

# *Patient Concordance with Compression Therapy*

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# Learning objectives:



- To briefly review the theoretical approaches to understanding compliance, concordance and adherence
- To review the literature on concordance and compression therapy
- To explore from clinical practice the patient challenges and solutions

# Complex definitions



- **Compliance** . The degree to which a patient deviates from professionally prescribed treatment (Paternalistic view)
- **Concordance** – agreement between professional and patient about treatment goals (shared views )
- **Adherence**- the continuation of the agreed plan

# Problems with research in concordance



- **Definitions of compliance, concordance and adherence are not consistently used**
- **Most research involves professional judgments of compliance behaviour**
- **When patient self report of compliance is used it is likely to be an overestimate of actual behaviour**
- **Patients views on why difficulties occur are rarely taken account of**
- **General research in this area has failed to identify a typical patient profile**

# Literature review on concordance and compression therapy

**Search terms : compliance; concordance; adherence & compression therapy, compression bandaging ,hosiery, IPC and all types of leg ulcer/leg ulceration**

**Databases : CINAHL ; Pubmed ; Embase ; Cochrane systematic reviews; JBI reviews; Psychlit .**

**All databases searched up to May 2015**



# The impact of psychosocial factors on adherence to compression therapy to prevent recurrence of venous leg ulcers

*Finlayson et al 2010 (Journal of Clinical Nursing)*

- Retrospective review 122 venous ulcer patients to identify self care strategies
- Compression worn four/seven days a week (median)
- Wearing compression hosiery positively associated with
  - **Knowledge of condition ( $p=0.002$ )**
  - **Higher self efficacy scores ( $p=0.026$ )**
  - **Lower depression scores ( $p=0.009$ )**
- These results only explained 26% of the variance suggesting many other unknown factors



# The impact of psychosocial factors on adherence to compression therapy to prevent recurrence of venous leg ulcers

*Finlayson et al 2010 (Journal of Clinical Nursing)*

- Of the 53% (n=65) who only wore compression occasionally or not at all 31% (n=20) could not apply/remove hosiery
- 32%(n=21) of this group did not believe any benefit or that prevention of ulceration would occur
- 13 (11%) had issues of aesthetics
- The same study found adherence to other self care strategies was low and occurred in only 50%
- *(other studies eg Jull et al 2004 found that belief in hosiery distinguished compliance groups)*



# **Factors that influence healing of chronic venous ulcers: a retrospective cohort .**

*Formentini Scotton et al (2014) Anais Brasileiros de Dermatologia*

- ***Retrospective analysis of 94 patients (137 ulcers)***
- ***>50% ulcer reduction in 40% ,complete healing in 27 % at 1 year***
- ***Poorest healing at 6 months associated with:***
  - ***Long ulcer duration (RR 0.95 CI 0.91-0.98)***
  - ***Poor adherence to compression therapy (RR 4.04 CI 1.31-12.41)***
  - ***Infection episodes (RR 0.95 CI 0.23-0.76)***





# Interventions to enhance patient compliance with leg ulcer treatment :a review of the literature

*Hecke et al (2007) Journal of Clinical Nursing*

- Compliance defined as the extent to which worn or treatment followed
- Self reporting used to measure compliance
- Class III stockings enhanced compliance compared to bandages
- No evidence IPC improved compliance
- No evidence of health system approaches improving compliance
- Educational programmes combining cognitive , behavioural and affective components had a positive effect on elevation but not compression therapy
- Little evidence to guide practice



# Living with venous leg ulceration : issues concerning adherence

*Mudge et al (2006) British Journal of Nursing*

- Patients lacked understanding of their condition
- Patients stated they would report adherence to compression even if this was untrue
- Fear that compression would increase pain and sleeplessness
- Compression therapy did not fit with daily life



# Compression therapy in elderly and obesity

*Reich-Schupke et al 2012*

## Patients aged >60

- greater number of ulcers
- Need more help with compression (71% versus 47% in <60 year olds)
- Obese patients more likely to complain of constriction compared to normal weight (35% vv 19%)



# Obesity /Chronic oedema and compression

## Derby Lymphoedema Service (UK)

- 75%obese
- 24%morbidly obese
- Of the morbidly obese 2% could apply and remove hosiery
- Increased rate of cellulitis
- Poor response to compression therapy



# **Donning Devices (Foot Slips and Frames) enable elderly people with severe chronic venous insufficiency to put on compression stockings**

**Slippel et al (2015) Eur J Vasc Surgery**

- 40 patients with CVI C4-C6
- Randomised controlled trial of donning devices
  - One 40mmHg stocking
  - 2 superimposed 20mmHg stocking (one with open and one with closed toe)
- Different donning devices (foot slip/frame)
- Success rate without donning 60%
- Increased success rates of 88-93%
  - 7.5% reduction in those who could not apply or remove compression at all
- 73% could apply hosiery without a donning device after instruction
- Patients with visual handicap, paresis, plegia or dementia were excluded
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# Prescription and adherence to lymphoedema self-care modalities among women with breast cancer-related Lymphoedema

*Brown et al (2014) Support Care Cancer*

- Questionnaire to assess 10 BCRL self care modalities
- Prescription and adherence measured at 3,6 and 12 months
- 141 patients
- Self care strategies decreased over time and were sub-optimal
- 69% reported an average of <75% adherence
- Use of compression bandaging decreased over one year (p=0.011)

*(Vignes et al (2007) Showed that poor adherence to bandaging and compression associated with high risk of increase in limb volume over 1 year (55/61%)*

# Prescription and adherence to lymphoedema self-care modalities among women with breast cancer-related Lymphoedema

*Brown et al (2014) Support Care Cancer*

## Problems with compression

- 34% stated it was uncomfortable (hot/itchy)
- 3% needed to alter clothing to accommodate compression
- 30% had difficulty with self bandaging
- Daily treatments were burdensome and impaired quality of life and manifested as poor adherence

*(Multivariate analysis did not find any significant predictors ... It is plausible that **psychosocial and behavioural characteristics**, such as knowledge, intention, and self-efficacy are more important predictors of self care than demographic or clinical characteristics)*

# Randomised controlled trial comparing European standard class I and class II compression stockings for ulcer recurrence and patient compliance

Clarke-Moloney et al (2012) International Wound Journal

- 100 patients with healed venous ulceration
- Randomised to class 1 (n=50) or class 2 (n=50) European hosiery
- Follow up at 1 week, 3, 6, 9 and 12 months
- Recurrence rate 16% at one year
- Non significant difference between classes although higher in Class 1
- 89% reported compliance
- Non compliance associated with greater risk of recurrence ( $p < 0.0001$ )
- Lowest recurrence seen in highest compliance groups irrespective of compression class
- Lower rate of recurrence in those with superficial and deep incompetence receiving Class II hosiery



# Process underlying adherence to leg ulcer treatment . A qualitative field study

Van Hecke et al (2011) International Journal of Nursing Studies

- **26 patients with venous ulcers (interviews and observation)**

## **Themes**

- **Trust in the nurse was central to adherence**
- **Patients who had a trusting relationship showed better adherence to lifestyle modification**
- **Trust facilitated by nurses spending “meaningful” time**
- **Care provided beyond patient expectations /being attentive to pain and other problems / talking**
- **“compliance” occurred even if patients did not see benefits**



# Physical activity and adherence to compression therapy in patients with venous ulcers. Heinen et al (2007) Archives of Dermatology

- To assess the levels of physical activity, walking and leg exercises in venous leg ulcer patients and adherence to compression therapy
- 150 outpatients
- **40% showed full adherence to compression**
- Low level of activity – less than a 10 minute walk each week(measured by an accelerator)
- **Chudek et al (2012)** found that patients who were not compliant with compression were also non compliant with pharmacological therapy (venoactive drugs)
- Coexisting obesity and chronic illness decrease adherence



# To explore how professional attitudes to concordance influence our understanding

## Professional issues

- Incorrect choice of compression for underlying aetiology
- Failure to adapt to limb shape and tissue profiles
- Fear that compression is “dangerous”
- Lack of skill in application
- Compression hosiery : wrong choice of garment ,poor fit



**How the wrong fitting  
of hosiery makes things worse**





# Problems with current compression



# PROBLEMS



**Uncontrolled oedema**





**Chronic oedema  
extending to the  
thighs**







# Inelastic Strapping Devices

- **Non-elastic interlocking bands**
- **Sustained and adjustable compression**
- **Patient self application**







- containment by hosiery
- concurrent obesity
- genital lymphoedema
- abdominal lymphoedema



THANK YOU

