

## \* Rules of Pedigree ☺

1) Is the disease present in every generation?

- Yes → Dominant
- No → Recessive

2- What is the Male to Female Distribution?

- $\approx 1:1$  → Autosomal
- $\uparrow\uparrow\uparrow$  Male → X-linked Recessive
- $\uparrow\uparrow\uparrow$  Female → X-linked Dominant.

3- Is it Male-to-Male transmission? (Affected Father → Affected Son)

- Existing → Autosomal (Not X-linked)
- Doesn't exist → It may be X-linked.

## \* Tricks

1- Affected Father → Affected Son (Immediately delete X-linked)

2- Healthy Father → Affected Girl (Impossible to be X-linked Recessive)

3-  $\uparrow\uparrow\uparrow$  Affected Males → Carrier Mother (Immediately X-linked Recessive).

4- Natural parents + Affected Children (Recessive).

# \* Rules of Pedigree (v)

## \* Cases

1. It exists in every generation.  
+ Male-to-Male transmission.  $\rightarrow$  Autosomal Dominant.

2. Skips generations  
+ Male = Female (1:1)  
+ Consanguinity  $\rightarrow$  Autosomal Recessive.

3.  $\uparrow\uparrow\uparrow$  Males  
No Male to Male transmission  
Mother Carrier  
No transmission of Father  $\rightarrow$  Son  $\rightarrow$  X-linked Recessive.

4. It exists in every generation.  
No male-to-male transmission.  
Affected Father  $\rightarrow$  All girls affected.  $\rightarrow$  X-linked Dominant.

5. Only Males Affected  
Father  $\rightarrow$  All Male children  $\rightarrow$  Y-linked (very Rare).