# Avian Encephalomyelitis (AE)
# Epidemic tremors

**DEF:**

**Viral disease affect mainly chicken (high susceptible), sometimes turkey, quail &pheasant (less susceptible)**

**Ch.ch by ===CNS affection in young (1-6 weeks)**

**=== only reproductive affection in adult**

## CAUSE:

-RNA virus---F.Enteroviridae

---G.Picorna virus

-The virus has no HA properties

-virus strain:

1-entrotropic---transmitted via oral fecal route & less pathogenic

2-neurotropic –egg adapted highly pathogenic causing nervous sings

# MODE OF TRANSMISSIONS:

1-Vertically ==main route from hens via eggs

2-Horizontally ==oral fecal route

3-Mechanically==rats, free living birds &mosquitoes

**SINGS:**

**I.P==vertically ==1-7 days**

**==horizontally ==10-11 days**

**A-form in young (nervous)**

**1-Nervous manifestations ==early=1-depression 2-tremors in head &neck**

**==later=1-paresis or paralysis in legs**

**(Partial paralysis with reflexes)**

**-the most ch.ch sings appear at 1-2 week of age & may appear at one day old**

**NB==nervous sings in one day old chicks also in Vit.E deficiency**

**2-Ataxia, in coordination (muscular dystrophy)**

**3-Final paralysis with mortality rate 20-50 % according to virus strain &host susceptibility**

**-some survived chicks may show eye opacity &blindness (cataract) &death occur due to starvation**

**NB=diseases ch.ch by eye affections:**

**-vit.A deff, E.coli, salmonella, Arizona, Marek's disease, AE**

## B-Form in adult (reproductive):

1-Transient drop in egg production 5-15% decrease for 1-2 weeks then return to normal

2-Low hatchability (10-15%)

3-No change in egg quality

4-Hatched chick show nervous sings (tremors &ataxia) at the 1st week of age

## P/M

-No ch.ch P/M lesions

-except petecheal in brain& whitish grayish area in C.S in proventriculus & gizzard

## DIAGNOSIS:

**1-sings=tremors, ataxia in young**

**=transient drop in egg production with no change in egg quality &low hatchability especially in last 3 days of egg incubation ,ch.ch for AE due to muscular dystrophy in embryo so can not hatched &die**

**2-P/M==not ch.ch except petecheal in brain& whitish grayish area in C.S in proventriculus & gizzard**

**3-histopathological examination**

**=muscles of gizzard infiltrated by lymphocytes**

**=perivascular cuffing in brain**

**4-virus isolation =on ECE via yolk sac by viral suspension prepared From brain tissue of suspected infected chick**

**=after 10 days PI –death of embryo with muscular Dystrophy, atrophied thigh Ms&if hatched chick show tremors**

**5- Virus identifications: (from embryo fluid apply)**

**A-serological test ==AGPT, SNT, IFAT**

## B-Embryo susceptibility test

-used for measuring level of Abs titer in breeder & evaluate the vaccine response

### Procedure

1-incubate 30-40 eggs from flock breeder at age 5-7 days ECE

2-incoulated by known virus (egg adapted)

3-examine at age 9-10 days PI

### Results

-muscular dystrophy
-leg paralysis & embryo death

} all of these indicates eggs have no passive immunity

### Interpretation

Detect immune status of breeder flock

1-if sings in embryo& hatched chick less than 5% the flock is immuned

2-if 10% of inoculated egg with muscular dystrophy the flock is immuned

i.e==increase the immunity decrease muscular dystrophy

## PREVENTION:

1-biosecurity & strict hygienic measures

**2-vaccination:**

-live attenuated vaccine in dirking water for breeder at age not less than 4 or 6 week before egg production

-layers=at 24-25 week of age

-breeder=18-20 week of age

NB=if vaccinate breeder less than 4 weeks before egg production the virus will descend in egg vertically & no maternal Abs