## Introduction

Does it take more time for a meat-rich meal to get digested versus a meal higher in vegetables and whole grains?

As we know, digestion starts in the mouth the moment we begin to chew, food is broken down to smaller pieces, then, when swallowed the process continues to the stomach, then the small intestine and finally the the large intestine for absorption and removing unwanted food substances from our systems. We also should understand that for proper digestion to occur, it requires, chemical and mechanical digestion which all begins from the mouth all the way to the large intestine as we had mentioned earlier. Different meals have different digestion times depending on the components and in this paper we will take a look at whether it takes more time to digest a meat-rich meal versus a meal rich in vegetables and whole grain.

### Digestion of Meat-Rich Meals

Does it take long to digest meals? I'd answer this question with a yes and no and break it down to a few reasons I came across during my research. It is important to note that beef, (for example which was my main focus and point of discussion) digestibility is determined by static in Vitro methods which are;

1. Age of the cattle.
2. Muscle rigor state, pH, Mincing size.
3. Muscle meat cut.
4. Organ meats.
5. Meat accompaniments.

Research shows that beef is more digestable from older cattle compared to younger. Reason being older cattler are leaner meaning they have little fat compared to younger ones between ages 1-3 years.

Other factors that influence meat digestibility are how they are cooked; temperatures, oxidation, ageing.

The first answer to this question would be No it doesn't take long to digest meat-rich meals when they are cooked with vegetables rich in proteolytic enzymes. It also doesn't take long to digest them when they finely minced and the meat particles are smaller.

The factor above, how the meat is cooked determines a lot, for instance brined and marinated meat, tends to be softer and cooks really quickly, digesting that would be easier than digesting a meat cut that has probably just been fried and spiced. Aged meat, by aged we're talking smoked meat for instance takes a shorter time to digest as most components are already broken down by the time it's being ingested.

The other answer to this question would be Yes it takes a longer time to digest meat-rich meals because in the stomach for instance, Protein has to be broken down which actively takes about an hour, then the fats and by the time the meal is in the small intestine, for further digestion and absorption it's taken more than at least two hours for the complete breakdown to take place. A Colorado state university actually reports that fat presence in the small intestine delays the stomach from emptying which may prolong digestion.

I believe that having a meat rich meal is important but how you prepare them, the type of meat cut are important, fatty cuts are harder to digest compared to leaner cuts. Organ meats are also easier to digest, the are not fatty and tend to be softer. What we accompany the meals with are also important, including fiber rich meals fasten the process of digestion or as stated earlier vegetables rich in proteolytic enzymes.

### Digestion of of vegetables and whole grains.

Vegetables support digestion especially because they are rich in fiber which is very important for the process of digestion. Fiber cleans the large intestine off bacteria and helps keep things moving through, in other words we can say, prevents constipation. Leafy greens for example, contain a lot of vitamins, minerals, phytonutrients and antioxidants and fiber which breaking down and absorption take place quicker compared to a protein filled meal. Greens also contain a fiber known as insoluble fiber which helps the intestines push waste through the gastrointestinal tract and out of the body. Some people though, have a hard time digesting raw vegetables and are advised to cook them in order to break down the cellulose.

Whole grain kernels have three parts; the bran, the germ and the endosperm and all three parts have various advantages to the Human body but importantly and compared to the digestion of meat-rich meals, the contain a lot of fiber which is very important for digestion and helps digestion take place quickly and compared to refined carbohydrates whole grains when broken down and fermented produce a short chain of fatty acids that encourage the proper functioning of cells lining the colon.

I can comfortably encourage that incorporating vegetables and whole grain to our meals is good as they aid in digestion and good gut health and avoid Gastrointestinal disorders. I can also comfortably say that the digestion of vegetables and whole grains take a shorter period to digest, have you full for a longer period of time and provide numerous health benefits to the human body.

### Conclusion

Digestion of meat rich meals compared to that of vegetables and whole grain varies. Let's note that;

1. How we cook the meat meals regardless of whether it's red or white is just as important in the process of digestion
2. The type of meat cuts, are they leaner or fatty? Note that leaner cuts take a short time to digest compared to fatty cuts.
3. The accompaniments are equally as important, ensure that they are not just meat and refined carbohydrates, vegetables are really important to aid in digestion.
4. Having a balanced diet even a meat rich one will mean it will take a shorter time to digest.

### References

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