



ESPEN Congress Lisbon 2004

Nurses' Session

Is there a role for nutrition?

Michael Clark

Nutrition and wounds: Pressure ulcers and a new European Guideline.

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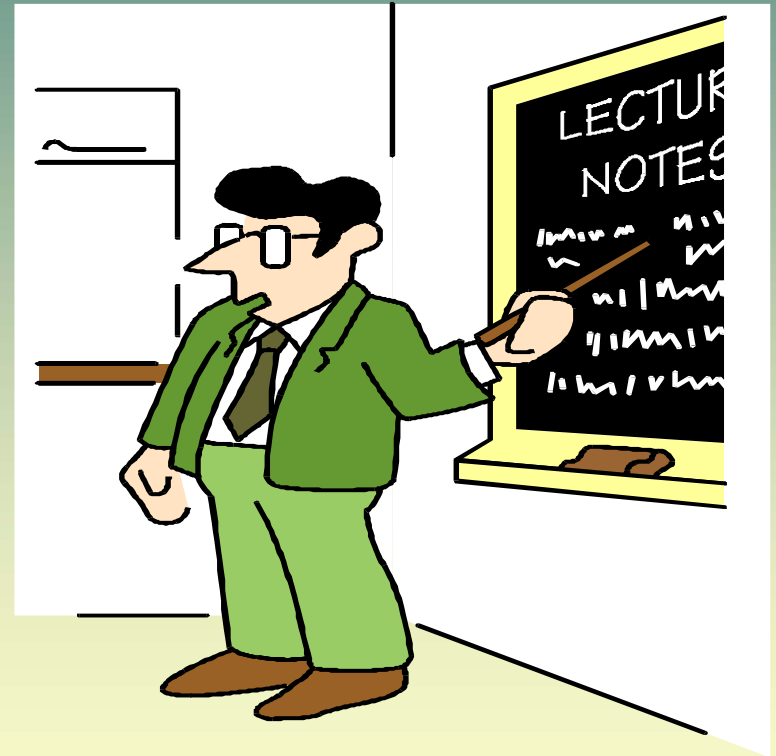
Overview

Nutrition and pressure ulcers

The new EPUAP guideline

–Process

–Recommendations



Nutrition and Pressure Ulcers

Poor Nutrition

‘Malnutrition is an important factor, second only to excessive pressure, in the aetiology...of pressure sores’

(Agarwal *et al* 1985)



How did we come to make such a claim?

Many studies have tried to link pressure ulcer aetiology and healing and changes in nutritional status

Cullum and Clark 1992

Age

Weight

Systolic Blood Pressure

Total Serum Protein

Haemoglobin



Cullum and Clark 1992

51 subjects (29 F : 22 M)

mean age 82.4 years (69 - 97)

No ulcer 66%

Ulcer on admission 22%

Ulcer developed 12%

Cullum and Clark 1992

	No ulcers	Ulcers on admission	Ulcers developed
Age	82.6	85.1	76.3 *
Weight	54.9	48.3	47.8
Systolic BP	132	139	120
Haemoglobin	13.0	12.6	11.6
Serum protein	71.2	64.1 *	64.7 *

?? Pressure ulcer aetiology and nutrition

Limited observations in often weak
studies

Are pressure ulcer patients
malnourished?

Nutritional assessment and pressure ulcers

Nutritional Assessment

‘Well over 50 published nutritional screening tools and many more unpublished’ (Stratton et al 2003)

Either/or

Body Mass Index (weight height kg m⁻²)

Anthropometry (upper arm)

Weight Loss

Predicted future changes in weight

Loss of appetite

Diagnosis



Typical BMI ranges

<18.5	Underweight, chronic malnutrition probable
18.5-20	Underweight, chronic malnutrition possible
20-25	Desirable weight
25-30	Overweight, increased risk of complications associated with chronic over-nutrition
>30	Obese
30-35	Moderate risk of obesity-related complications
35-40	High risk
>40	Very high risk

Nutrition and pressure ulcers

Prospective, multi-centre, multi-national cohort study of hospital in-patients

UK data (collected 1996-1998)

2507 subjects recruited across 4 hospitals

100 had pu on admission

117 developed pu in hospital

Results - BMI

No PU (n=2027)

25.14* (95% CI 24.90-25.37)

PU on admission (n=75)

22.53* (95% CI 21.11-23.96)

PU developed (n=84)

24.25 (95% CI 22.66- 25.83)

All above limit that may mark malnutrition in elderly hospital patients



BMI and PU severity

Did patients with more severe pressure ulcers show greater malnutrition?

Grade 1 or 2; n=77; 24.18 (7.49)

Grade 3 or 4; n=7; 25.00 (5.15)

Appetite

If BMI not sensitive what about other approaches to assessing nutrition?

Very poor (10% - 24% of meals)

Poor (25% - 49%)

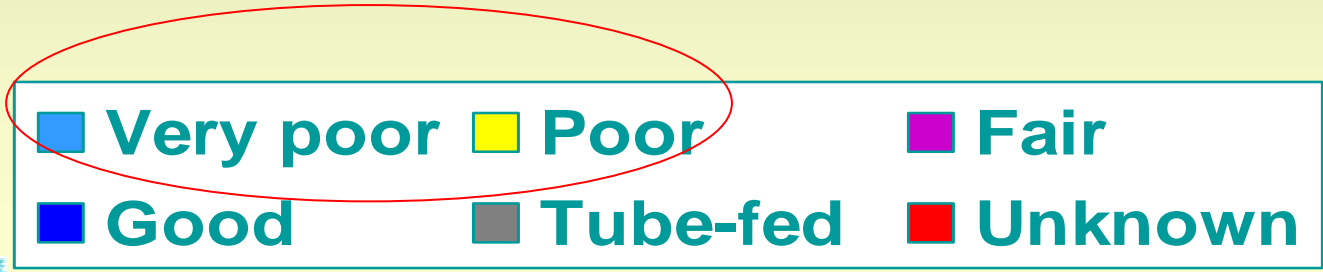
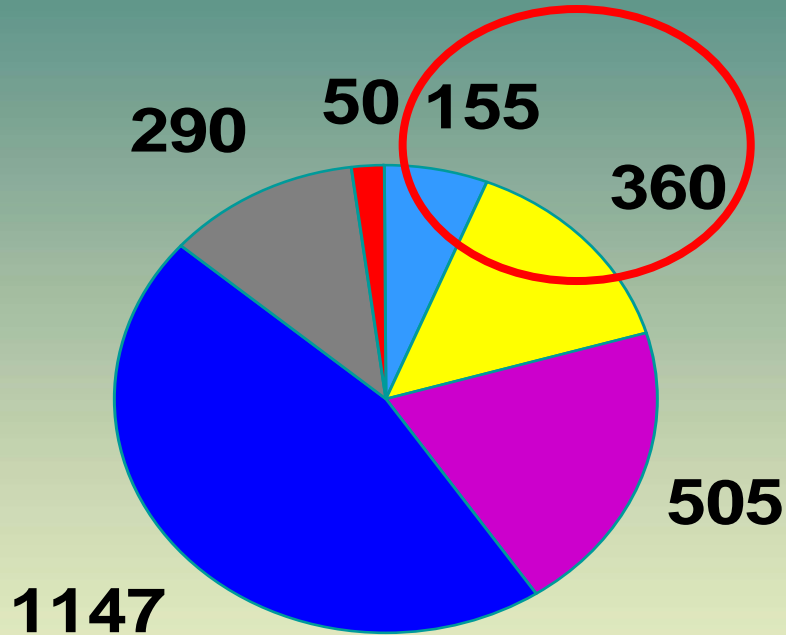
Fair (50% - 74%)

Good (75% - 100%)

Tube-fed



Appetite



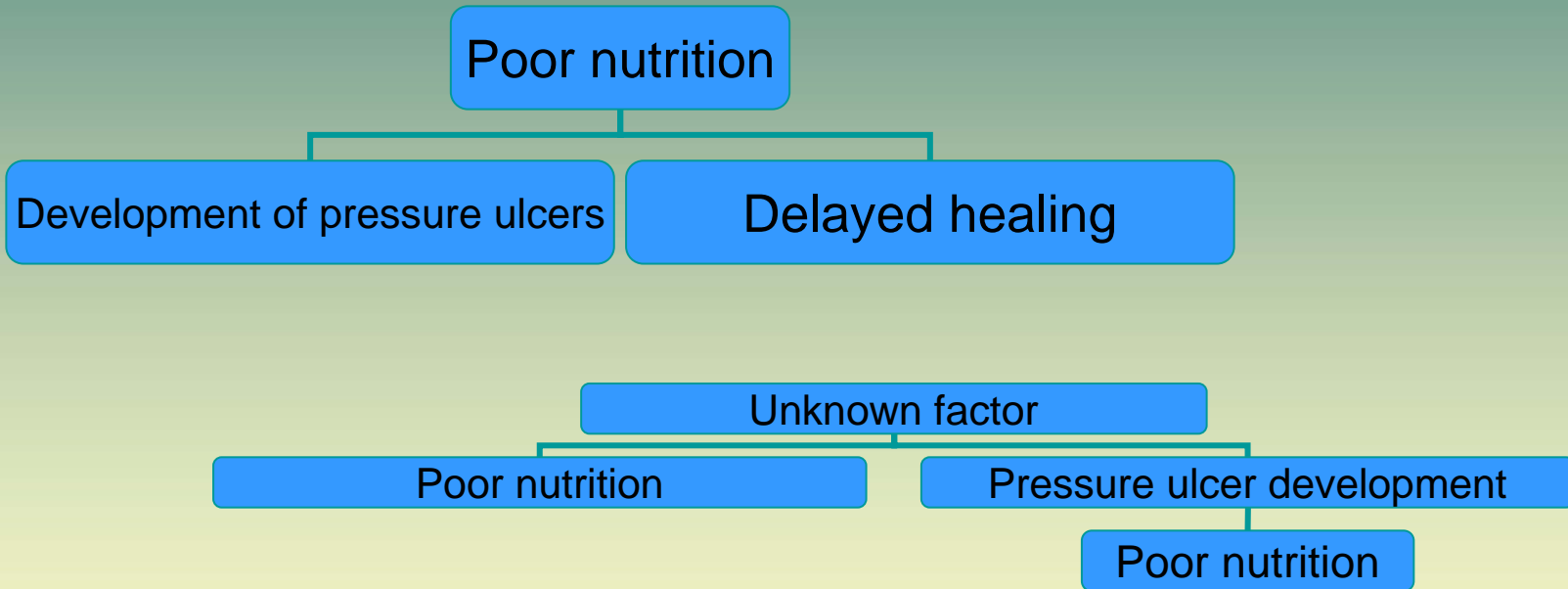
Appetite and PU

Poor/very poor appetite n=515

No PU	428	(19.0%)
PU on admission	39	(41.0%)*
PU developed	48	(42.1%)*

* significant difference compared with no PU group

Causal relationship?



Pressure ulcers and nutrition

Link between nutrition and pressure ulcers exists

Causal or association?

Need further high-quality clinical studies

Sensible precaution – improve and standardise clinical practice to enhance nutritional status



Role of the new EPUAP guideline

Nutrition in existing EPUAP guidelines

‘a full risk assessment in patients to include: General skin condition, skin assessment, mobility, moistness and incontinence, **nutrition** and pain’

‘Following assessment **nutritionally compromised** individuals should have a plan of appropriate support and/or supplementation that meets individual needs and is consistent with overall goals of therapy’

‘Ensure **adequate dietary intake** to prevent malnutrition to the extent that this is compatible with the individual’s wishes or condition’

EPUAP Guideline

Process

Recommendations

Process

2002 EPUAP Budapest – satellite meeting on nutrition prompted Professor Gerry Bennett to initiate guideline development

Gerry Bennett (UK)

Giuseppe Benati (Italy)

Denis Colin (France)

Pam Jackson (UK)

Bernadette Kerry (Ireland)

Gero Langer (Germany)

Jos Schols (Netherlands)

Mike Clark (UK)

Process

Meeting GDG – Amsterdam February 2003

First draft of text – late Summer

Presented at EPUAP Finland and published
in EPUAP Review

Revised following comments

Final version – January 2004

Public launch July 2004 WUWHS Paris

Process

Guidelines translate evidence into recommendations for practice.

Evidence?

Cochrane review on pressure ulcers and nutrition – led by Gero Langer

Informal review of publications (>400) available on MEDLINE that linked nutrition and pressure ulcers



Grading of evidence

- I Evidence from systematic review or meta-analysis of randomised controlled trials or at least one randomised controlled trial.
- II Evidence from at least one controlled trial without randomisation or at least one other type of quasi-experimental study
- III Evidence from non-experimental descriptive studies, such as comparative studies, correlation studies and case-control studies
- IV Evidence from expert committee reports or opinions and/or clinical experience of respected authorities

Grading of recommendations

- A Directly based on category I evidence
- B Directly based on category II evidence or extrapolated recommendation from category I evidence
- C Directly based on category III evidence or extrapolated recommendation from category I or II evidence
- D Directly based on category IV evidence or extrapolated recommendation from category I, II or III evidence



Recommendations

Screening and assessment

Nutritional Intervention

Education

All recommendations equally valid, apply to prevention and treatment

Recommendations at D level unless specified

Recommendations

Where enhanced normal feeding is not possible, protein-energy rich supplements may be considered (1B recommendation).

The value of vitamin and trace element supplementation in pressure ulcer prevention is unclear (1B recommendation)

Established pu - Protein and calorie supplementation,
Some vitamins and trace elements with anti-oxidant activity (Level 1B recommendation)

Figure 1. DECISION TREE ON NUTRITION IN PRESSURE ULCER (PU) PREVENTION AND TREATMENT

