

Categories Of Diseases in Poultry

- **Committee**

We would like to acknowledge the committee of National Egyptian Guidelines for Veterinary Medical Interventions, Egyptian Health Council for adapting this guideline.

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- **Abbreviations**

VVND	Velogenic viscerotropic Newcastle Disease
HPAI	Highly Pathogenic Avian Influenza
PPMV	Pigeon paramyxovirus
LPAI	Low Pathogenicity Avian Influenze
ILTV	Infectious laryngotracheitis

- **Scope**

The guidelines concerned classification of poultry diseases according to mortality rate and which age is affected giving also signs and symptoms and control.

- **The target audience**

The guideline is intended for all veterinarians who are intended to diagnose, treat, and control Poultry Diseases.

- **Aim**

Poultry production is critical to the economy and food security of many developing countries because not only is poultry easy to farm and well suited to backyard production, but in many cases, it is a staple food.

Categories Of Diseases in Poultry

1- Category 1 Diseases:

1. Death in the flock is very high – often up to 100%.
2. Multiple organ systems (respiratory, digestive, nervous, reproductive, etc.) are affected by these diseases.
3. Prevention through vaccination and biosecurity are the only options. Treatment of active disease is ineffective. Stamping out flocks may be the only option for controlling the disease once birds are infected.

2- Category 2 Diseases:

1. Mortality is lower than in Category 1 disease and/or treatment is possible.
2. Only one or a few organ systems are involved.
3. There are medications, vaccinations, and other treatments available for these diseases.

3- Category 3 Diseases:

1. These are conditions rather than diseases, and are not caused by organisms that are spread between birds.
2. Depending on the cause, they may affect multiple organ systems.
3. They are environmental in origin and control is mostly through providing adequate housing and sanitation.
4. Medication may be available for some conditions in this category

Category 1 Diseases

Disease	Cause	Ages affected	Species	Mortality	Signs and Symptoms	Pathognomonic lesions	Control
Velogenic viscerotropic Newcastle Disease (VVND)	Virus	All	Most domestic birds	Mortality may reach 100% but often lower in ducks	Sudden mortality, often with few or minimal signs <u>Nervous:</u> Balance & walking problems, twisted necks <u>Respiratory:</u> gasping, difficulty breathing, swelling of the head <u>Digestive:</u> diarrhea <u>Reproductive:</u> decreased egg numbers	Prominent hemorrhages occur throughout the digestive tract especially in the mucosa of the proventriculus and gut-associated lymphoid tissue	Vaccination, biosecurity
Highly Pathogenic Avian Influenza (HPAI)	Virus	All	Most domestic birds	Mortality may reach 100% but often lower in ducks and pigeons	Sudden mortality, often with few or no signs <u>Respiratory:</u> gasping, swelling of wattles & combs <u>Nervous:</u> tremors of the head and neck <u>Digestive:</u> diarrhea, thirst <u>Reproductive:</u> soft-shelled or shell-less eggs, decreased egg numbers	subcutaneous hemorrhages and edema of the head. Vesicles may be present on the comb and wattles.	Biosecurity, depopulation, (vaccination)
Duck viral enteritis (duck plague)	Virus	All, although adults more severely affected	Wild and domestic ducks and geese	5- 100% with the highest mortality in older birds	Sudden mortality, often with few or no signs <u>Digestive:</u> watery diarrhea, decreased appetite, thirst <u>Reproductive:</u> decreased egg numbers <u>Nervous:</u> difficulty walking, tremors <u>Respiratory:</u> pasted eyelids, nasal discharge	Free blood in the body cavity. Hemorrhages of the ovary in mature ducks. Free blood in the lumen of the intestine.	Biosecurity, (vaccination)
Pigeon paramyxovirus (PPMV)	Virus	All	Pigeons	Mortality may reach 100%	Adults neglect squab, resulting in their deaths. <u>Nervous:</u> Balance & walking problems, twisted necks, head tremors, inability to fly <u>Digestive:</u> diarrhea, thirst	Mild conjunctivitis and tracheitis are observed	Vaccination, biosecurity

Category 2 Diseases

Disease	Cause	Ages affected	Species	Mortality	Signs and Symptoms	Pathognomonic lesions	Control
Newcastle Disease (lentogenic or mesogenic)	Virus	All	Most domestic birds	Low, except in very young birds where mortality may reach 20%	Signs may vary by species. There may be no signs in waterfowl. <u>Respiratory:</u> sneezing, coughing, difficulty breathing <u>Nervous:</u> twisted necks <u>Reproductive:</u> decreased egg numbers	Mild conjunctivitis and tracheitis are observed. Recovered flocks show septicemia and airsacculitis due to secondary infection with <i>E. coli</i>	Vaccination, biosecurity
Low Pathogenicity Avian Influenza (LPAI)	Virus	All	Most domestic birds	Usually, < 5% but may be up to 60% in turkeys.	Signs vary by species and infecting virus. There may be no signs in waterfowl. <u>Respiratory:</u> sneezing, coughing, wheezing <u>Reproductive:</u> decreased egg numbers	tracheitis, pulmonary edema and if secondary bacterial infection occurs, airsacculitis is observed.	Biosecurity, depopulation, (vaccination)
Infectious laryngotracheitis (ILT)	Virus	All but mostly in adults	Chickens	Usually 10-20% but may be very mild < 2% mortality or very severe > 50% mortality	<u>Respiratory:</u> nasal discharge, difficulty breathing, coughing, bloody mucus <u>Reproductive:</u> decreased egg numbers.	severe hemorrhagic tracheitis with the presence of blood clots which may obstruct the glottis resulting in asphyxiation.	Vaccination, biosecurity
Infectious bronchitis virus	Virus	All but most severe in chicks	Chickens	0-25%	Birds may be depressed with ruffled feathers. <u>Respiratory:</u> gasping, coughing, sneezing, wet eyes <u>Reproductive:</u> thin-shelled, rough and misshapen eggs, decreased egg numbers	Hyperemia of the trachea and accumulation of mucus in the nasal cavity	Vaccination, medication for secondary bacteria
Marek's Disease	Virus	Usually, 3-30 weeks of age	Chickens	0-30% in unvaccinated flocks	Unthriftiness, failure to gain weight. <u>Nervous:</u> paralyzed in one or both legs or wings, difficulty standing pale eyes.	Unilateral enlargement of nerves of the sciatic plexus	Vaccination
Avian Leukosis	Virus	> 30 weeks of age	Chickens	Usually, < 3% although it may exceed 20% in some cases	Unthriftiness, weight loss, enlarged abdomen <u>Reproductive:</u> decreased egg numbers	Internal organs contain white or grey nodules which are cancerous lymphoid tissue that has spread from the bird's bursa.	Chicks from clean flocks, biosecurity

Duck virus hepatitis	Virus	Young, < 6 weeks	Ducks	Close to 100% in ducklings 1< wk. old. 50% in 1-3 wk. old, very low in > 4 wk. old	Death may be the first sign of disease. <u>Nervous:</u> birds fall on their sides, kicking	enlargement of the liver with punctate or ecchymotic hemorrhages	Isolation of young ducks, (vaccination)
infectious bursal disease	Virus	Mostly 3-6 weeks	Chickens	Usually 0-25% but in some cases, may be up to 100%	Prostration and death <u>Digestive:</u> vent picking, soiled vent feathers, whitish or watery diarrhea	Dehydration and muscular hemorrhages, In acute cases the characteristic lesion comprises enlargement of the bursa of Fabricius	Vaccination, biosecurity
Avian Encephalomyelitis	Virus	Mostly 1-3 weeks	Chickens	May reach 50% in young birds	<u>Nervous:</u> difficulty walking, paralysis, tremors	No gross lesions are observed, Incoordination and lateral recumbency	Vaccination
Fowl pox	Virus	All, except newly-hatched	Chickens, turkeys	< 5% in skin form; 10-50% in respiratory form.	Poor weight gain. <u>Skin:</u> scabby, raised pocks on the face <u>Digestive:</u> loss of appetite <u>Respiratory:</u> nasal discharge, difficulty breathing	Pink focal lesions occur on the comb and wattles and non-feathered portions of the body	Vaccination, biosecurity
Fowl cholera	Bacteria	Birds >4 weeks are most susceptible	Chickens, ducks, geese, most birds	10-90% mortality. Mortality is highest in turkeys, ducks.	Death may be the first sign of disease. <u>Respiratory:</u> Gaping, difficulty breathing <u>Digestive:</u> diarrhea, especially in ducks	enlargement of the spleen and liver with punctate hemorrhages of the viscera including the heart	Medication, remove reservoirs, vaccination
Omphalitis	Bacteria	Birds less than 2 weeks old	Any	Variable.(May reach 100%)	Late incubation mortality. Navel is inflamed and the abdomen is distended.	Enlarged yellow yolk-sac, typical of omphalitis in a 3 day old chick.	Medication, hatchery sanitation
Mycoplasmosis	Bacteria	All	Chickens, pigeons, turkeys	Very low.	<u>Respiratory:</u> facial swelling, nasal discharge, coughing, foamy eyes <u>Reproductive:</u> Decreased egg numbers, decreased hatchability <u>Skeletal:</u> joint swelling.	Acute foamy Caseous air-sacculitis	Vaccination, biosecurity
Chlamydiosis	Bacteria	All	Ducks, pigeons, turkeys	Variable, but severe cases may have 5-30% mortality	Depression, weakness. <u>Nervous (young ducks):</u> trembling. Imbalanced gait <u>Respiratory:</u> swollen eyelids, nasal discharge, difficulty breathing <u>Digestive (young ducks):</u> yellow-green diarrhea.	Fibrinous pericarditis and perihepatitis, Hepatomegaly and splenomegaly, air-sacculitis	Medication, biosecurity

Infectious Coryza	Bacteria	All, disease most severe in mature birds	Chickens	Rapid onset and high mortality.	<u>Respiratory</u> : Facial swelling, especially around the eyes, nasal discharge, rales. <u>Digestive</u> : loss of appetite, sometimes diarrhea. <u>Reproductive</u> : decreased egg numbers	Severe conjunctivitis and inflammation of the periorbital fascia. Chronic cases show serous to caseous sinusitis.	Vaccination, remove reservoirs, biosecurity.
Trichomoniasis	Protozoa	Young birds	Pigeons	Can be up to 50% without treatment	Young birds lose weight and may die. <u>Digestive</u> : thick, yellow areas inside the mouth, difficulty closing mouth		Sanitation, medication
Coccidiosis	Protozoa	Young birds, older birds become immune	Most although the coccidian of one species do not infest other birds	Variable depending on how severe the case is and the type of coccidian	Depression, weakness, decreased weight gain, dehydration. <u>Digestive</u> : may have mucoid or bloody diarrhea.	Hemorrhage interspersed with white foci visible through mucosa	Self-immunization, medication
Histomoniasis	Protozoa	Turkeys: 3-12 weeks. Chickens: 4-6 weeks	Turkeys, chickens	Mortality is generally low in chickens <30% but higher in turkeys (up to 70%)	Depression, weakness <u>Digestive</u> : loss of appetite, yellow feces in turkeys, bleeding droppings from chickens	thickening of caecal mucosa, petechial haemorrhages, and hepatic granulomas	Medication, put birds on wire or cement

Category 3 Diseases

Disease	Cause	Ages affected	Species	Mortality	Signs and Symptoms	Pathognomonic lesions	Control
External parasites	Insects, arachnids	All	All	Usually low unless	Birds can become weak and unthrifty in heavily infested. Skin: Mites, ticks, fleas and lice can cause itching, loss of feathers. Reproductive: decreased egg numbers	According to type of external parasite	Cleaning of environment between flocks, pesticides applied to the bird and the environment
internal parasites	Various worms	All but the most severe Disease is In young birds	All	Mortality is variable depending on the age of The birds, type and severity of infestation	Depression, failure to gain weight, anemia. Digestive: Diarrhea.	According to type of external parasite	
Mycotoxicosis	Toxins	Young birds more severely affected	All although signs more severe in ducks	Variable	Nervous: difficulty walking, convulsions, feather picking Reproductive: Reduced fertility and hatch rates. Decreased egg numbers	Pale liver of birds, stomatitis	Remove contaminated food
Vitamins & minerals deficiency	Unbalanced ration or secondary to some enteric diseases	All	All	Usually low in free-ranging birds. May be moderates to high in young, confined birds	Vitamin E: Death before 4 days of age Nervous: Difficulty walking and standing, 15-30 days of age Reproductive Decreased hatchability. Vitamin A: Slow growth, drowsiness, ad mortality. Respiratory: Discharge from nose and eyes. Reproductive decreased egg numbers and hatching, increased blood spots in eggs.	According to type of vitamin	Supplement vitamins in the water or feed. Add antioxidants to feed. Rotate feed.

- References

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