

What is Research?

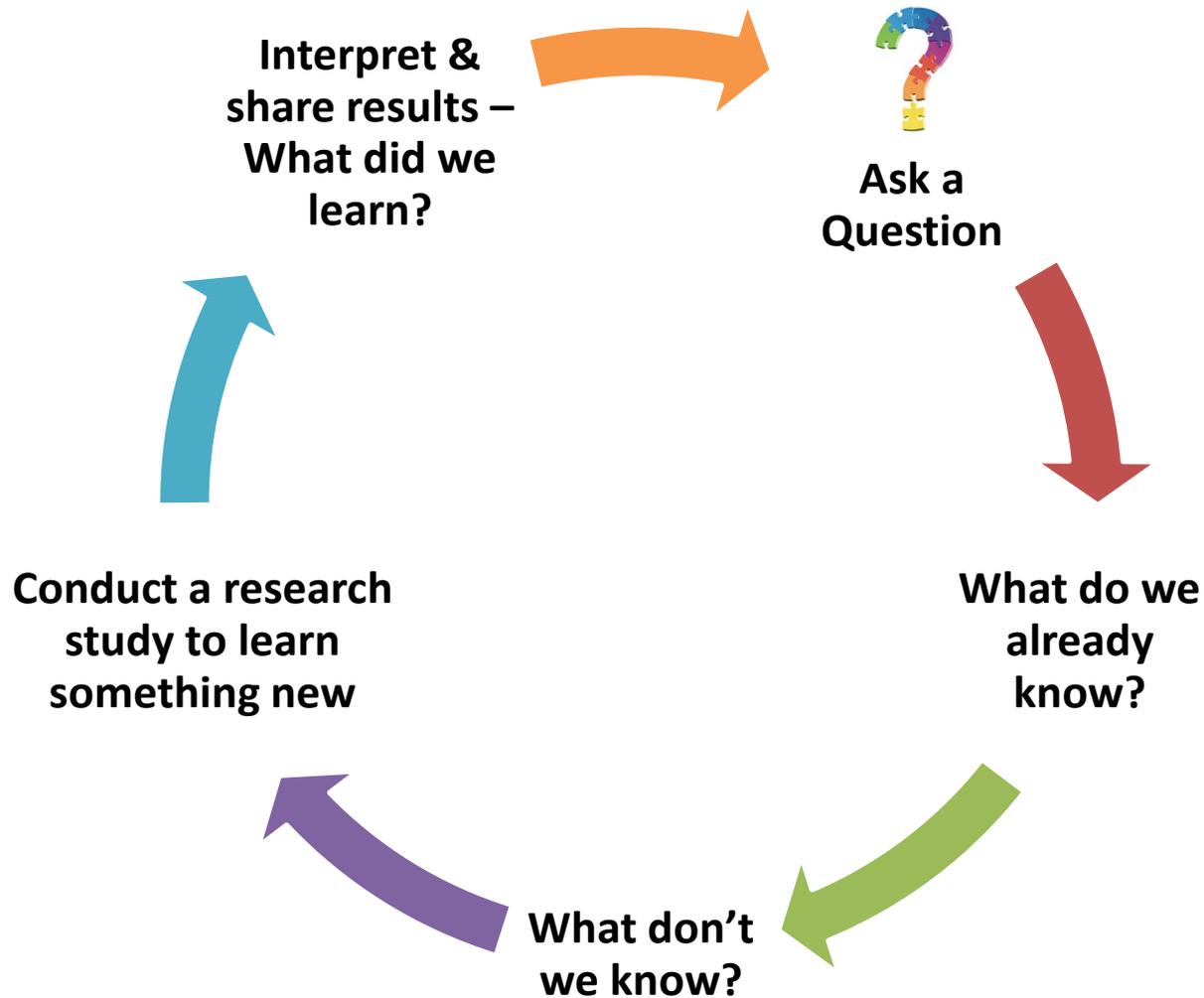
Bonnie Paris, PhD

September 19, 2015



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Research is a scientific process of answering questions



National Multiple Sclerosis Society



STOP
Disease Progression

Learn More



RESTORE
What's Been Lost

Learn More



END
MS Forever

Learn More

Source: <http://www.nationalmssociety.org/Research>

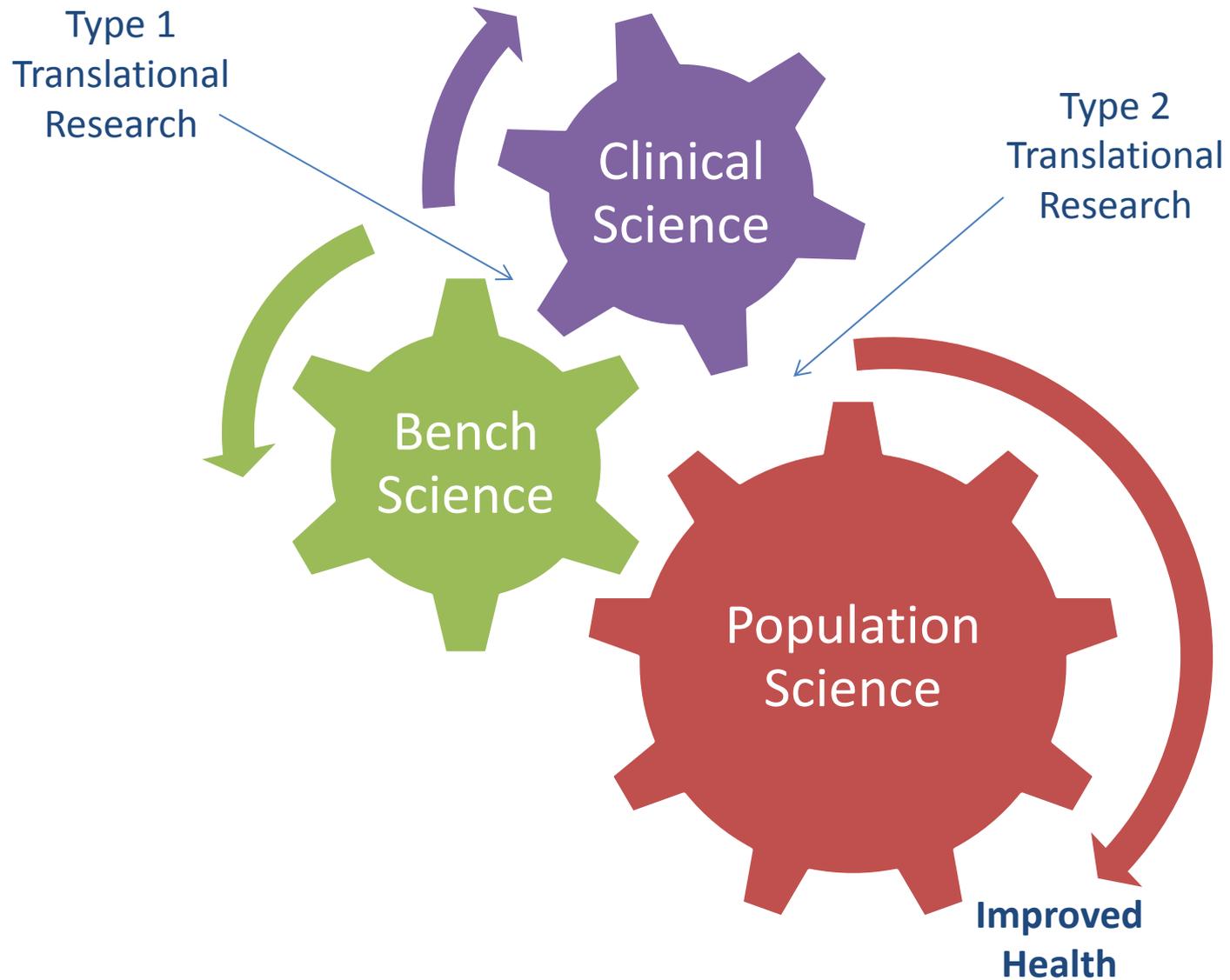
MS Research Australia – Research Strategy Overview

1. What triggers MS? Can we prevent the onset of MS?
2. What biology is driving MS? How can we stop it?
3. Can existing neural damage be repaired or replaced?

Research Streams:

- 1. Social and Applied Research
- 2. Genetics and Epidemiology
- 3. Immunology and Virology
- 4. Neurobiology
- 5. Clinical Trials

The Gears of Science



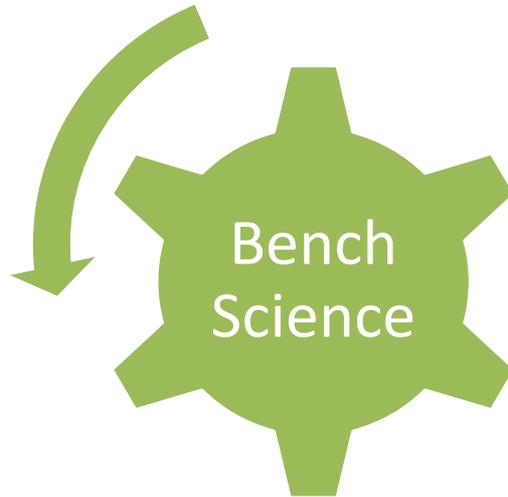
Clinical Science



- Which interventions are most effective?

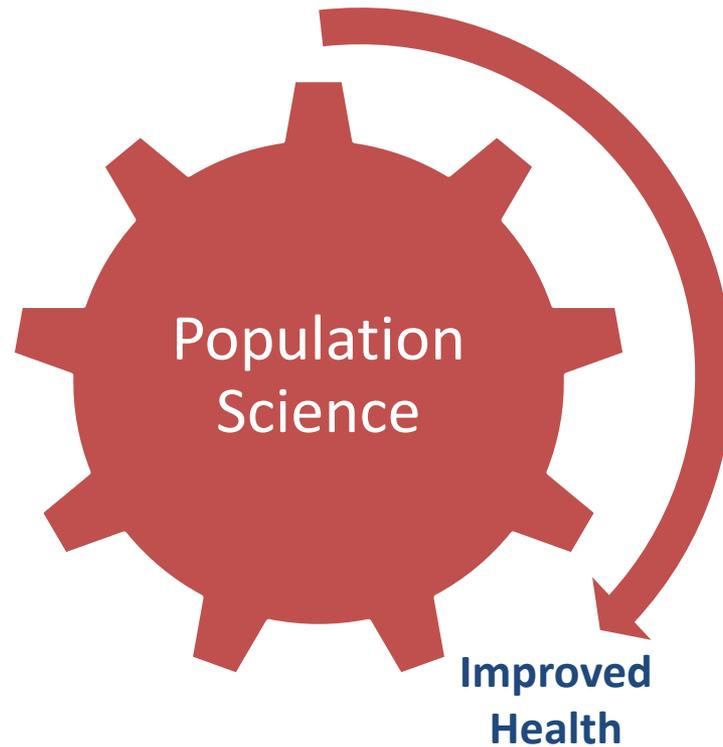
Bench Science

- What are the biological processes?
- What causes disease?

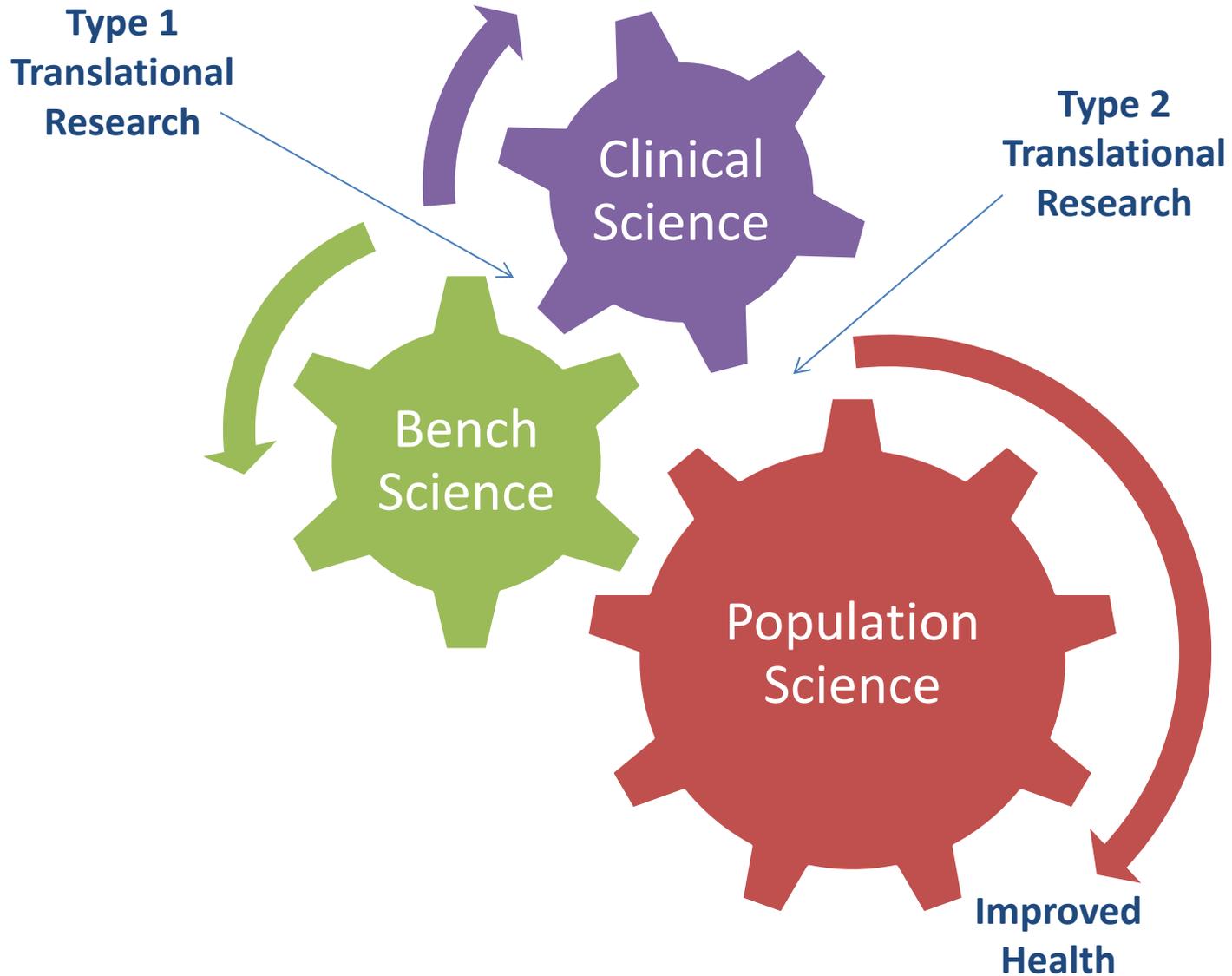


Population Science

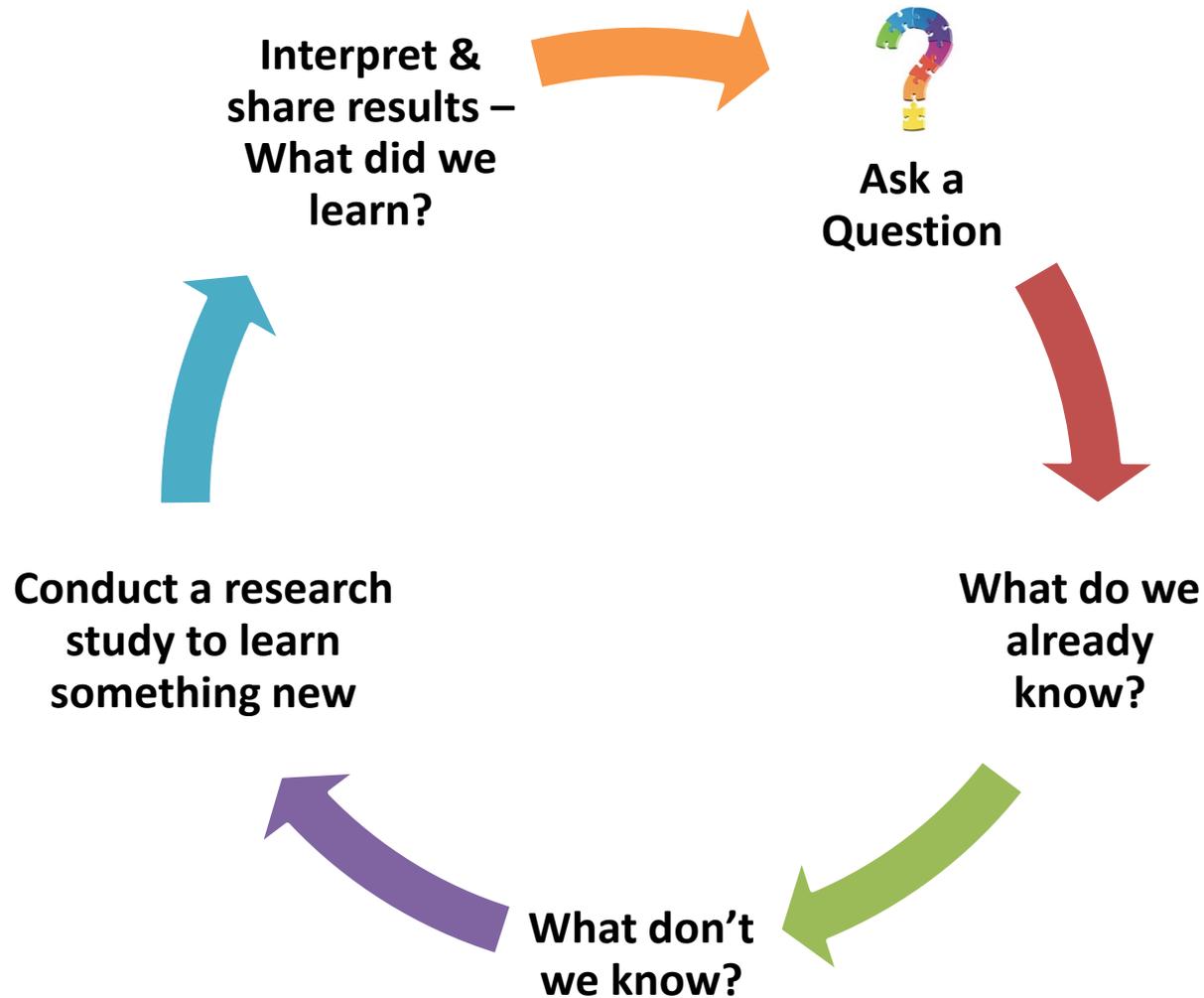
- How often do diseases occur in different groups of people?
- Why?

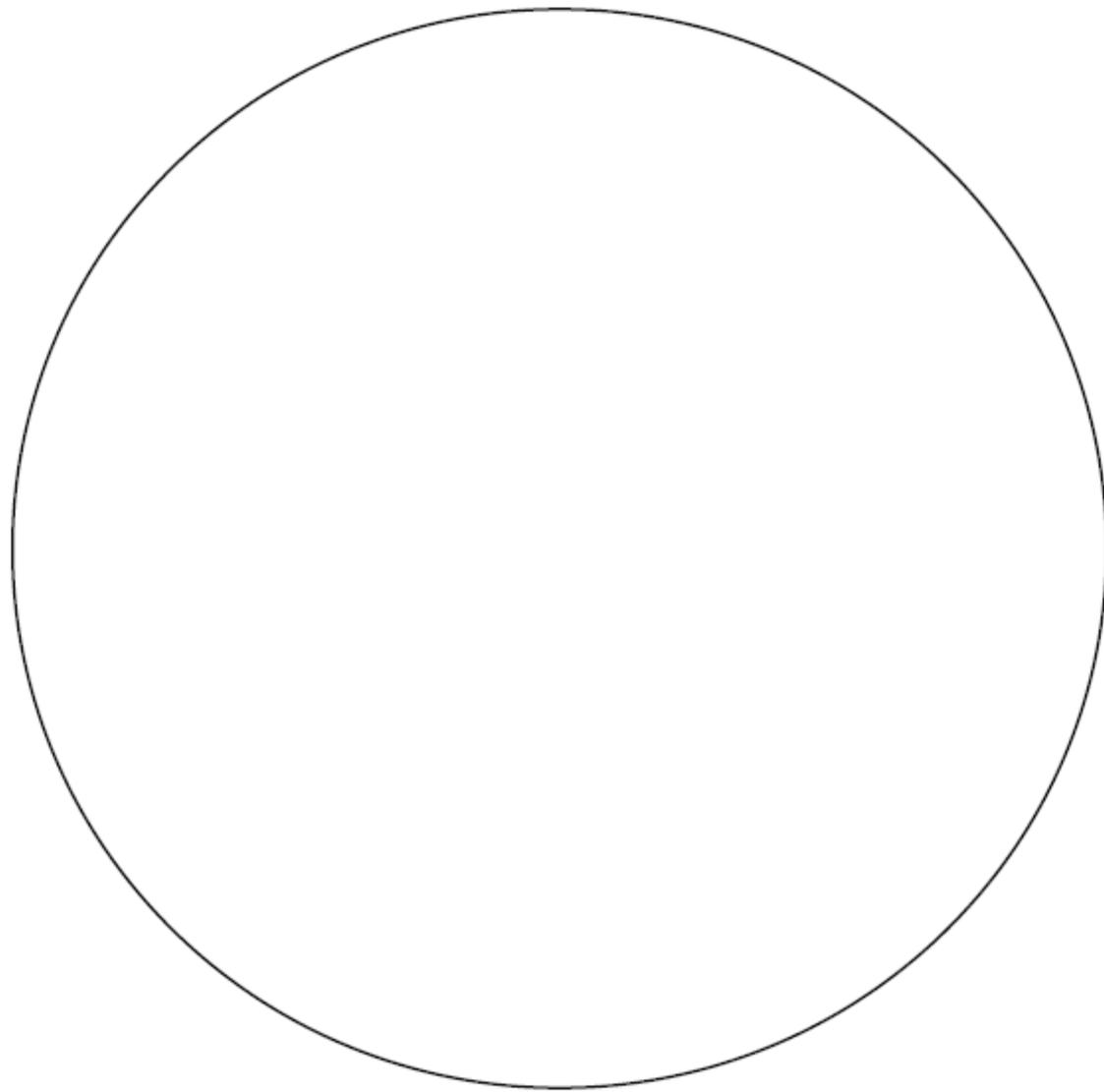


The Meshings of Science

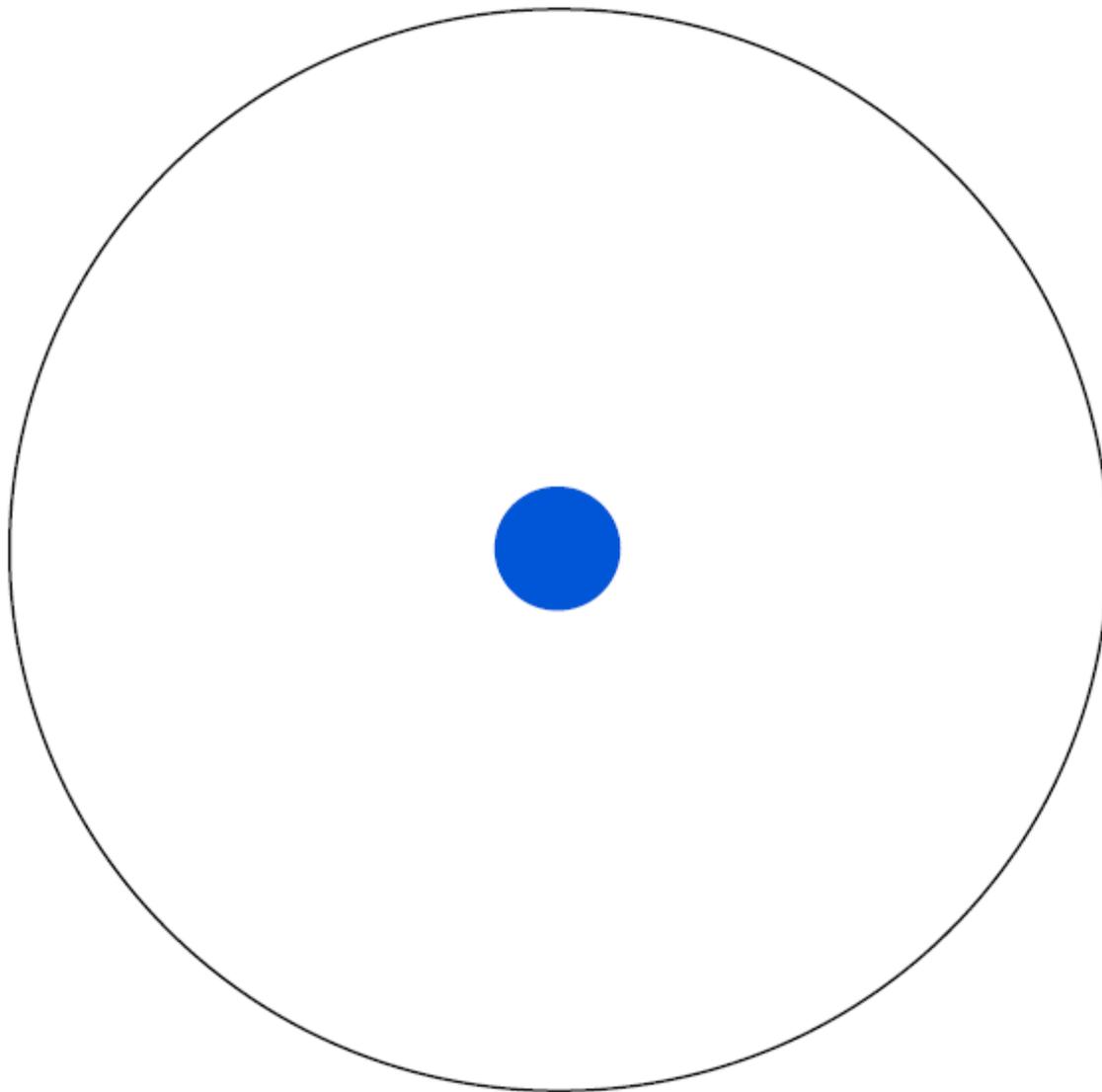


Research is a scientific process of answering questions

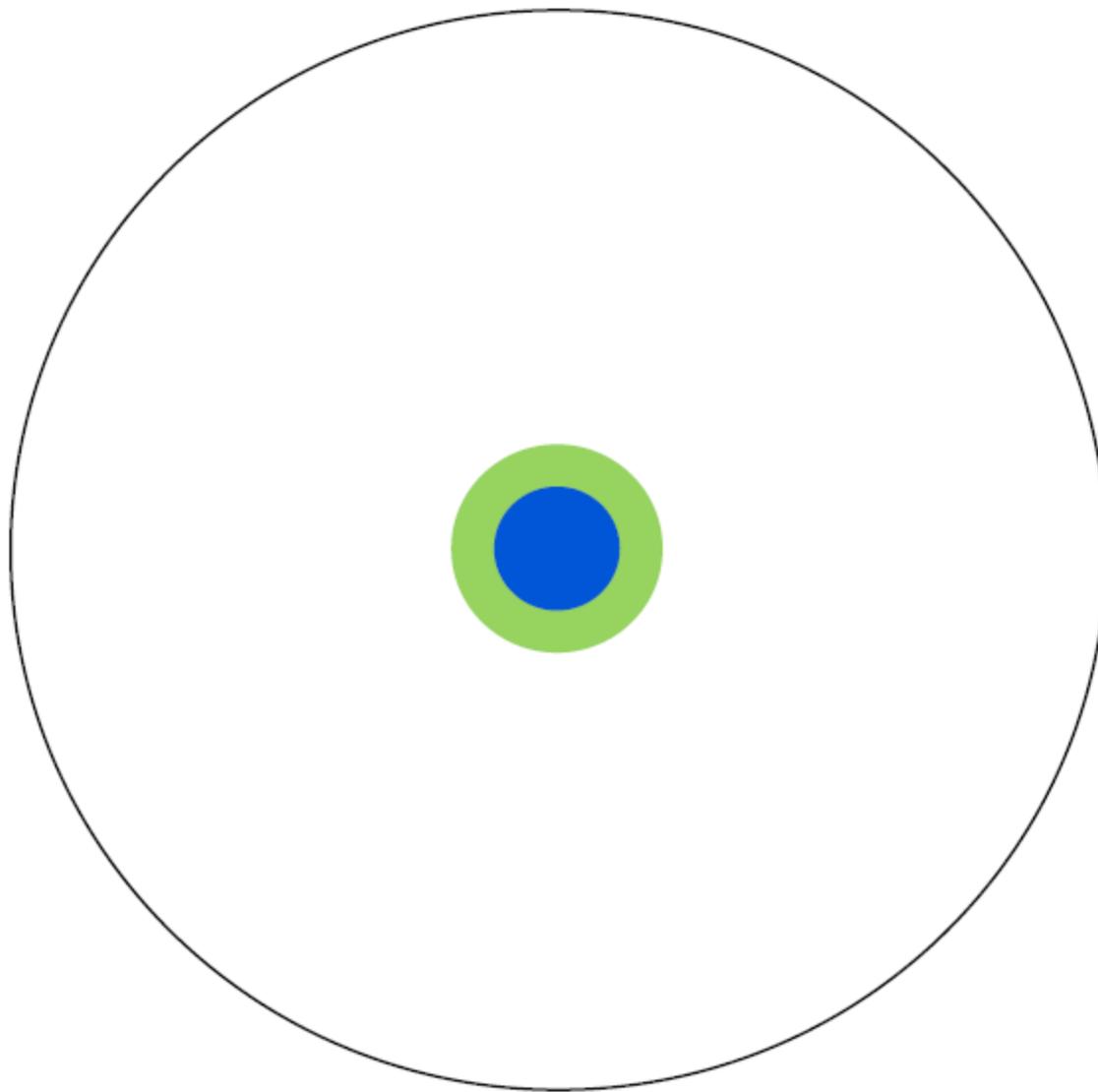




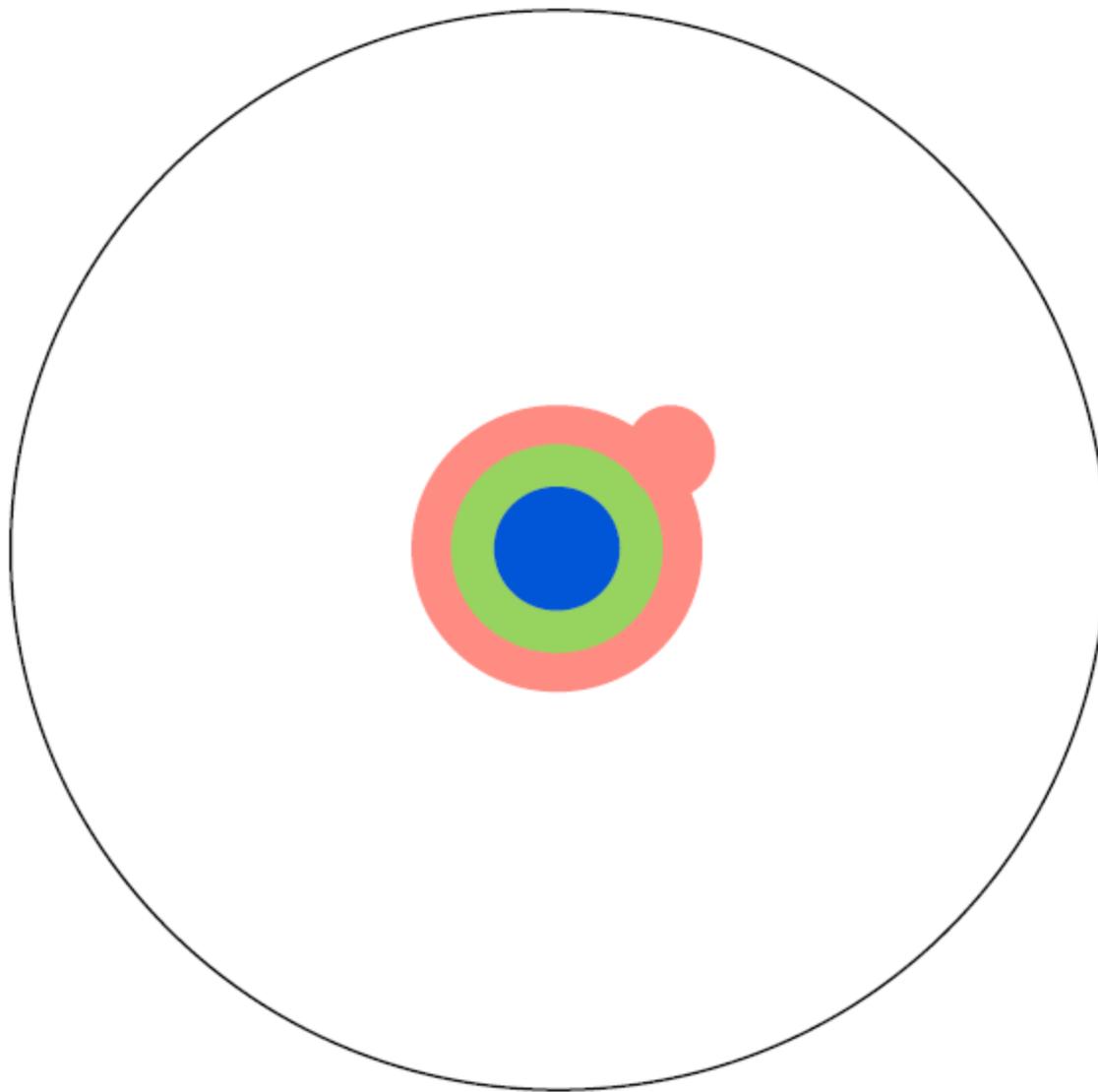
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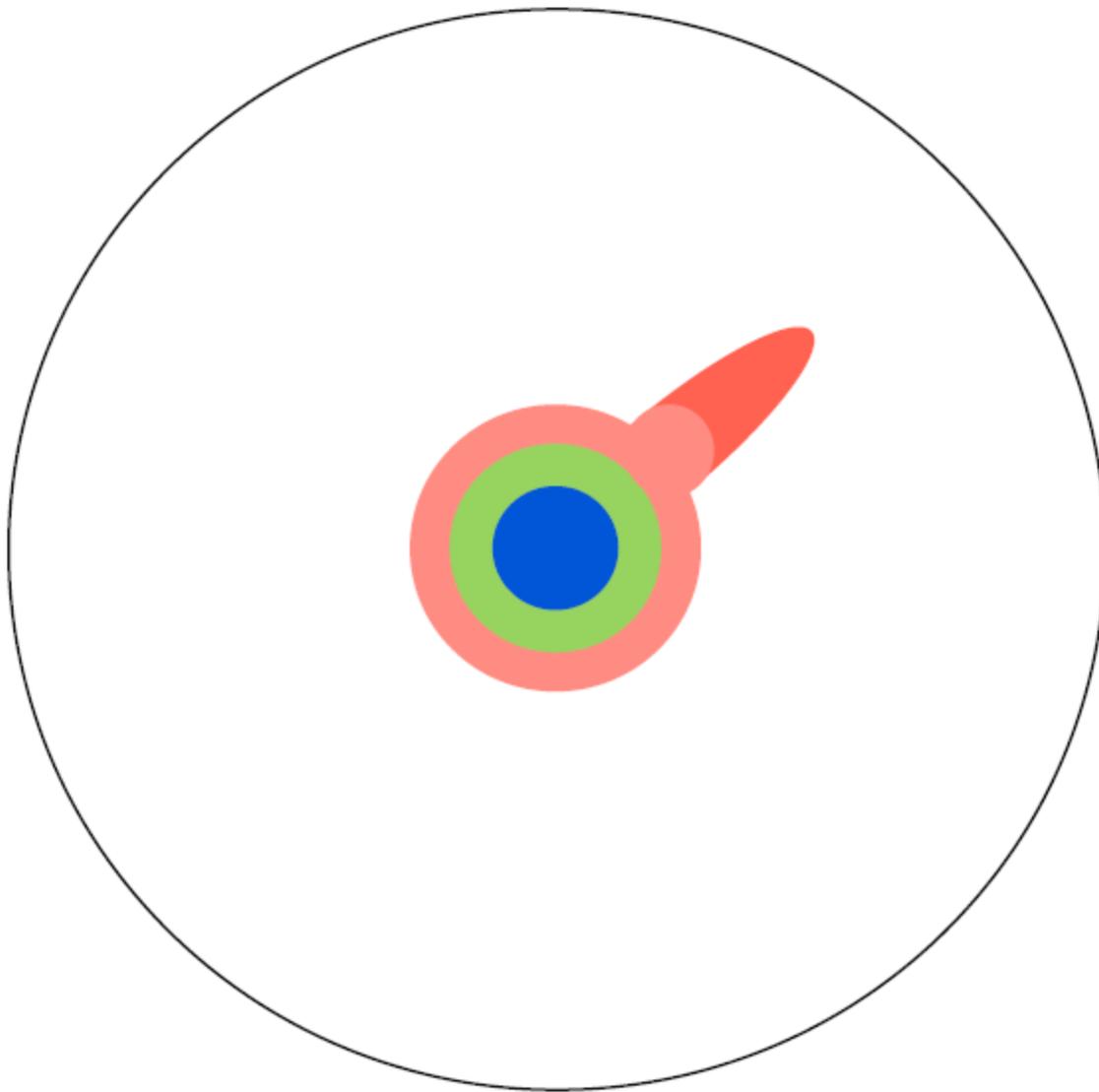
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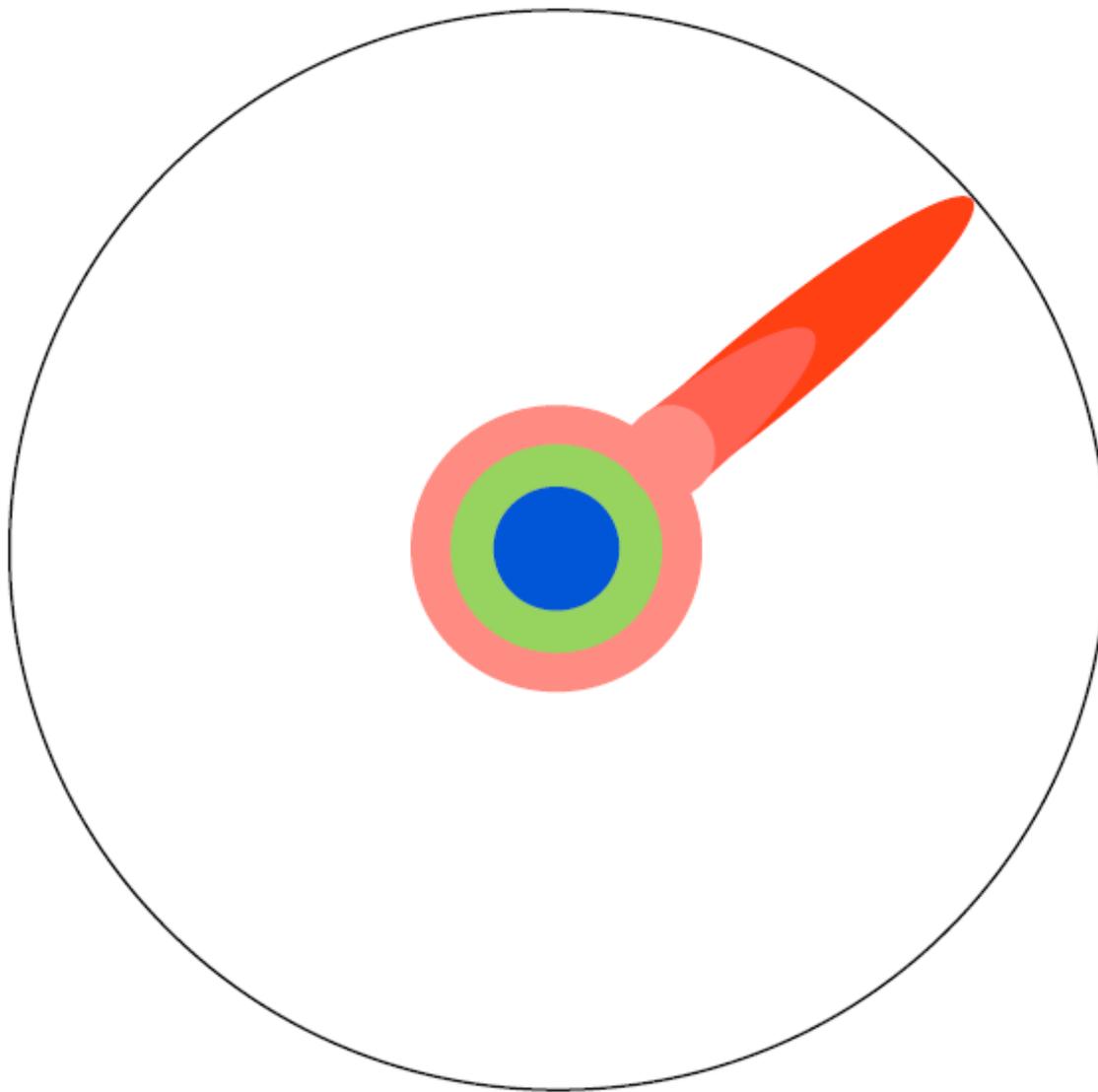
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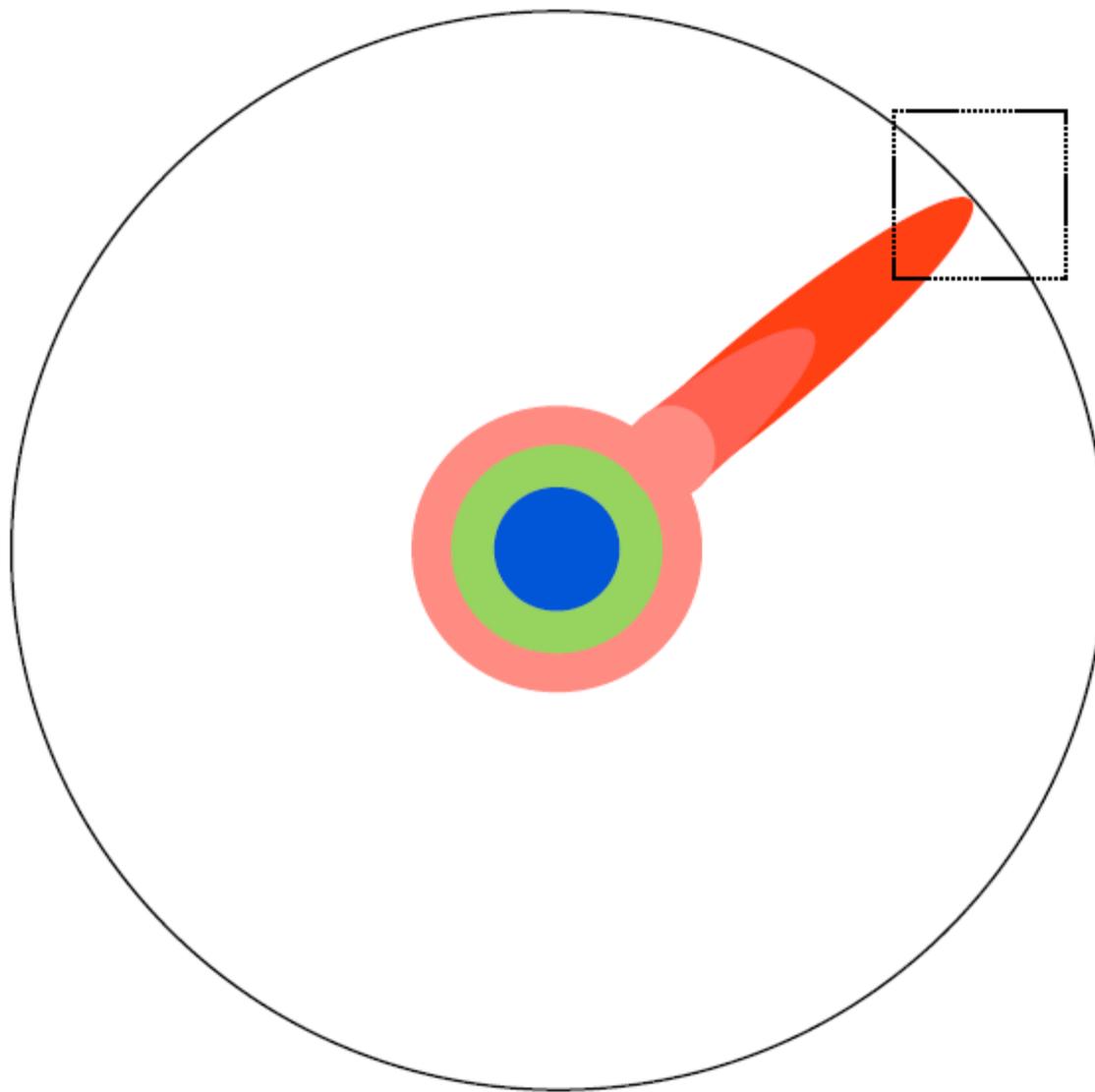
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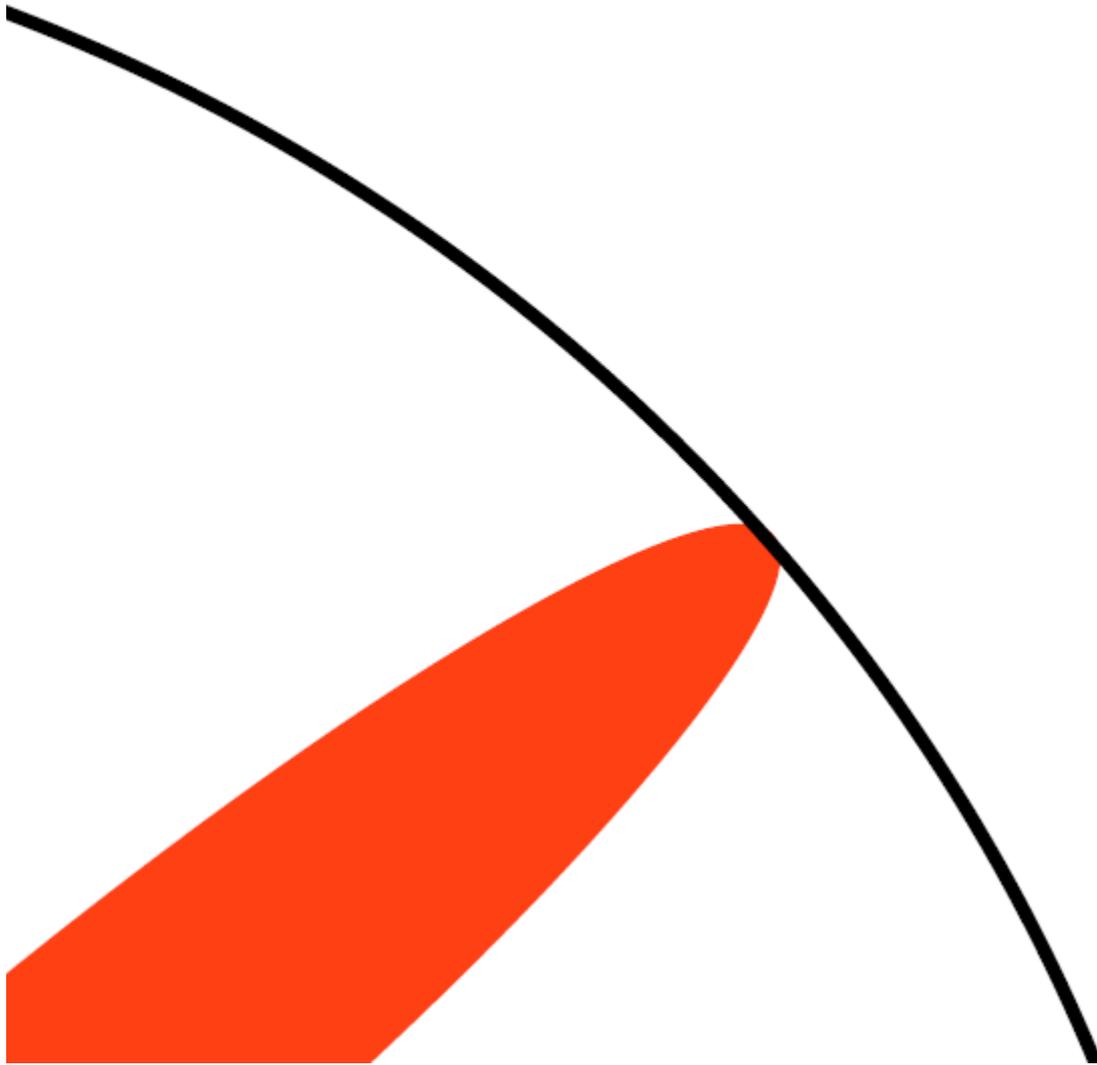
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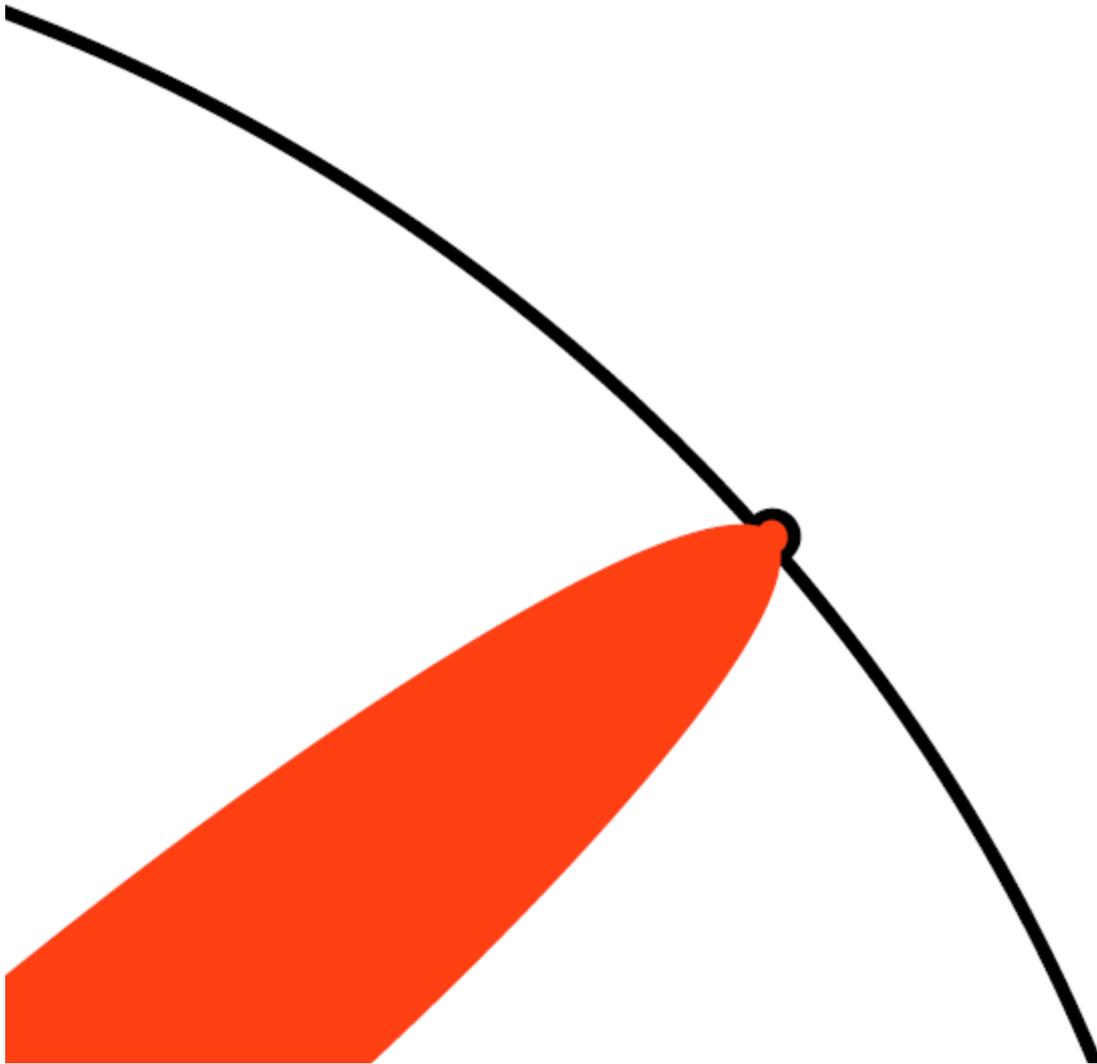
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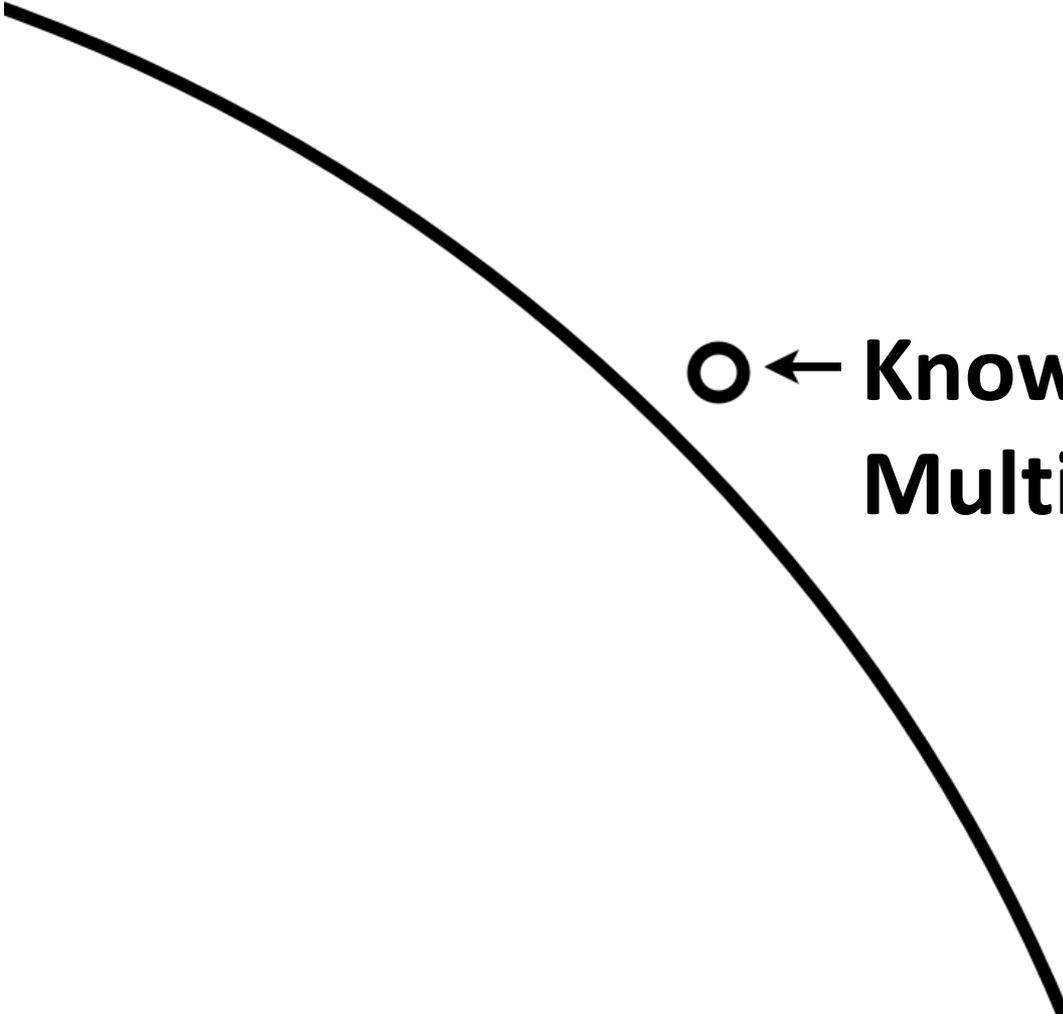
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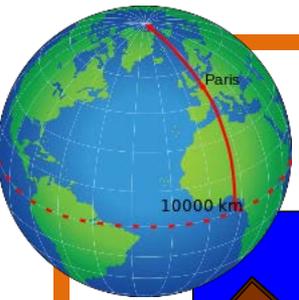
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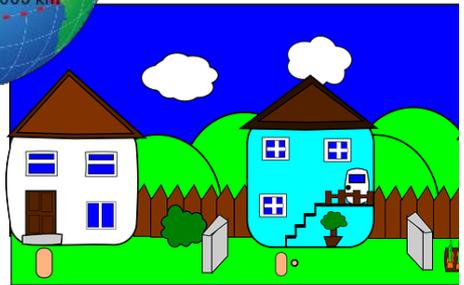
**○ ← Knowledge to cure
Multiple Sclerosis**

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What might affect your health?



Where you live?



Exercise?



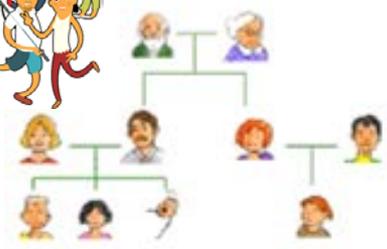
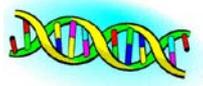
Diet?



Your friends & family?



Your genes?



Your faith?



??????????

Your gender?



Your age?



**What questions
do you have
about MS?**



MS Research Questions

- I will type your questions here so that all of you can see them, and you can make sure that I've understood what you've said correctly.
- Is MS hereditary? Is that clearly known or not? Seems to have a family connection – multiple generations.

MS Research Questions

- What is the relationship between ALS and MS, if any?
- What triggers MS? What causes it to come about? No family history
- Does diet relate to MS? Dr Wahl's paleo diet – does natural diet make a difference?
- Exercise and massage therapy, impact on quality of life - \$ for insurance to pay

MS Research Questions

- How do autoimmune diseases relate to each other? RA, lupus, Chron's, MS
- Cortisol hormone – combination with copaxone and impact on relapse rate
- Tysabri – lowers immune system – issues with UTI's – how can we tell the side effects or unintended effects of drug therapy?
- Epstein-Barr or Mononucleosis trigger for MS?

MS Research Questions

- What is the impact of insurance coverage failure to fund treatment on quality of life and health outcomes? Out-of-pocket cost is an issue, getting approval of coverage for needed medications is an issue. Directory of patient-assistance resources
- Is there any relation between people who worked in healthcare and those who have MS? DX a few years after working in healthcare – is there an environmental trigger?

MS Research Questions

- Family history of cancer, but not MS – or unknown family history – Will my child/children get MS? Is there a way to tell?
Genetics/biomarkers
- How many people who have MS have the Epstein-Barr virus? Is there a vaccine for Epstein-Barr? Would such a vaccine prevent MS? (like MMR)

MS Research Questions

- How does your blood type affect your wellness? Does one blood type do better on a certain kind of medication, certain diet, etc.
- How does left brain/right brain affect people with MS? Predominant side affected – is there a correlation?
- How is trauma related to an onset of MS? Specific incidence during time of high stress and then symptoms of MS appeared.

MS Research Questions

- Is medication your best taken... time of day taken – what is the best time of day to take it – better in the morning or at night? Better to split part in the morning, or part in the afternoon – May depend on the drug and other drugs taken.
- How does a probiotic work together with MS? If so, what brands, or characteristics of probiotics that can help with gut, UTI, skin, etc. – helps with side effects of MS drugs.

MS Research Questions

- Why don't we have more generic drugs for MS treatment? Is the generic as effective? Bio-equivalent for FDA approval
- Cranberry extract for UTIs. – is there a benefit, tys...
- Nerve repair or remyelination
- More focus on physician level awareness and the documentation provided to the patient
- Research the multiple symptoms of MS, different onsets or continuing symptoms
- Research the positive changes in MS patients instead of looking at the negatives

MS Research Questions

- Do you get MS because of another issue? Is it a primary condition or a secondary condition? Seems to have a physical trigger with other conditions – or is it a coincidence?
- Genetic studies – biomarkers – are there links to blood disorders? Relationship between MS and autism? Does ethnicity make a difference?

MS Research Questions

- Increase in autoimmune diseases generally. Is it due to vaccinations that are given? Link between autoimmune process triggered by vaccine – is it a trigger for MS?
- Gender differences in autoimmune diseases – females overrepresented.
- Progressive MS research – types, treatments?
!!!!!!!!!! \$\$\$\$\$\$\$\$

MS Research Questions

- Different symptoms of MS – when you have multiple chronic conditions, how do you distinguish which condition is causing what? WITHOUT GOING TO DIFFERENT PHYSICIANS for each thing
- Is it possible for a child with meningitis, having a spinal tap, etc., - does that affect development of MS in adulthood?
- We have multiple symptoms – is that why it's so hard to find a cure? Multiplicity of the disease itself. Everyone has a different story. Such a diverse disease.

MS Research Questions

- A lot of people are affected on one side of their body – others aren't. Why is that?
- Why do some people not respond to multiple drugs?
- How does decreased paraneal sensation affect bladder and sexual function?
- Cognition – is there research to help improve cognition? Maintaining what you have.

MS Research Questions

- Holistic research relating to diet – increased cinnamon and acupuncture + other holistic treatments
- Role of hormones in MS therapies and side-effects. Thyroid function – MS.
- Underrepresentation in the number of diagnosed MS patients. It may be higher than reported – is there an initiative to stand up and be counted?

- Vitamin D, probiotics, gluten-free – impact on MS?
- People that have a deficit in function on one side or the other following a relapse – research on how to improve the deficit.
- Does everybody have the MS gene, does it mutate? Is it caused by environment?
- Cannabis – is it a help to people with MS to manage symptoms?

- Men are diagnosed less than women – is that because men don't go to the doctor as much? (and are therefore being under-diagnosed until it becomes very severe)
- The body as a whole, not just looking at the brain or spine. The gut-brain connection.
- Inflammation and allergies contributing to diseases like MS, how they can be similar to other autoimmune diseases.
- Wahl protocol – clean eating, avoiding processed/added sugars – role in redressing symptoms and preventing development.
- Environment with toxins, vaccines, radiation – microwaves, cell-phones, etc., affecting genetic mutation. Agricultural practices with pesticides – transfer through the food chain.
- Natural medicine – how can we use it to support the medication currently taking? Going from synthetic meds to natural-based meds.

- Because there's already scar tissue in the brain, even if marijuana helps with pain, will it cause more brain damage?
- Are pills for MS as effective as shots or infusions?
- More public awareness needed. All the ads on TV – getting an ad on TV to reach people with MS symptoms early to be seen by a physician. Early diagnosis
- Some people with Relapsing-Remitting and stay that way, and some that move on to progressive. Are there certain initial symptoms that can predict whether or not you would move on to progressive MS? Are there things that people can do to change whether or not MS progresses?
- NAROMS – North American Research (on?) MS <3

- Along with Wahls protocol – when you're on a blood thinner and looking at different protocols and diets – and leafy greens can be a problem for someone on a blood thinner. Are there other medication-friendly diets that can be used for someone on a blood thinner?
- Amphetarol ? Energy OTC herbal supplement – research
- DATA-BASED DIET 😊
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