



Meeting Your Protein Needs

The Aims for This Seminar

The role of protein in the diet

Is too much protein healthy?

Animal V Plant Protein

Special Amino Acids

Digestive Wellness: Dysbiosis and Putrefaction

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eating Your Protein Needs

The word 'protein' comes from the Greek *proteios* or "primary". This is because, after water, protein is the most abundant component of our body. We need protein in the form of amino acids to make: hair, nails, skin, muscle, organ tissue and other body structures. Protein is also vital for making hormones, specific parts of our cells and enzymes that are required to help us function efficiently.

Tissue in our body is constantly being broken down, and new protein is needed on a constant basis to form new tissue. This new protein allows us to heal, grow, remodel and internally defend ourselves.

The average British person easily reaches and often exceeds protein requirement without focusing on a high-protein diet.

Extra Protein is required when:

- We are growing
- Pregnancy & Lactation
- Doing Intense exercise

Calculate Your Protein Requirement

Multiply 0.8 by your weight in kilograms

Example: $0.8 \times 70\text{kg} = 63\text{g Protein/Day}$

Using the example calculation above, 63g of protein looks like this:

A Handful of Chickpeas: 15g

1 Chicken Breast: 25g

Small Pot of Yoghurt: 8g

1 Medium Egg: 6g

1 portion oats: 4g

Small handful nuts; 4g

The Quality of Protein

A complete protein source is one that contains all of the amino acids (building blocks) in the correct amounts. Animal protein, such as meat, fish, poultry, dairy, are examples of complete proteins. Plant foods including pulses and grains are low in some of the essential building blocks. However, these become complete when they are combined- mix a grain with a pulse and you will have a complete protein.



The key is having a varied diet of grains, pulses, vegetables and fruits with moderate amounts of animal protein. Whey powder and eggs are the highest quality of protein foods.

The Protein Quality of Plant Foods

Research has found that cows fed on organic produce ate less and always produced more milk. Some believe that this was because of the quality of the proteins available.

Therefore plant proteins are potentially more abundant when they have been grown in nutrient rich soils. So often these essential nutrients are depleted (by as much as 85%) as a result of the chemicals used in conventionally farmed soils- pesticides, fertilisers and herbicides¹.

Choose your protein from a good source to ensure maximum nutrient gain.

Is Too Much Protein Healthy?

Whilst protein has its essential benefit and has played a key part in a number of weight loss programmes, high intake can have a suppressive effect upon health:

If we eat excessive levels of protein our liver and kidneys are in charge of getting rid of this excess - and this takes lots of energy!

In addition a high protein diet increases the use of protein for energy which decreases the breakdown and utilisation of fat for energy, thereby promoting increased body fat.

Many foods that contain good levels of protein are acid forming in the body. This can result in reduced cellular function and fatigue. It is the role of calcium to act as a neutralizer- and its your reserves in your bones and teeth that are called upon to correct the imbalance.

Acid forming proteins: beef, milk, cheese, egg, pulses, fish.

Alkaline Forming Food: Vegetables and Fruit

High intakes of protein puts stress on the digestive system to break it down- and more often than not it does not cope.

This means that rather than being absorbed into your body the undigested protein is eliminated via the colon.

In the colon the pathogenic (disease causing) bacteria try and finish the job off- they have a feast and multiply. This results in numerous digestive problems: Excessive gas, bloating, inflammation, constipation, and increased toxins entering the body.

Your goal...15-18% of your food comes from protein.

That is about 55 grams for men and 45 grams for women.

Eat it in small amounts with carbohydrates to help control blood sugar and keep your feeling fuller for longer.

Remember that the quality of the protein that you are eating reflects where it has come from.

Eggs are not only an excellent source of protein they are also a great source of fat. However the nutrient quality of an egg is only as good as the diet fed to the hen that laid the egg!

Chickens that live a natural life lay eggs that are composed of high quality protein along with the essential fatty acids, omega 3 and omega 6. Conventionally raised hens very often have 16-30 times more omega 6, which can potentially increase the inflammatory process in our body.



Animal V Plant Protein

In the UK approximately 62% of protein intake comes from animal products:

- 36% Meat
- 7% Fish
- 16% Dairy
- 3% Eggs
- 23% Cereals
- 4% Potatoes and savoury snacks
- 5% from vegetables and pulses

There is much evidence that shows that a high intake of animal protein is linked to the development of a number of degenerative diseases:

Heart Disease

Many Cancers

High Blood Pressure

Kidney Disease & Kidney Stones

Osteoporosis- the increase of protein from 47grams to 142 grams per day doubles the excretion of calcium in urine!₂

Because the consumption of red meat increases the risk of cancer, heart disease and osteoporosis its intake should be limited to an occasional treat.

Fish should feature 2-3 times per week along with an occasional egg, and vegetable sources of protein:

Pulses

Nuts and Seeds

Whole Grains

Soya (in moderation)

Tofu

Vegetables

Too Much Milk?

Milk does provide a good source of calcium and protein. However the protein in milk can cause an acid environment in our blood that requires calcium- from our bones- to correct the high acidic levels.

Additionally milk can contribute to an increased inflammatory response and for some adults the sugars (lactose) are challenging to break down, and can cause digestive problems such as:

Bloating

Gas

Diarrhoea

Nausea

Abdominal pain



Alternatives to cows milk: Oat, Almond, Rice and Hemp milk.

Dysbiosis & Putrefaction

Dysbiosis is defined as a state of imbalance of the intestinal flora (bacteria and other micro-organisms), which can lead to excessive bacterial fermentation in the gut and 'auto-intoxication' from endotoxins (toxins produced by undesirable bacteria within the body).

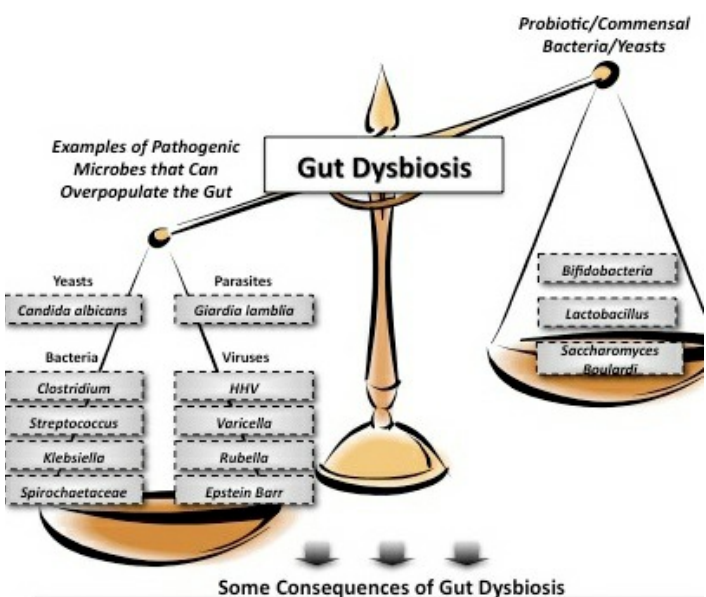
The Unique World of The Digestive System

Humans coexist in a unique relationship with a complex array of bacterial flora that inhabit the gastrointestinal tract- over 500 different strains! The bacteria and the body should exist in symbiosis (living together).

In a healthy digestive tract, there is a ratio of approximately 80% good/neutral to 20% harmful bacteria.

In the 1980's research found that bacterial toxins from an increase in the harmful bacteria can injure intestinal cells and also appear to destroy enzymes on the intestinal cell surface, thus negatively effecting digestion and making undigested foods available for bacterial fermentation.

Putrefaction dysbiosis results from high fat and high animal protein along with low fibre. This type of diet produces and increased concentration of Bacteroides and decreased concentration of the Bifidobacteria species. Bacteroides can cause vitamin B₁₂ deficiency by uncoupling B₁₂ from intrinsic factor, necessary for B₁₂ absorption. Bacterial production of B vitamins also becomes compromised.



Symptoms of B12 Deficiency:
Depression, diarrhoea, fatigue, memory loss, sleep disturbances weakness

Some Consequences of Gut Dysbiosis

- Localized gut inflammation
- Systemic inflammation
- Increased oxidative stress
- Increased production of endotoxins and other biotoxins
- Altered production/synthesis of neurotransmitters
- Intestinal permeability
- Chronic infections
- Impaired detoxification/regulation of oxidative stress (e.g., sulfation)
- Impaired energy metabolism
- Impaired nutrient synthesis (e.g., vitamins, minerals and short-chain fatty acids)
- Impaired enzyme activity
- Autoimmunity

Research has implicated putrefaction dysbiosis with breast and colon cancer. When there is dysbiosis there is an increase in bile and also an increase in the enzymes that breakdown bile in the colon, an example is betaglucuronidase, which are able to recreate oestrogen that has been detoxified by the liver, allowing the oestrogen to be re-absorbed back into the blood stream, increasing oestrogen levels and potentially causing oestrogen dominance.

Special Amino Acids

Protein foods provide the body with amino acids, all of which function to help us build, repair and help our organs function efficiently. Some amino acids also have slightly more specific roles:

Phenylalanine is an amino acid found in the brain and blood. It can be converted into another amino acid, tyrosine. Tyrosine is then used to make dopamine. Dopamine activates pleasure and happiness centres in certain parts of the brain.

Some studies have found that people who are overweight produce low levels of dopamine, and subconsciously increase food intake to get the feel-good factor.

Foods that can naturally increase Dopamine:

- Chick peas
- Chicken
- Eggs
- Fish
- Lentils
- Pumpkin and Sesame Seeds
- Turkey
- Bananas
- Avocados



Tyrosine is also vital for the production of adrenaline, noradrenaline and the thyroid hormone thyroxin.

Arganine found in chocolate, peanuts, seeds and nuts- especially almonds and walnuts has been found to :

- Improving blood flow and is beneficial in reducing cardiovascular diseases.
- Reducing cystitis
- Improving male fertility

Glutamine found in eggs and animal and plant protein.

- Improving immune function
- Promotes healing of peptic ulcers

Lysine found in most vegetables, pulses, fish, turkey and chicken.

Good for its antiviral action in fighting herpes infections or cold sores.

Methionine and Cysteine found in meat, fish, eggs and dairy products:

Help the body to detoxify.

Tryptophan found in turkey, chicken, tofu, eggs, soybeans and almonds, helps form the hormones serotonin and melatonin. Alcohol, caffeine, lack of exercise and stress can decrease the brain's ability to make serotonin and melatonin.

Summary



Meeting Your Protein Needs

You Are What You Absorb- undigested animal protein is the cause of putrefaction dysbiosis

Review the quality of your proteins:

Reduce Red Meat to 1-2 per week

Increase Proteins from Plant Source (pulses, nuts, seeds, vegetables and grains)

Eat small amounts of protein within each meal and snack

The quality of the proteins you eat reflects the nutrient value

Improve Digestion of Proteins:

Chew

Eat Slowly

A diet that is high in plant foods and fibre results in improved digestion & elimination

Eat proteins in small amounts to ensure good digestion and absorption

Thank you for listening