

**APIC**  
**New York City**  
**21 September 2005**

# ANIMALS

**Scrapie  
(sheep/goats)**

**TME  
(mink)**

**CWD  
(deer/elk)**

**BSE  
(cattle)**

# HUMANS

**Creutzfeldt-  
Jakob disease**

**Sporadic**

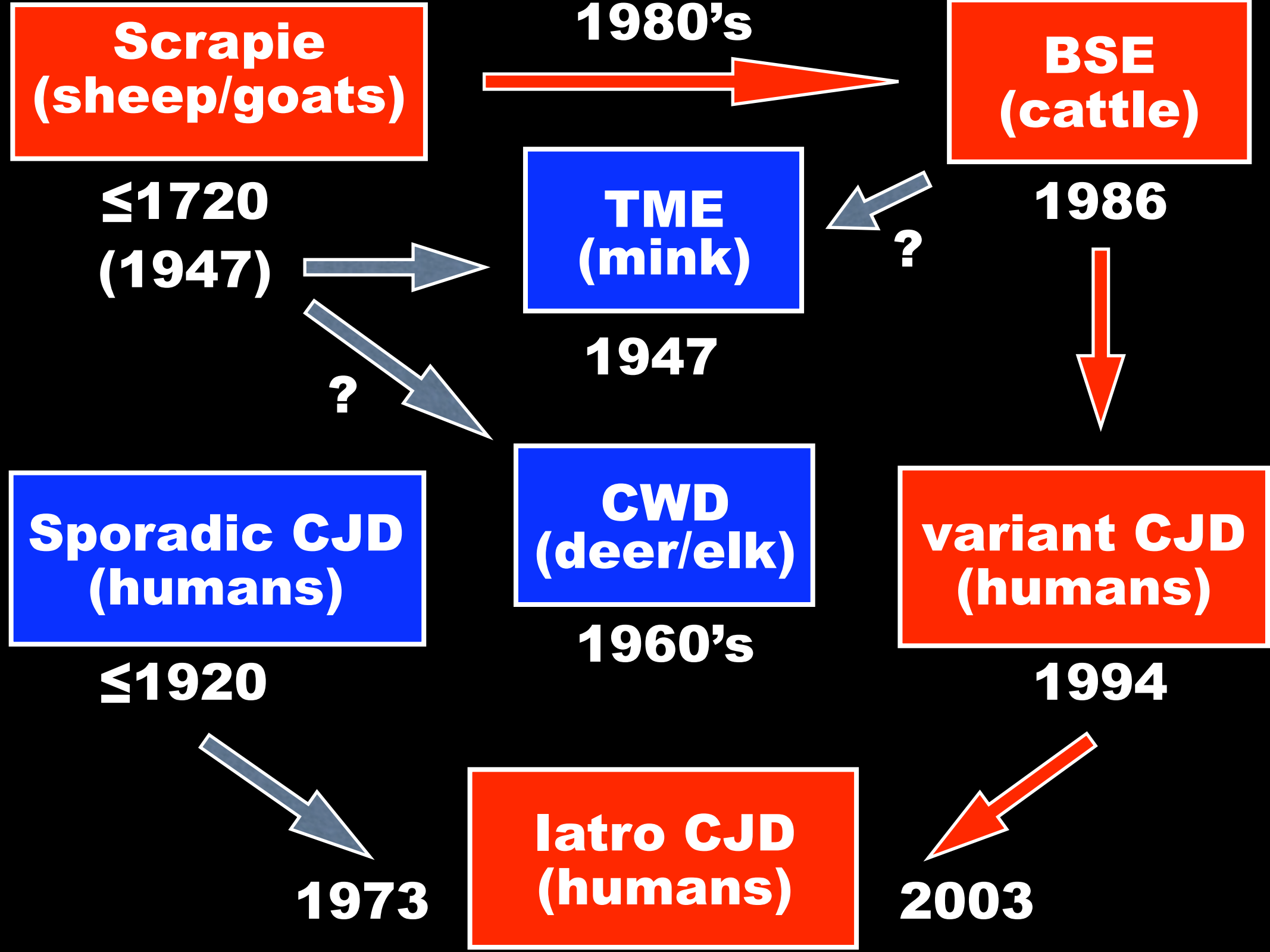
**Familial**

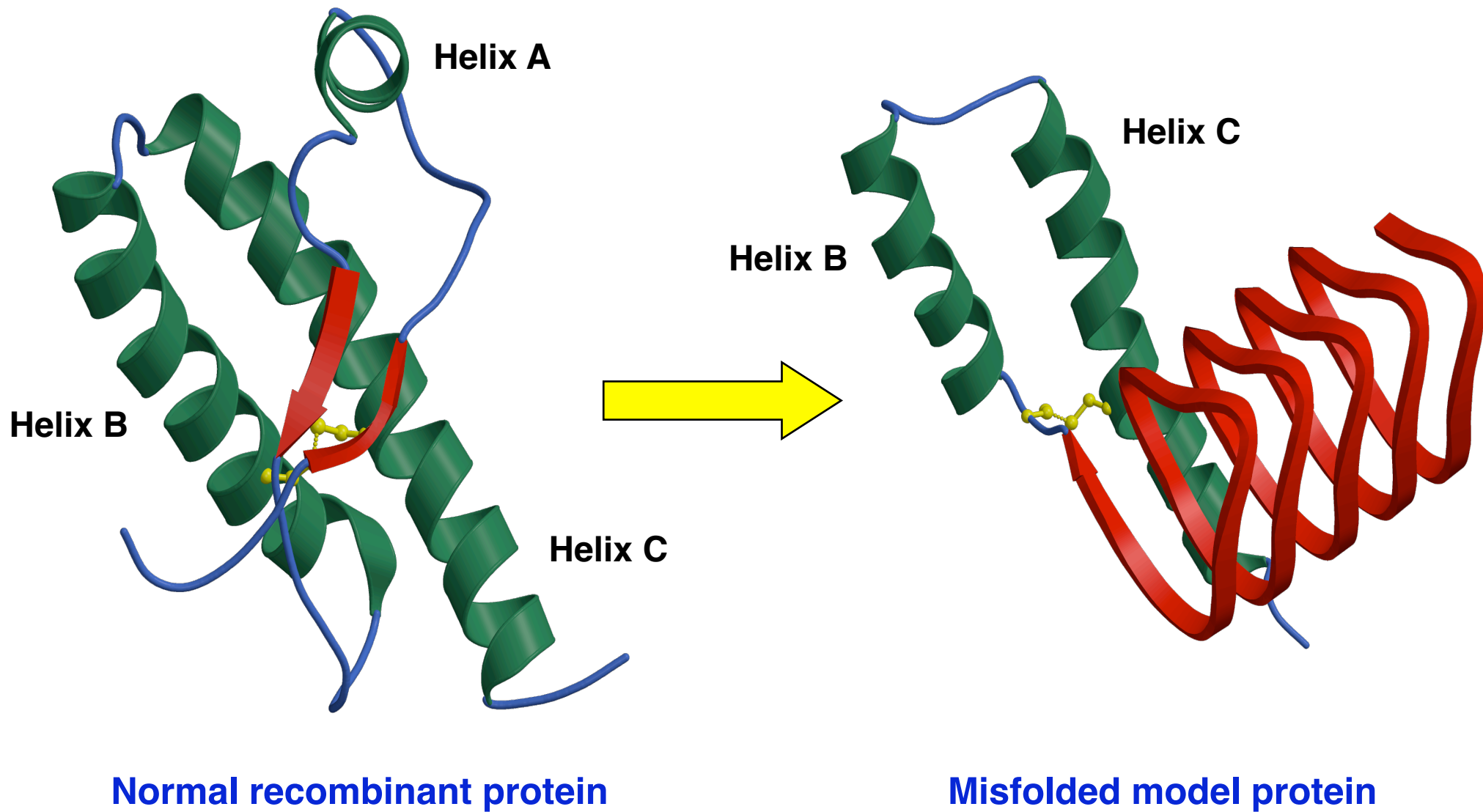
**Iatrogenic**

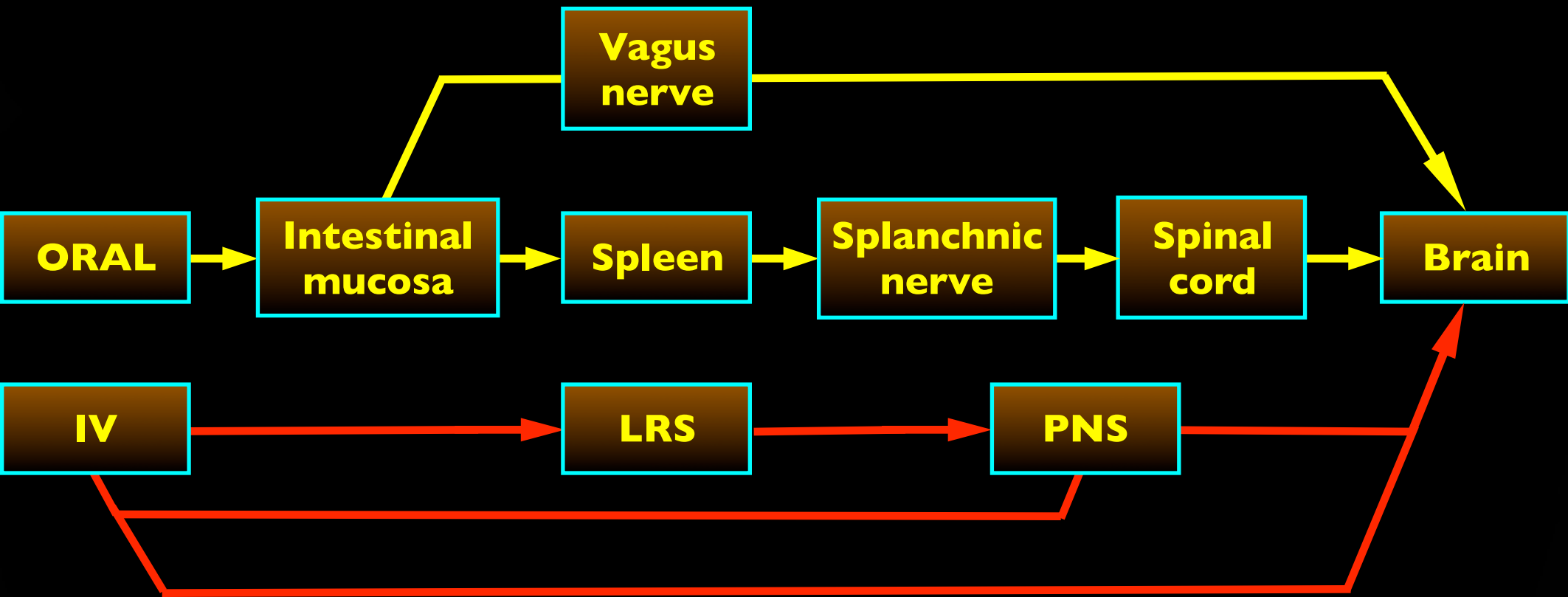
**Variant**

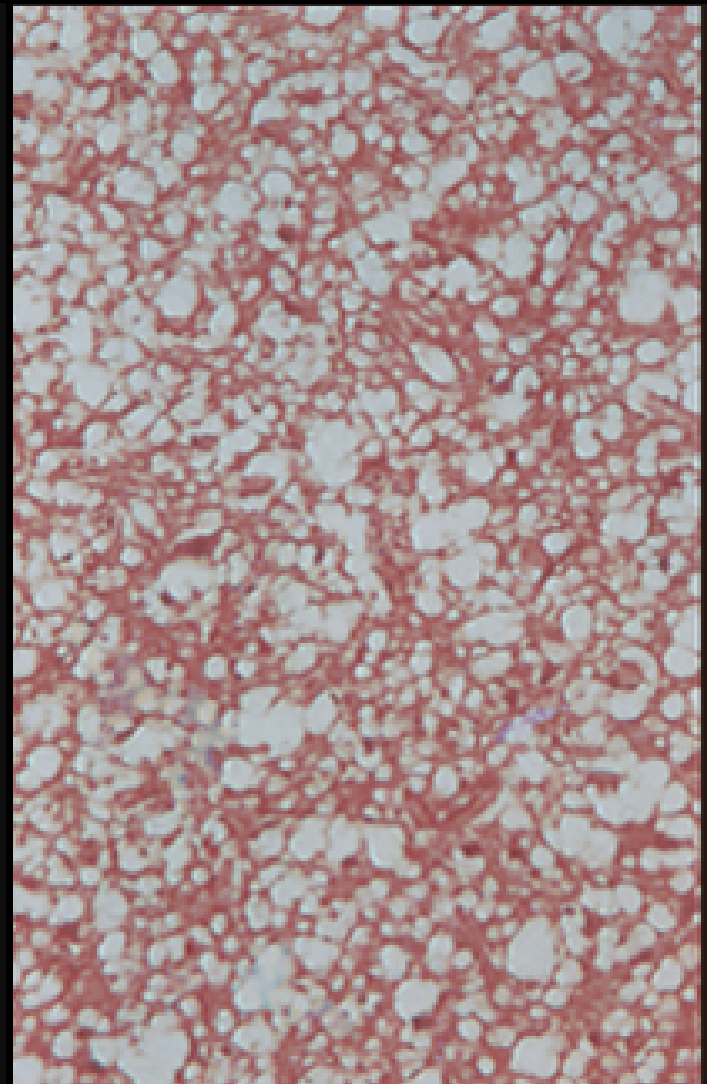
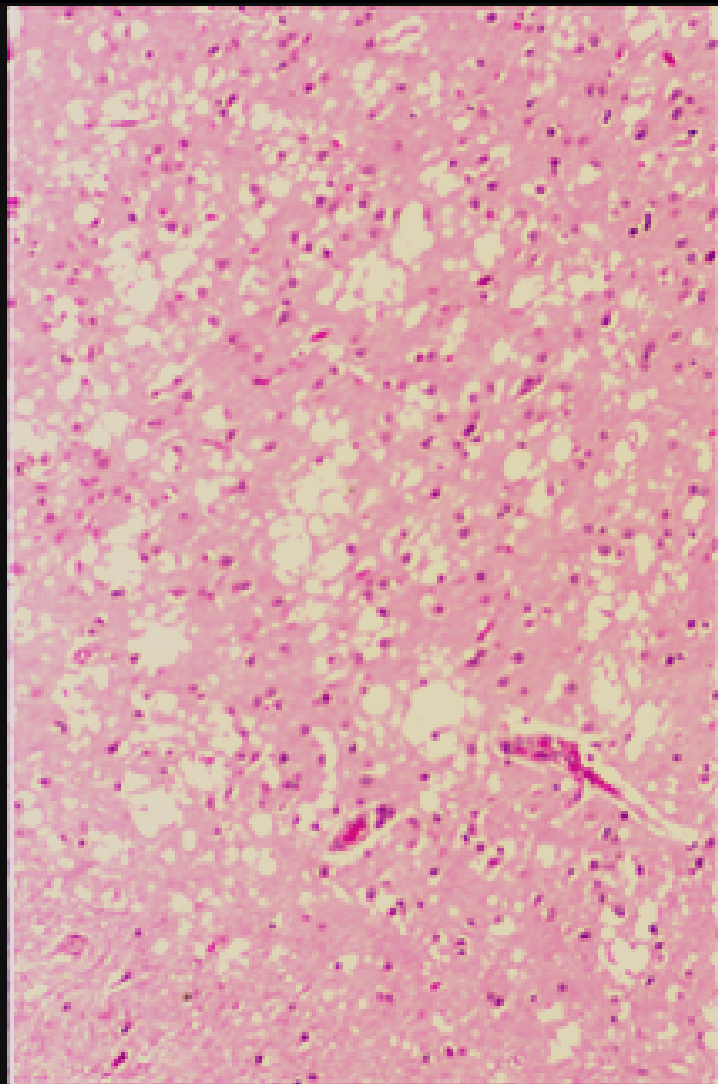
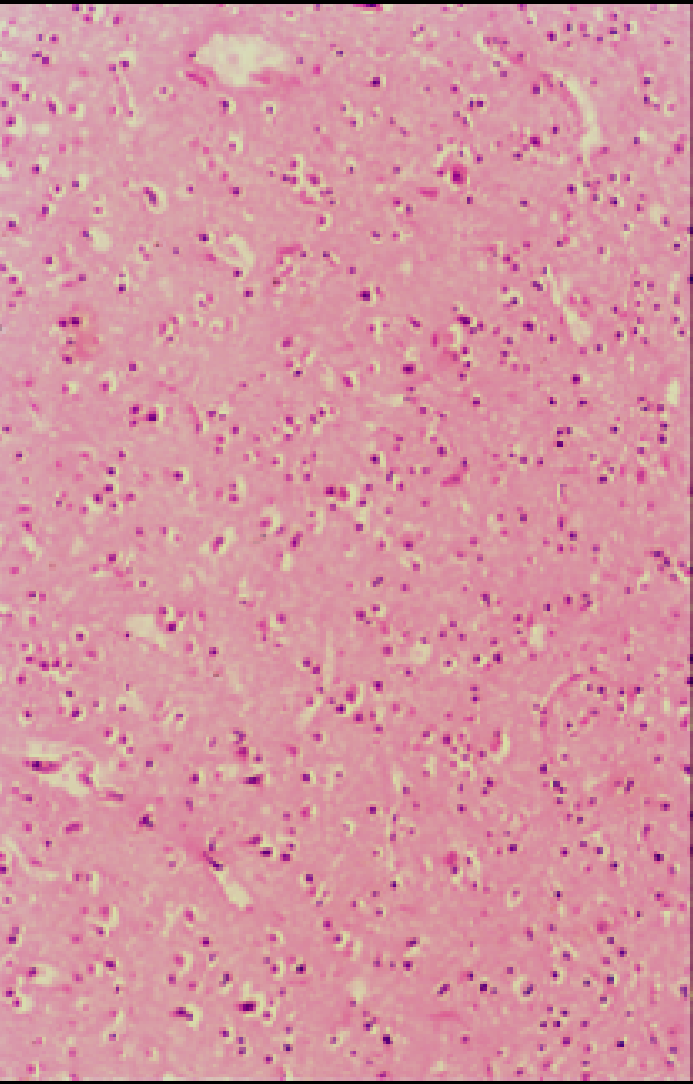
**GSS**

**FFI**



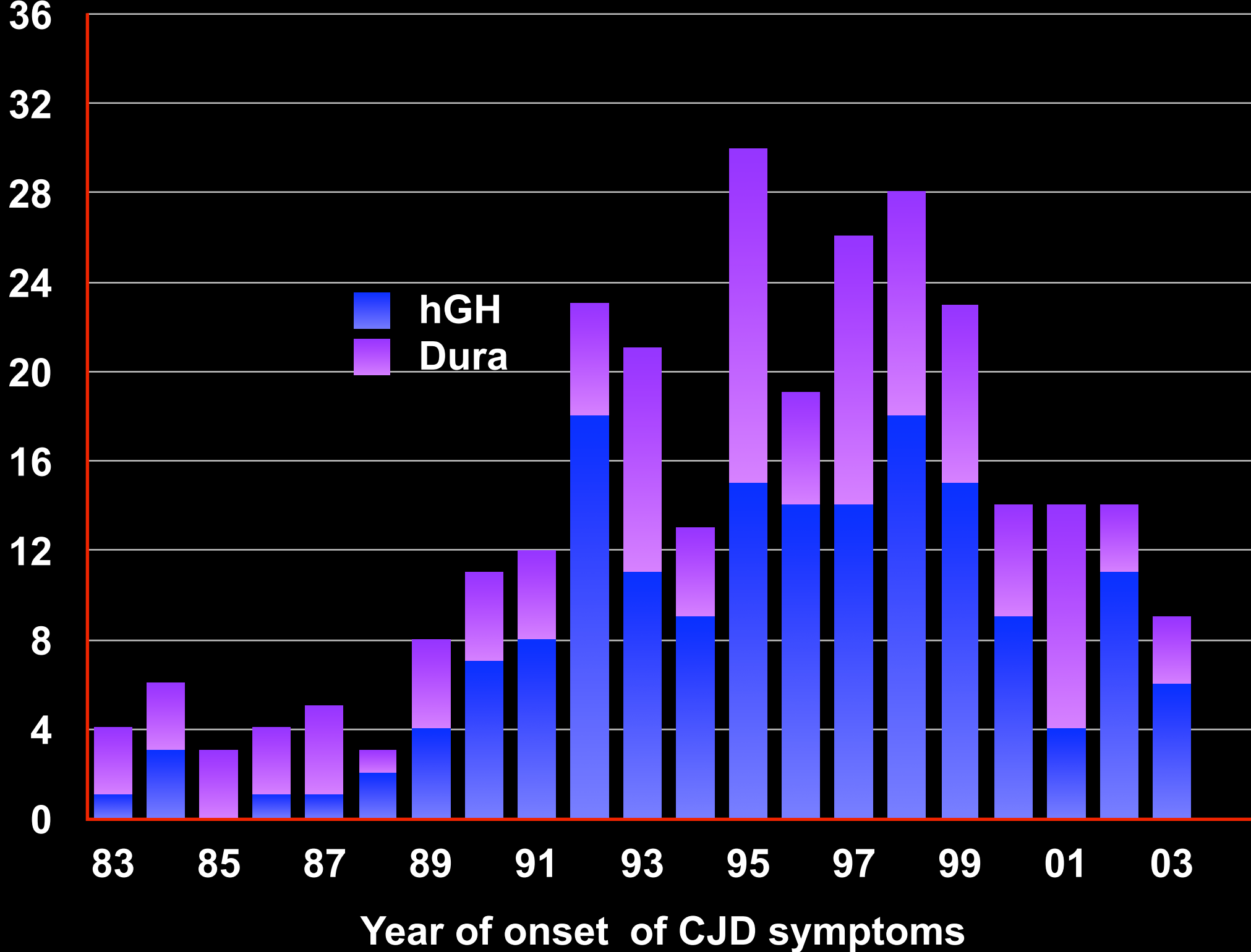




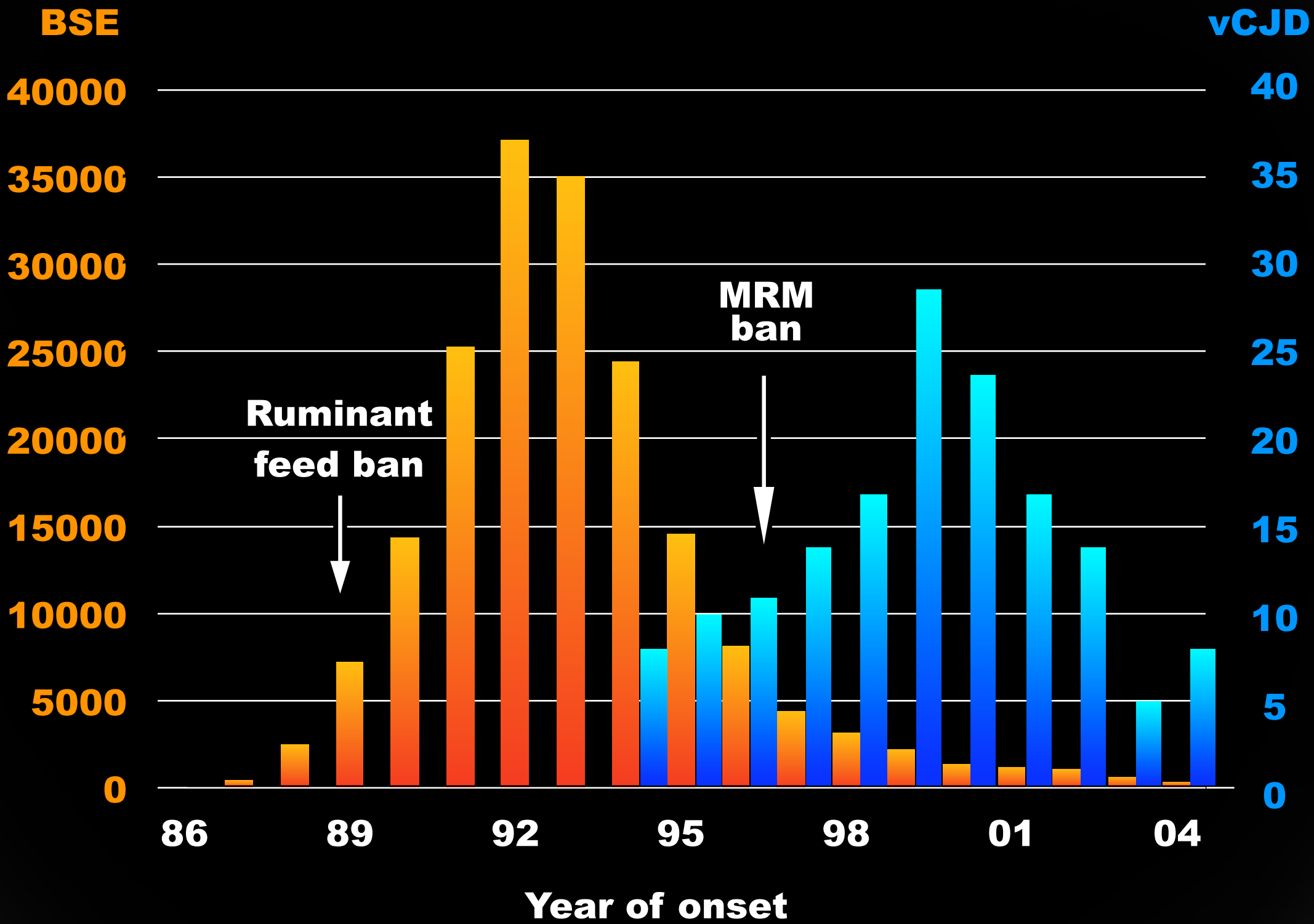


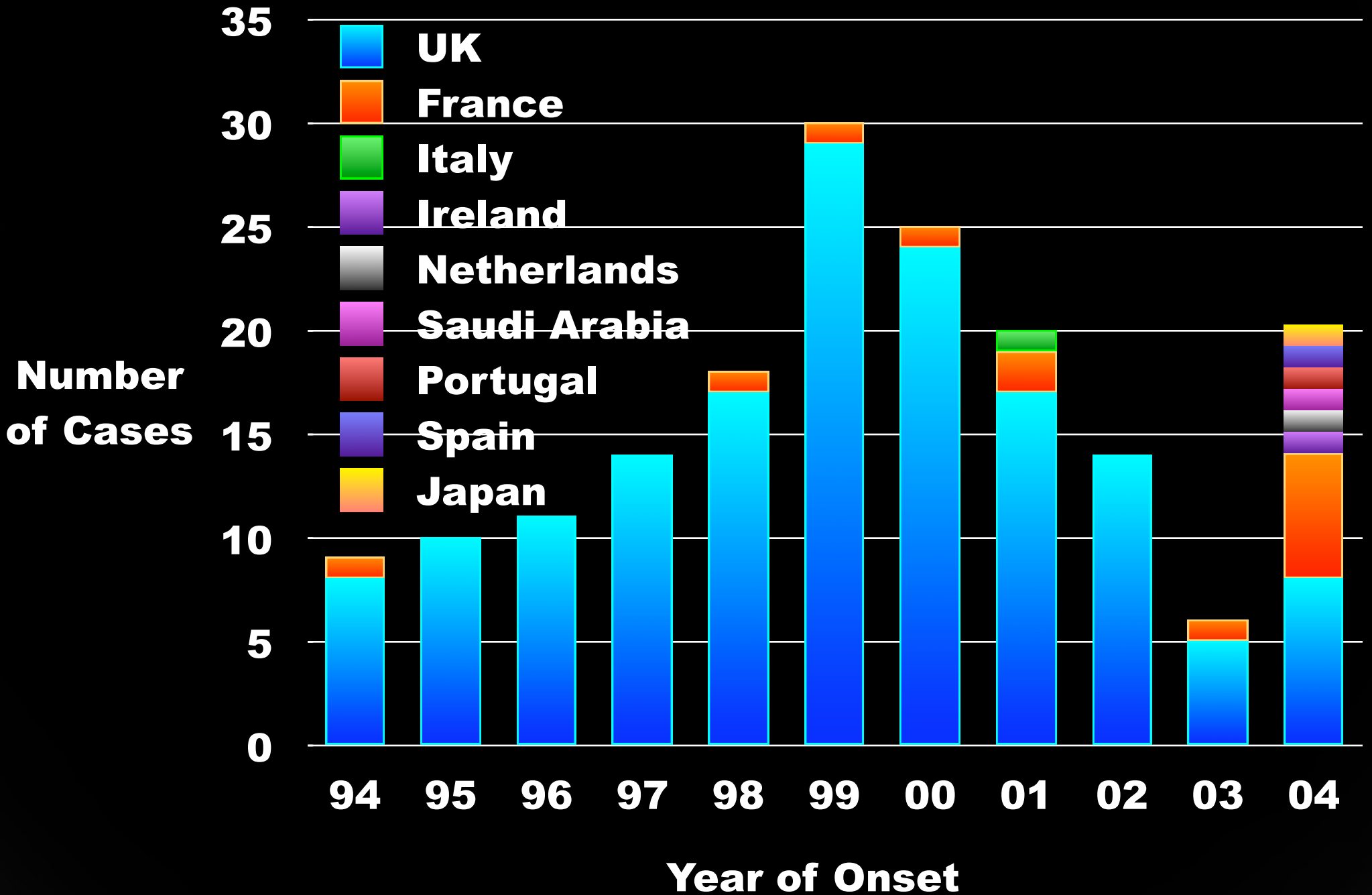
# GLOBAL TALLY OF IATROGENIC CJD

Country	Pituitary Hormones	Dura Mater	Corneas	Neuro-surgery
U.S.	26	3	1	-
U.K.	46	7	-	3
France	100	9	-	1
Germany	-	4	1	-
Japan	-	113	(1)	-
Others	12	32	-	2









24 year-old donor



3 yrs later (1999): vCJD

Packed RBCs (1996)



62 year-old recipient



7 yrs later (2003): vCJD

27 year-old donor



18 mos later (2001): vCJD

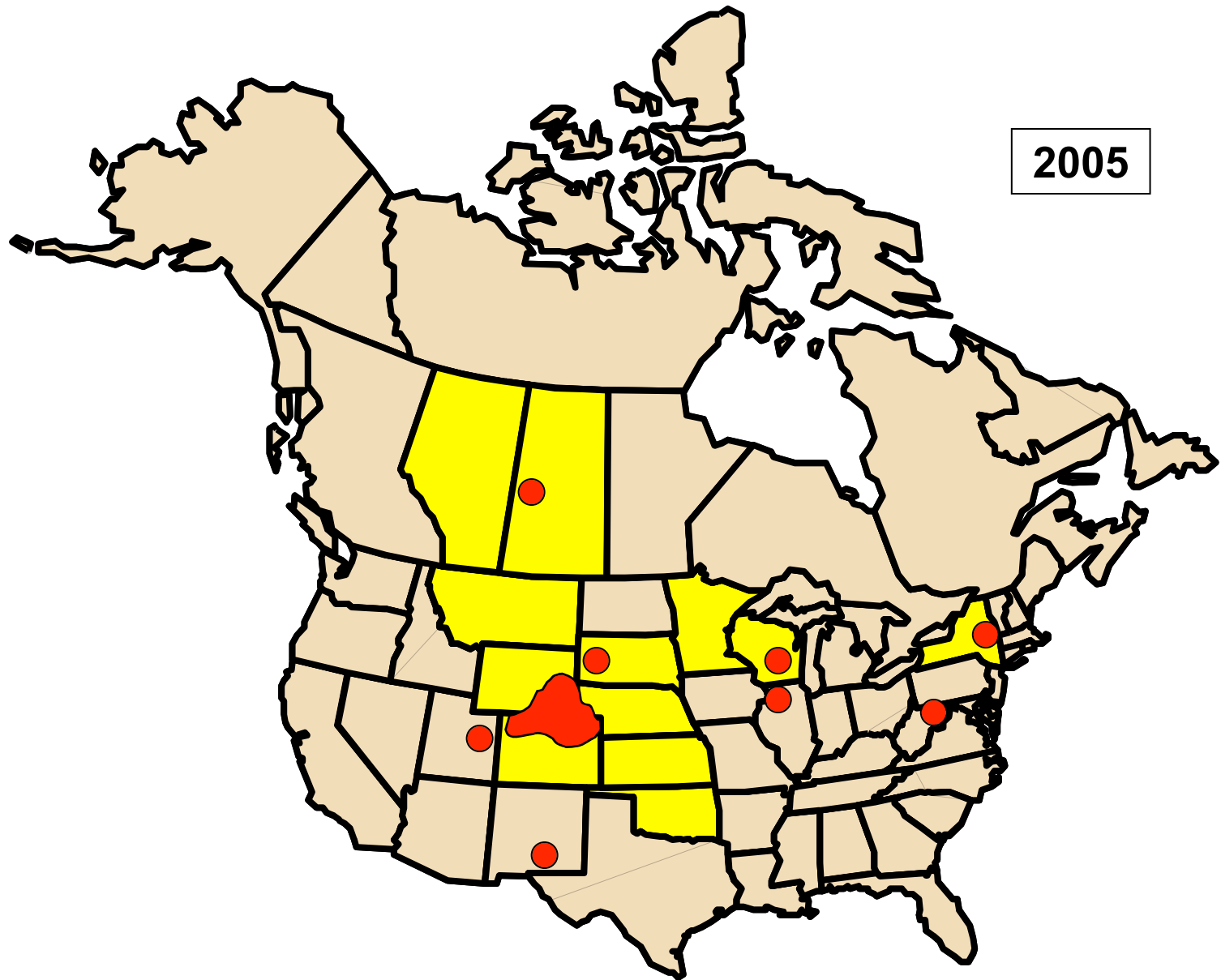
Packed RBCs (1999)



77 year-old recipient



5 yrs later (2004): vCJD



2005

# Materials

# Methods

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**Disposables**

**Incineration, burial**

**Re-usables**

**Autoclave, chemicals**

**Biologicals**

**Chemicals (rare),  
removal methods**

**Consumables**

**Ultra-high pressure**

## Ineffective

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Physical

Boiling

Irradiation

Chemical

Acids

Iodine

Alcohols

Permanganate

Detergents

Peroxide

Ethylene oxide

Phenolics

Formaldehyde

$\beta$ -propiolactone

Gluteraldehyde

Organic solvents

## Partially effective

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### Physical

Steam heat at 121°C (autoclave)

Dry heat at 300°C (oven)

Pressure  $\geq$  100,000 psi

### Chemical

Alkali, 0.1 N (pH 12)

Hypochlorite, 0.5%

Guanidinium thiocyanate

Keratinase



## Effective

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### Physical

Steam heat at 134°C (autoclave)  
Dry heat > 600°C (oven)

### Chemical

Alkali,  $\geq 1\text{ N}$  (pH  $\geq 13$ )  
Hypochlorite,  $\geq 2.5\%$   
Saturated phenol  
Formic acid

## New Methods for delicate Instruments

Chemical treatment	Time and temperature	Log reduction
Peracetic acid (0.25%)	12 min/55°C	3.5
Alkaline cleaner (1.6 %)	15 min/43°C	> 5.6
Phenolic disinfectant (5%)	30 min/20°C	> 5.6
Enzymatic cleaner (0.8%)	5 min/43°C	3.5
Hydrogen Peroxide vapor	3 hr/25°C	4.5
Enz cleaner + HP vapor	Sequence	> 5.6

# **The Golden rule:**

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**Avoid penetrating injury**

**and**

**environmental contamination**

