

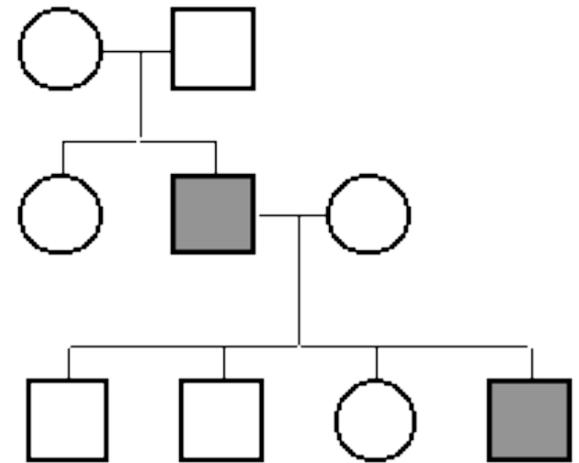
# Know your Genes

A guide to taking a family health history



# The Pedigree

- ▶ A Pedigree is a medical family tree, or a graphic representation of a family's health history and genetic relationships
- ▶ Genetic counselors draw out a pedigree for each of their patients and look for patterns or indications which may be helpful in diagnosing or managing an individual's health



Try it for yourself!

# Step 1: Talk to your Family

- ▶ Ask questions about the health of each individual in your family (be specific) and write down anything that seems important
- ▶ Make sure you ask people who are reliable family historians, or people who you think would know the most about the family's health history
- ▶ Consider all your first and second degree relatives (and third degree, if you are ambitious enough!)
- ▶ *Added bonus:* talking to your family about health may spark interesting conversations about other aspects of your family, such as its traditions and stories

# Who should you ask about?

- ▶ First-degree relatives
  - Your children
  - Your parents
  - Your siblings
- ▶ Second-degree relatives
  - Your grandparents
  - Your grandchildren
  - Your aunts and uncles
  - Your nieces and nephews
  - Your half-siblings
- ▶ Third-degree relatives
  - Your first-cousins (ie, your aunt's child)
  - Your great-aunts and uncles (ie, your grandparents' siblings)
  - Your great-grandparents or great-grandchildren

# What questions should you ask?

- ▶ What is the person's name and their relationship to you?
- ▶ What is the person's current age, or how old was he or she at the time of death?
- ▶ What was the cause of death, if applicable?
- ▶ Did the individual have any medical conditions, and what age were they when diagnosed?
  - Chronic illnesses (ie, heart disease, diabetes)
  - Cancer, see aside
  - Mental retardation/learning disabilities
  - Physical disabilities
  - Birth defects (ie, heart defect, cleft lip)
  - Known genetic diseases (ie, muscular dystrophy, cystic fibrosis)
  - Mental illness
  - Multiple miscarriages
  - If ill, do they lead an unhealthy lifestyle (ie, smoking, alcohol)?
- ▶ Cancer
  - Where in the body was the cancer detected (ie, breast, lung, stomach)?
  - How old was this person when the cancer was diagnosed?
  - Any information on pathology
- ▶ What country did each side of the family come from (ie, their ethnicity)?
- ▶ Are the two sides of the family related to each other by blood? (Were your parents or grandparents cousins?)

# Step 2: Draw it Out

Common symbols to know, with examples:



12 y

*Male* (12 years old)

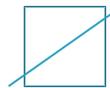


3 mo

*Female* (3 months old)



*Gender unknown*



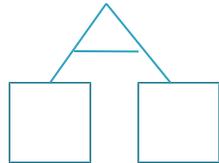
d. 45, stroke

*Deceased*  
(at age 45, from a stroke)



Cystic fibrosis

*Affected*  
(with cystic fibrosis)



*Identical twins*



*Fraternal twins*



12 weeks

*Miscarriage*  
(at 12 weeks)

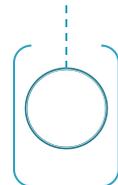


Heart defect

*Termination of pregnancy*  
(due to heart defect)



*Current pregnancy*



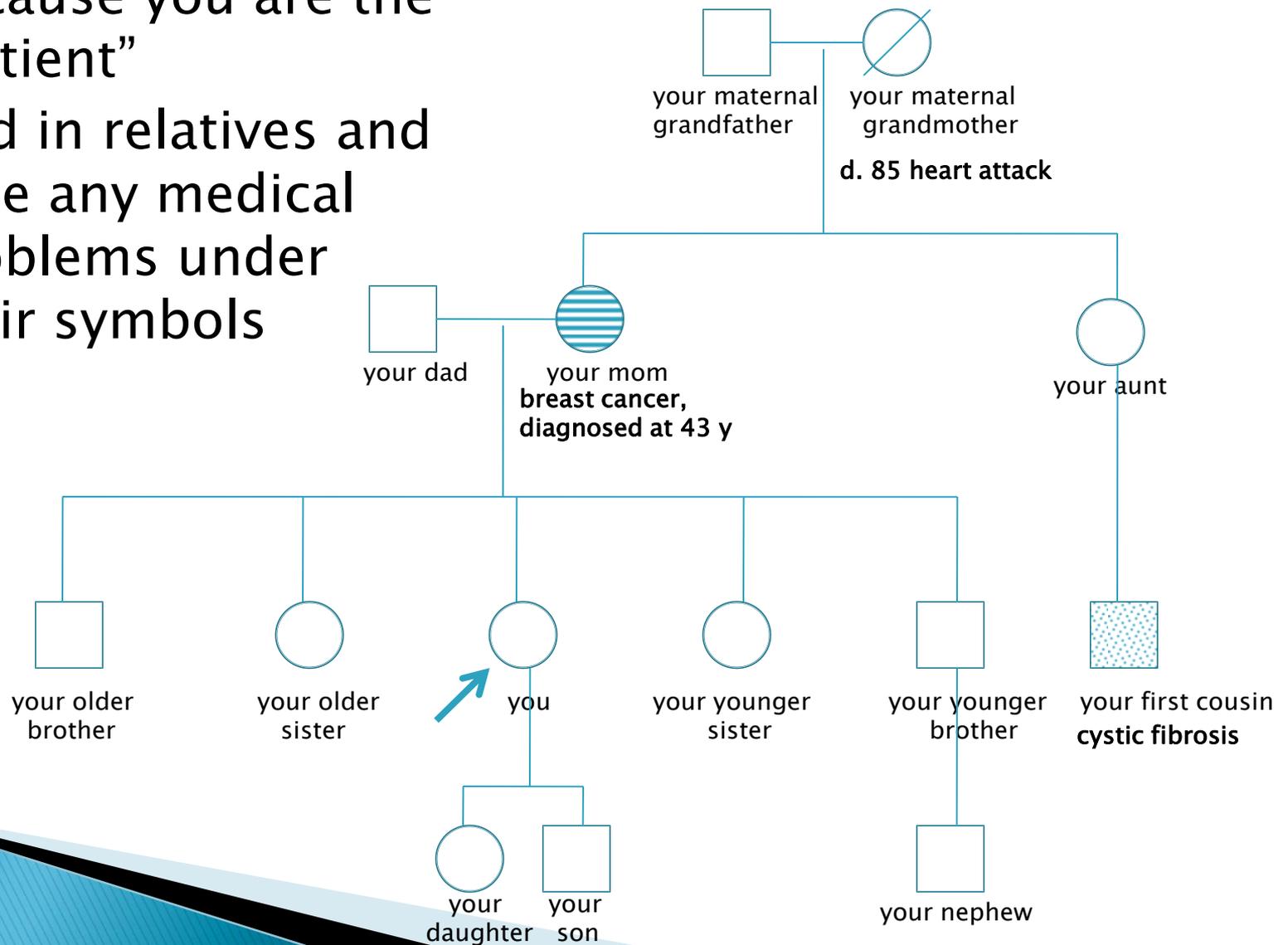
*Adopted into family*



*Multiple individuals*

Draw it freehand, or use an online tool such as My Family Health Portrait: <https://familyhistory.hhs.gov/FHH/html/index.html>

- ▶ Draw yourself first
- ▶ Put an arrow by you because you are the “patient”
- ▶ Add in relatives and note any medical problems under their symbols



# Step 3: Recognize the Signs

- ▶ Are there multiple individuals with the same medical condition?
- ▶ Is there cancer at a young age? (younger than 50)
- ▶ Did a family member have a serious birth defect?
- ▶ Is there any infant death or multiple miscarriages in the family?

*Does something just look suspicious or concerning to you?*



# Step 4: Get Help, if needed

- ▶ If there is something that looks concerning, contact your physician or make an appointment with a genetic counselor
- ▶ To find a genetic counselor in your area:  
<http://nsgc.org/p/cm/ld/fid=164>
- ▶ Remember...
  - ... your genes are not your destiny. Many (but not all) genetic diseases are treatable or preventable.
  - ...you share your genes with your relatives. Sharing genetic information about yourself with your family members may help save lives.