

## DIETARY OMEGA-3 FATTY ACIDS IN RELATION TO DEPRESSION AND SCHIZOPHRENIA

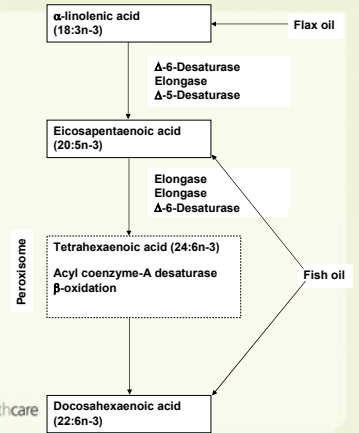
**Malcolm Peet**

Consultant Psychiatrist, Early Intervention in Psychosis Team,  
Rotherham, UK  
Professor Associate, School of Health and Related Research,  
University of Sheffield



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## METABOLIC PATHWAY OF OMEGA-3 PUFA



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## SOME PHYSIOLOGICAL EFFECTS OF OMEGA-3 FATTY ACIDS ON THE BRAIN

- Brain development
- Gene expression
- Neurotransmission
- Immune system



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## DEPRESSION: THE OMEGA-3 CONNECTION

- International variations in population rates of depression correlate with national fish consumption
- Individuals who are infrequent fish eaters are more likely to become depressed
- Depressed patients have low levels of omega-3 fatty acids in their cell membranes
- There is evidence that omega-3 fatty acids are of therapeutic benefit in depression

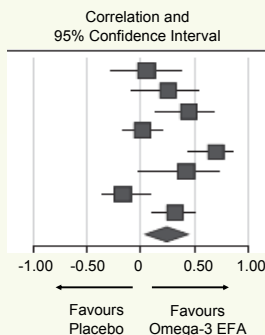


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## META-ANALYSIS OF TRIALS OF OMEGA-3 FATTY ACIDS IN DEPRESSION

Best-case analysis;  
only 1-g/day doses were included

Freeman et al 2006



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## OTHER NUTRIENTS INVESTIGATED IN DEPRESSION

- Folic Acid
- Tryptophan
- Zinc
- Selenium
- Vitamins B6 and B12
- Iron
- Chromium



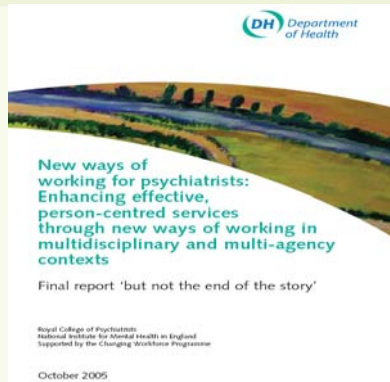
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## OMEGA-3 FATTY ACIDS IN OTHER CONDITIONS

- Recurrent self-harm
- Borderline personality disorder
- Childhood behavioural and learning difficulties

## OMEGA-3 FATTY ACIDS AND SCHIZOPHRENIA

- Epidemiology shows that outcome of schizophrenia is better in developing countries than in more developed countries. This correlates with national diet: high saturated fat, high sugar diet is associated with worse long-term outcome
- Blood levels of omega-3 and omega-6 fatty acids are reduced in people with schizophrenia
- Treatment studies using omega-3 fatty acids in schizophrenia have given mixed results:
  - Young people at high risk of schizophrenia may have a lower rate of developing the illness if given omega-3 fatty acids
  - People who have developed their first episode of schizophrenia may need less antipsychotic medication if treated with omega-3 fatty acids
  - In established schizophrenia, omega-3 fatty acids have no consistent benefit



## New Ways of Working for Psychiatrists: ROLE OF THE DIETICIAN

- Service users need to have access to care, which is appropriate to the individual, timely and supported.
- Service users suffer more physical ill health, related to lifestyle and have needs, which have not been met from the primary care services.
- There is a recognition that there are insufficient specialist dietetic posts within the mental health services and action taken to address this.

## FOOD AND MOOD

'Food and Mood' project found that many people with mental health problems use diet to help themselves.

### Popular Strategies:

- Restrict sugar
- Restrict saturated fat
- Eat more fish
- Eat more fruit & Veg.

(Geary A. The Food and Mood Handbook. London: Thorson's Publishers, 2001)



THE DIET WHICH IS GOOD FOR YOUR  
BRAIN IS THE SAME AS THAT WHICH  
IS GOOD FOR THE REST OF YOUR  
BODY

## WORK IN DONCASTER AND SOUTH HUMBER HEALTHCARE NHS TRUST

- Putting science into practice by developing a nutrition service for patients
- Providing nutritional assessment for young people presenting to services with early symptoms of psychosis
- Mood and lifestyle clinic for people with depression
- Developing a simplified and structured procedure for dietary analysis and advice for use by non-specialists within mental health services, in order to disseminate this knowledge and skill to other NHS Trusts