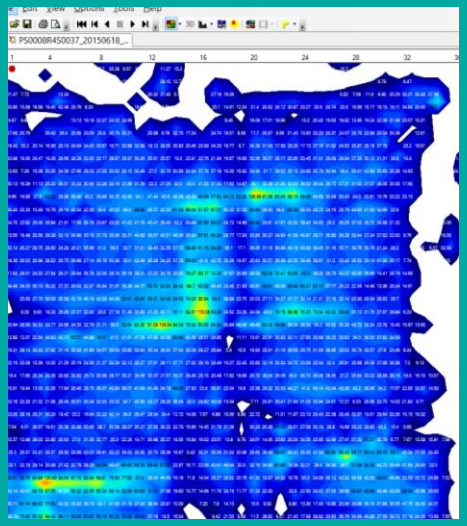
Results


55%
Healed
n=11
10%
Healing
n=2
20%
Ongoing
n=4
5%
Static/
increased comfort
n=1
5%
RIP
n=1
5%
Withdrawn, switched
monitor off, healed
n=1

Peak pressures before & after



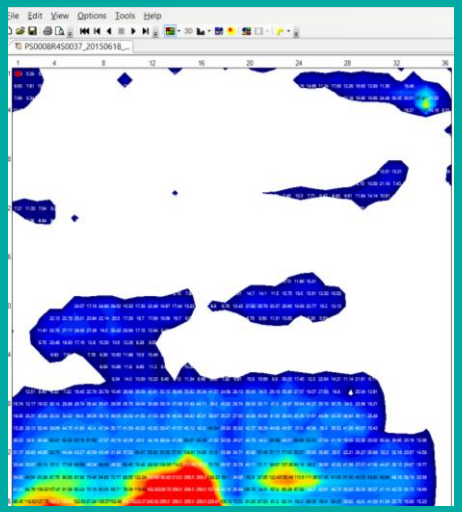
Case Study: Patient 1



Beginning of Monitor:

Peak: 103mmHg

Average: 36mmHg



During Monitor:

Peak: 256mmHg

Average: 42mmHg

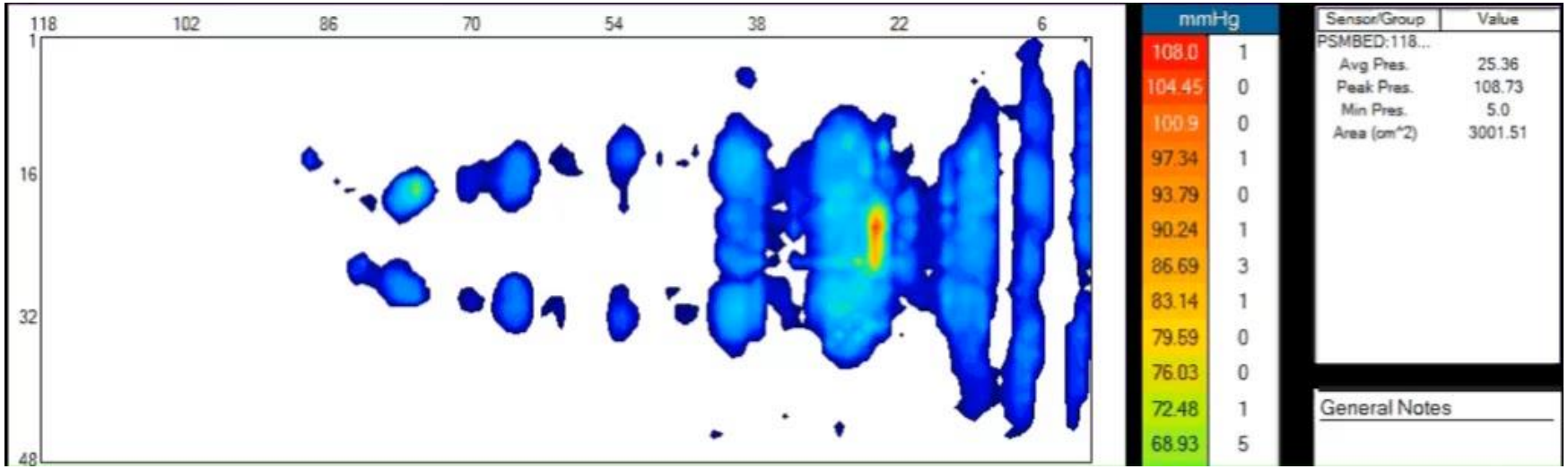
Before intervention:

- Grade 3 pressure ulcer for 2 years (misdiagnosed)
- Sleeping in the chair
- Foam cushion, upgrade to dynamic air cushion

After Intervention:

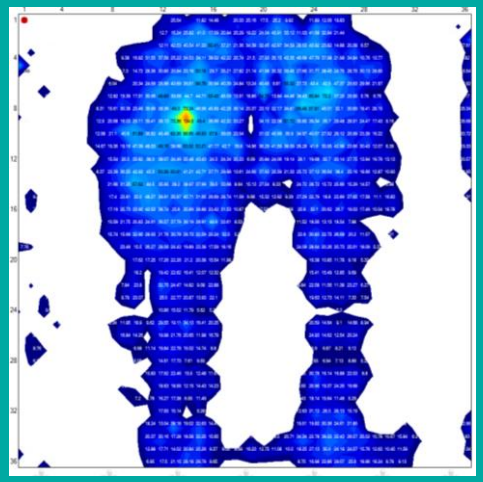
- Monitored for 48 Hours
- Upgraded to Static Air Cushion
- Sleeping in bed on dynamic replacement
- Review of seating

Dynamic replacement (Patient 1)



Video speeded up x10

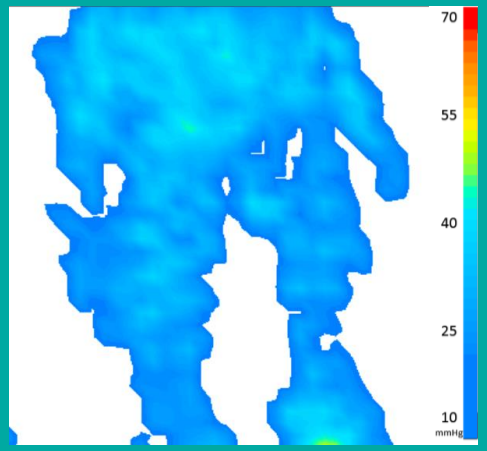
Case Study: Patient 2



Beginning of Monitor:

Peak: 127mmHg

Average: 23.5mmHg



During Monitor:

Peak: 48.32mmHg

Average: 21.54mmHg

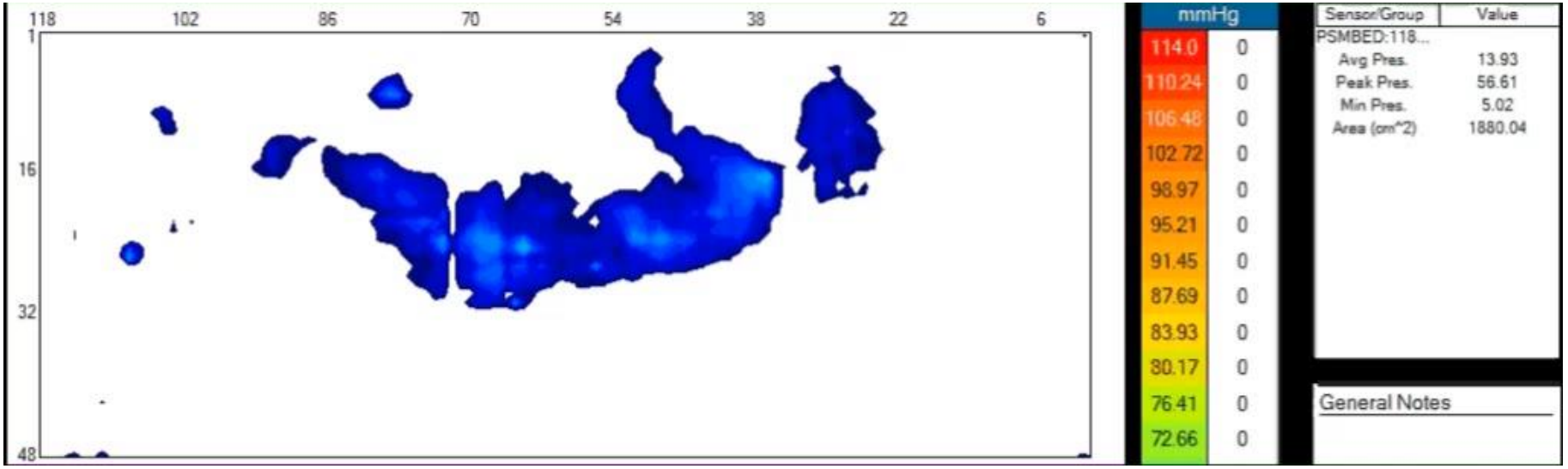
Before intervention:

- Grade 3 PU
- Young disabled women
- Wheelchair bound in day for 12 hours
- Had been upgraded to static air (over inflated)

After Intervention:

- Static air with adjustments
- Negative pressure to wound
- Dynamic bed replacement reduced to static foam

Static Foam Mattress Patient 2

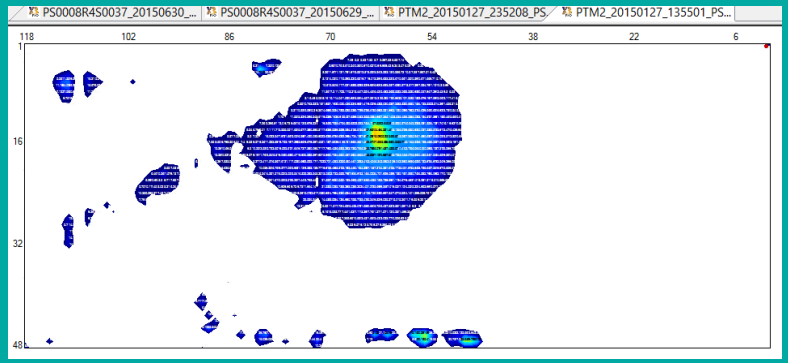


Video speeded up x10

Case Study: Patient 3

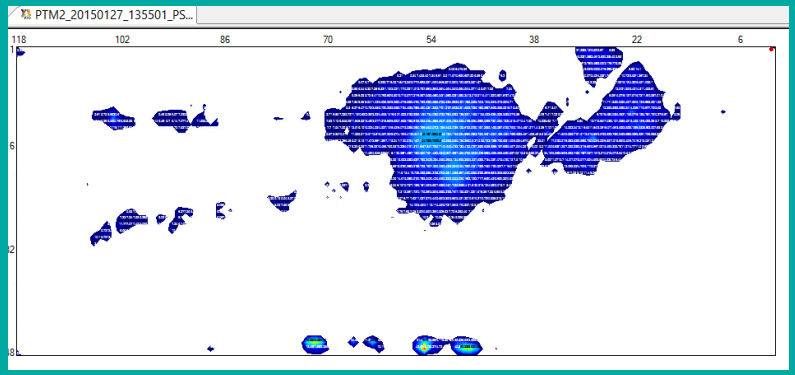
Beginning of Monitor:

Peak: 155mmHg | Average: 21.2mmHg



During Monitor:

Peak: 61mmHg | Average: 15.7mmHg



Before intervention:

Before: 27/3/15

- Paraplegic for 30 years
- Expert patient – self caring
- Visco foam mattress in double bed
- Slide Board to transfer to wheelchair
- Previous cellulitis, grade 2 to heel
- Grade 3 Pressure Ulcer
- Reluctant to change treatment of equipment
- Reluctant to use foot protector
- Sitting in wheelchair for 12 hours

After Intervention:

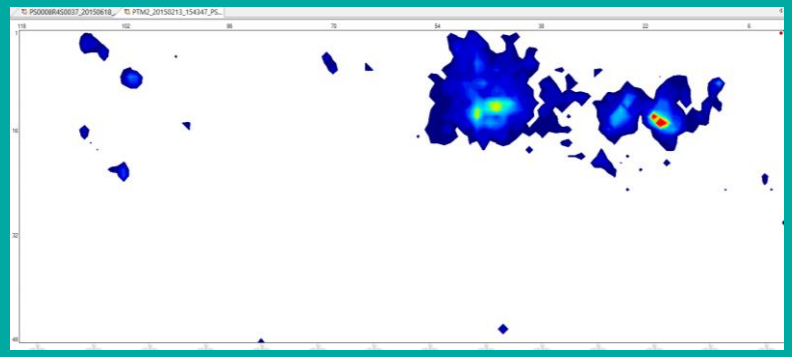
Healed: 19/5/15

- No longer sitting up in bed unsupported
- 30 degree tilt at night
- Mattress – no change
- Continued to use foot protector
- Upgrade cushion in wheelchair

Case Study: Patient 4

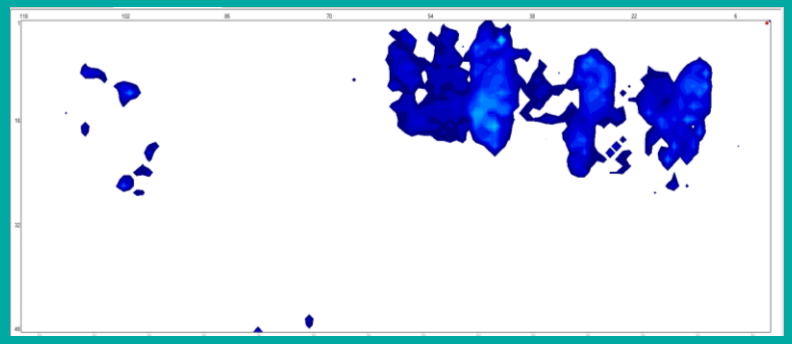
Beginning of Monitor:

Peak: 256mmHg | Average: 26mmHg



During Monitor:

Peak: 71.9mmHg | Average: 15mmHg



Before intervention:

- 64 year old man
- MS
- Wheelchair bound
- Grade 3 pressure ulcer due to inappropriate seating
- Wife refusing all equipment
- Grade 3 pressure ulcer developed on spine due to bed rest

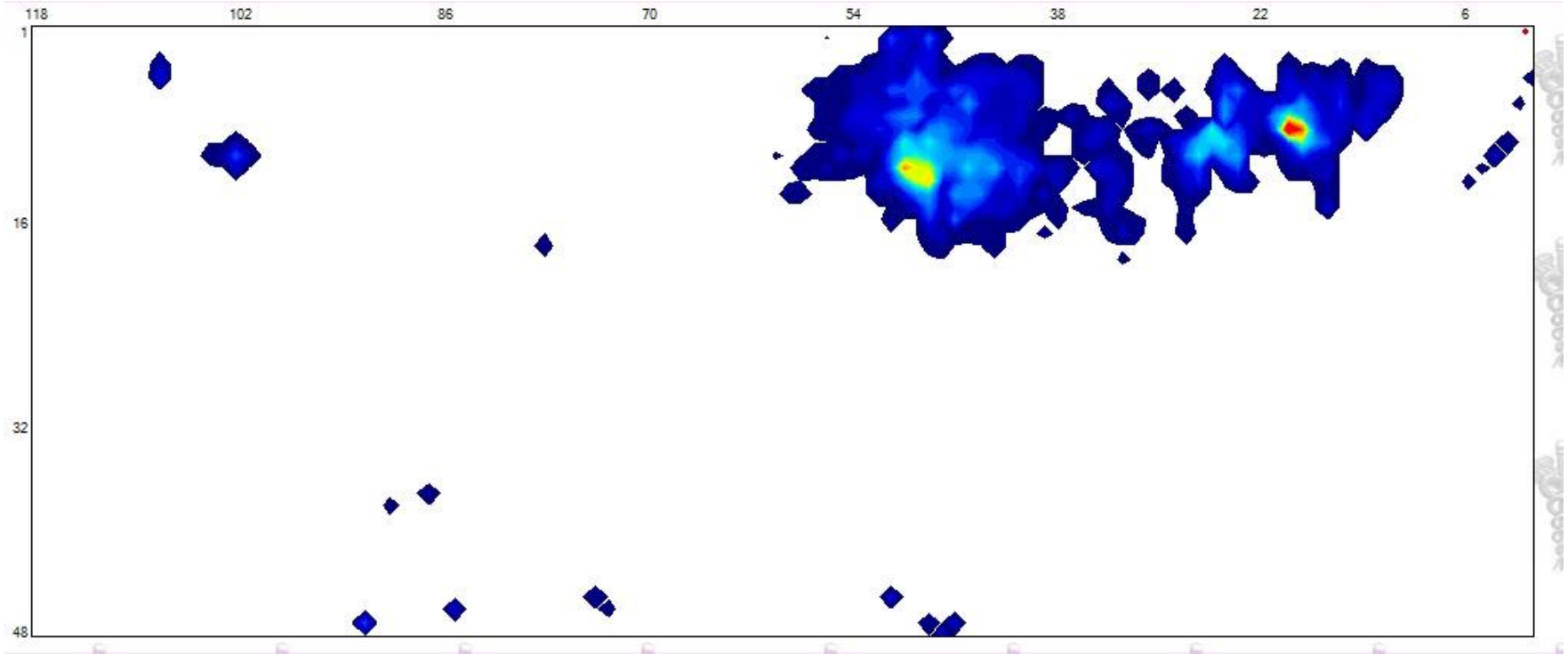
Before: 3x3x2cm 13/2/115

After Intervention:

- Mattress overlay following pressure monitoring
- no photos

After: Healed 27/7/15

Dynamic Overlay: Patient 4



Video speeded up x10

Objectives

The ForeSite PT System continually monitors interface pressures and provides clinicians, patients & carers with visual information

Objectives

Can pressure ulcers be reduced following use of the pressure monitor (PM)?

86% of patients where change of equipment is complete, pressure ulcers improved or healed following use of the PM

Objectives

Can PM facilitate patient decision-making in avoiding specific positions?

100% of patients/ relatives agreed to changes as a result of using the PM where necessary

Objectives

Can the PM identify positions which are not compatible with healing?

94% of positions were identified as not compatible with healing. 5% identified as compatible, no change required

Objectives

Is the PM easy to use, is the PM acceptable and comfortable?

It’s slippery

It’s too bright

Easy to use

No issues

Comments

Why haven't we had this before, it's amazing?

Can we buy one?

So it wasn't my fault!

Conclusion

Can pressure monitoring influence non-concordant patients and carers in their decision making with regards to repositioning and pressure ulcer prevention in the community?

Yes. Monitoring of interface pressures in the patient's home appears to facilitate patients adjusting their positions according to images on the monitor with:

- **73% healed**
- **13% healing**
- **46% within 12 weeks**

This has the potential to:

- Reduce community acquired pressure ulcers
- Reduce hospital admissions
- Reduce Community Nurse visits associated with pressure ulcers, providing nurses with real time information to inform decision making
- Enhance quality of life for patients and their carers
- **Identify potential reason for non-concordance which may in the future inform future care, current clinical pathways and risk assessment tools**

No decision about ME, Without ME.