

Interpreting for Cancer Genetics

Cynthia E. Roat, MPH

Galen Joseph, PhD

Marian Gilmore, CGC



Review

1. What is a chromosome? What is a gene?
2. What does it mean if a gene is “dominant” or “recessive?”
3. What is a genetic change at the chromosomal level called? How about a genetic change at the gene level?
4. What does it mean if a change is “benign”? How about “deleterious” or “clinically significant”, or “pathogenic”?
5. What is cancer?
6. What is the difference between sporadic cancer and hereditary cancer?
7. What are three red flags that suggest a person might have the gene for hereditary cancer?
8. What do genetic counselors do? And what are the steps involved in a genetic counseling appointment?
9. What could be some of the benefits to genetic testing? And why might some people be wary of testing?
10. What is looked at in a single site analysis? Individual gene testing? A gene panel test?



Review

What do you remember most
from last week's class?



What to expect today

1. Challenges for interpreters
2. Vocabulary exercises in English
3. Conversion exercises
4. Posttest

*“Hi, I’m Dana.
I’m a genetic
counselor, and
today we’re
going to talk
about the
results of your
genetic tests.”*





Genetic Counselor

“So often if there’s something genetic causing cancer in one side or the other, we tend to see many generations of cancer and often cancers that occur when people are young.”



“And then your sons would have a 50 percent chance that they inherited the genetic change -- the mutation -- and a 50 percent risk that they didn’t.”



“So there’s a chance that they wouldn’t have inherited it and would have no higher risk for cancer.”



“The boys are all young, so these are not cancers that affect young people.”



Interpretation, back-translated

“Usually if there is cancer in your genes, you would see many people from multiple generations who got cancer due to genetics and they are very young. But your family, based on what you said, does not have it.”

“If you test positive in the test, your son would have a 50 percent chance in the future to receive your genes.”

“According to the results of the test, whether they are positive or negative, the probability would have to wait until the results come out.”

“So it’s like, if your results came back positive, the genes usually attack the younger children.”



“So there’s a chance that they wouldn’t have inherited it and would have no higher risk for cancer.”





Chromosome?

Gene?

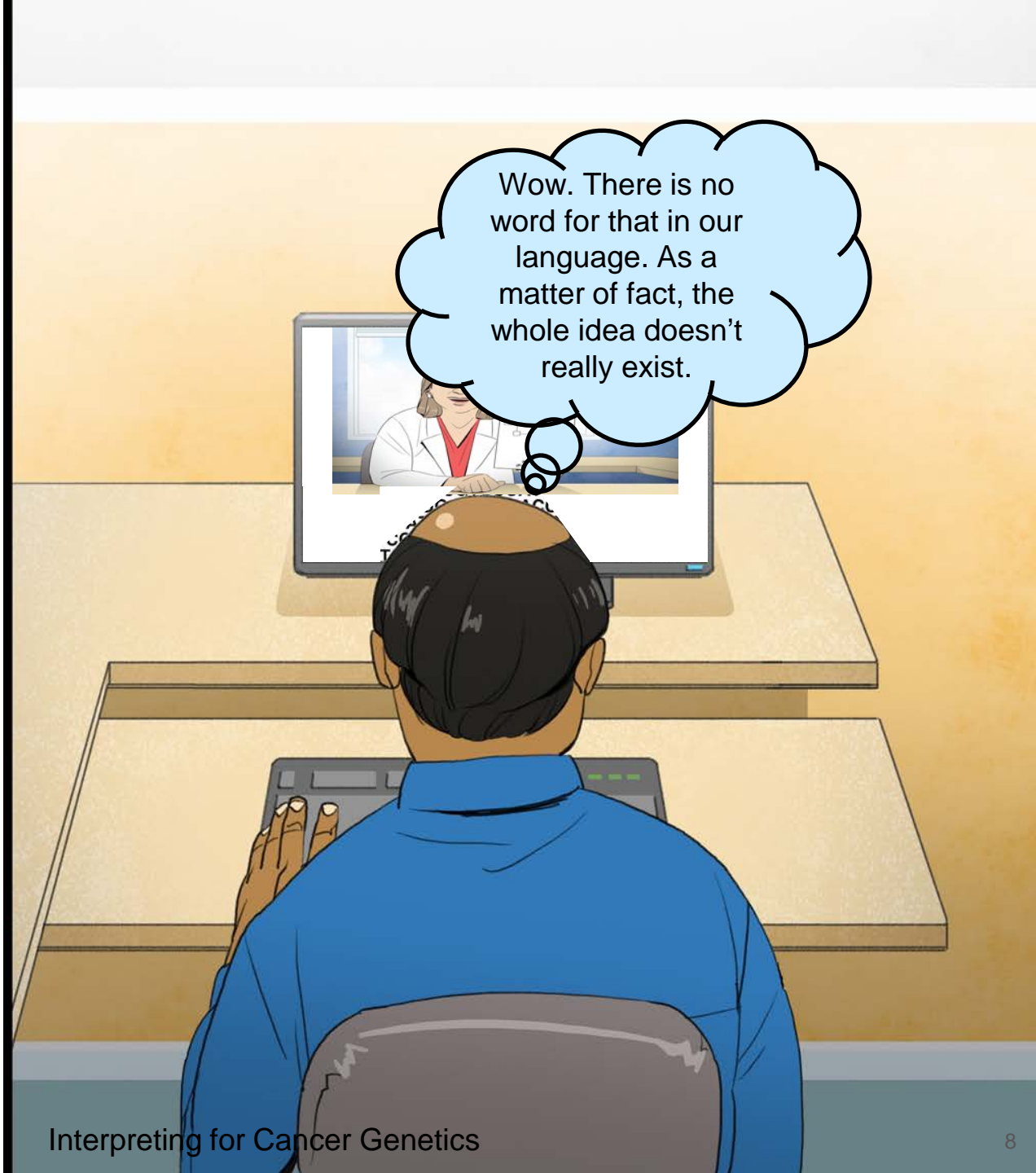
Cell?

Variant?

Recessive?

Sporadic?

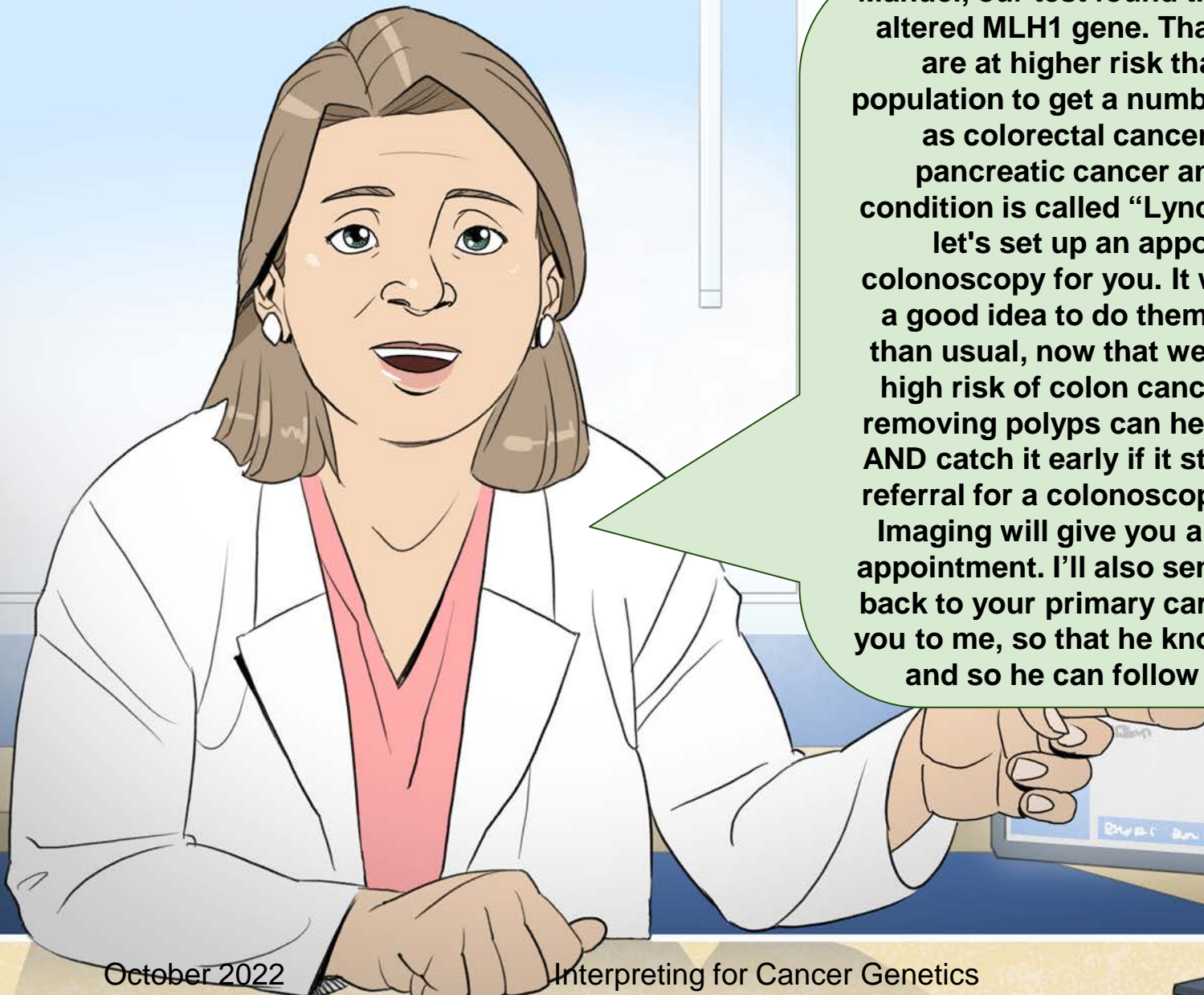
Risk?



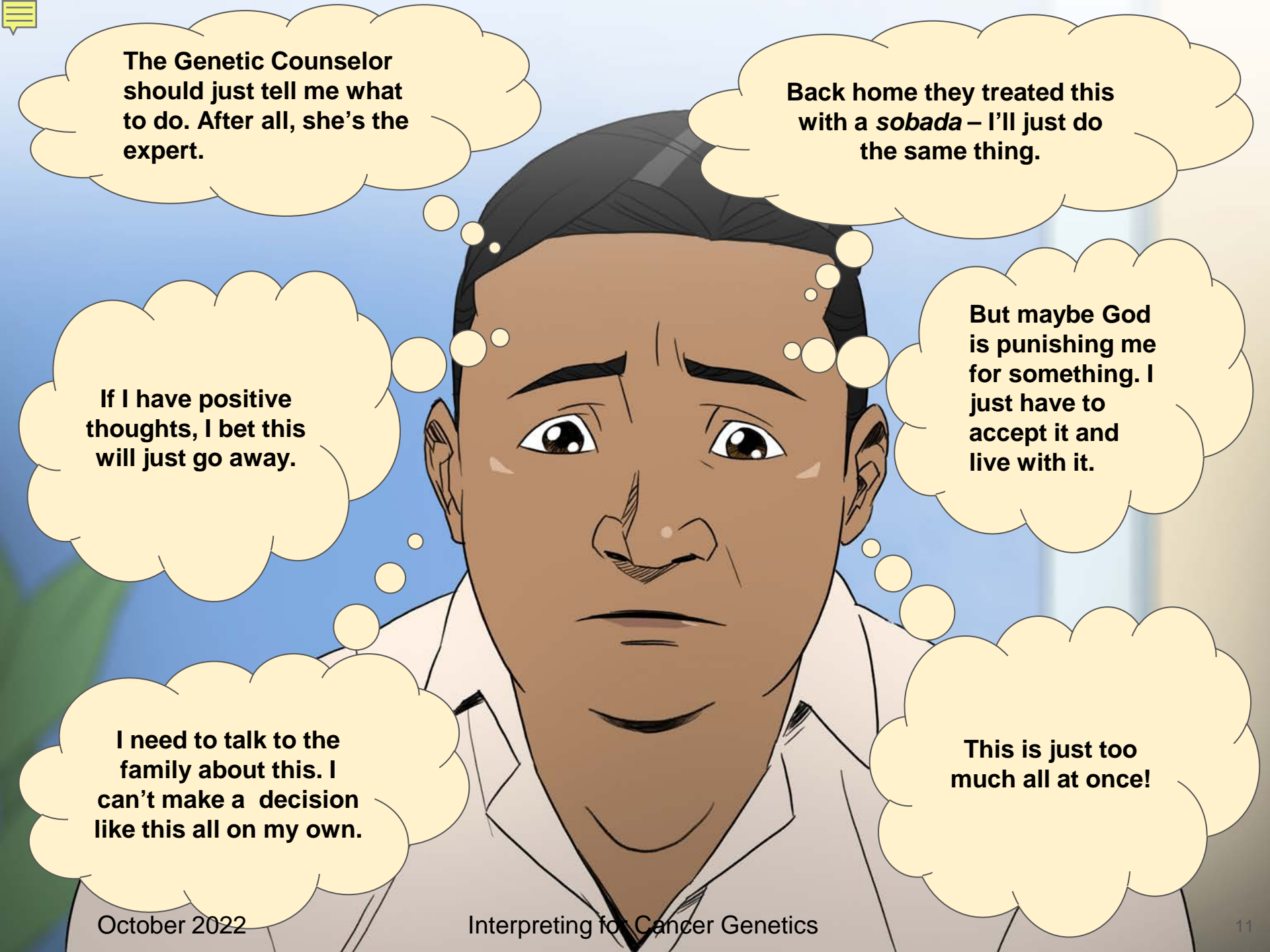
So we found a gene variant at MLH1, which is a dominant trait and will raise your probability of developing cancer.

I wonder what that means . . .
Better just smile and nod . . .





Manuel, our test found that you do have an altered MLH1 gene. That means that you are at higher risk than the general population to get a number of cancers such as colorectal cancer, liver cancer, pancreatic cancer and others. This condition is called “Lynch Syndrome.” So, let's set up an appointment for a colonoscopy for you. It would probably be a good idea to do them more frequently than usual, now that we know you have a high risk of colon cancer. We know that removing polyps can help prevent cancer, AND catch it early if it starts. So I'll send a referral for a colonoscopy. The Diagnostic Imaging will give you a call to set up the appointment. I'll also send this information back to your primary care doctor who sent you to me, so that he knows what we found and so he can follow up after the ----

A man with a worried expression is shown from the chest up. He has dark hair and is wearing a light-colored collared shirt. He is surrounded by several yellow thought bubbles of various sizes, some connected to his head by thin lines. The background is a soft-focus blue and green. In the top left corner, there is a small yellow speech bubble icon.

The Genetic Counselor should just tell me what to do. After all, she's the expert.

Back home they treated this with a *sobada* – I'll just do the same thing.

If I have positive thoughts, I bet this will just go away.

But maybe God is punishing me for something. I just have to accept it and live with it.

I need to talk to the family about this. I can't make a decision like this all on my own.

This is just too much all at once!



QUESTIONS?

