



**College of Veterinary Medicine**  
**Department of Pathology & Poultry Diseases**



***Poultry epidemiology ,Health and welfare***

**مختبر الدواجن العملي / الفصل الدراسي الأول**

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Lecturer Zahraa adel dawood

Lecturer Sodad ahmed mohamed

Lecturer Aymen abdullah ali

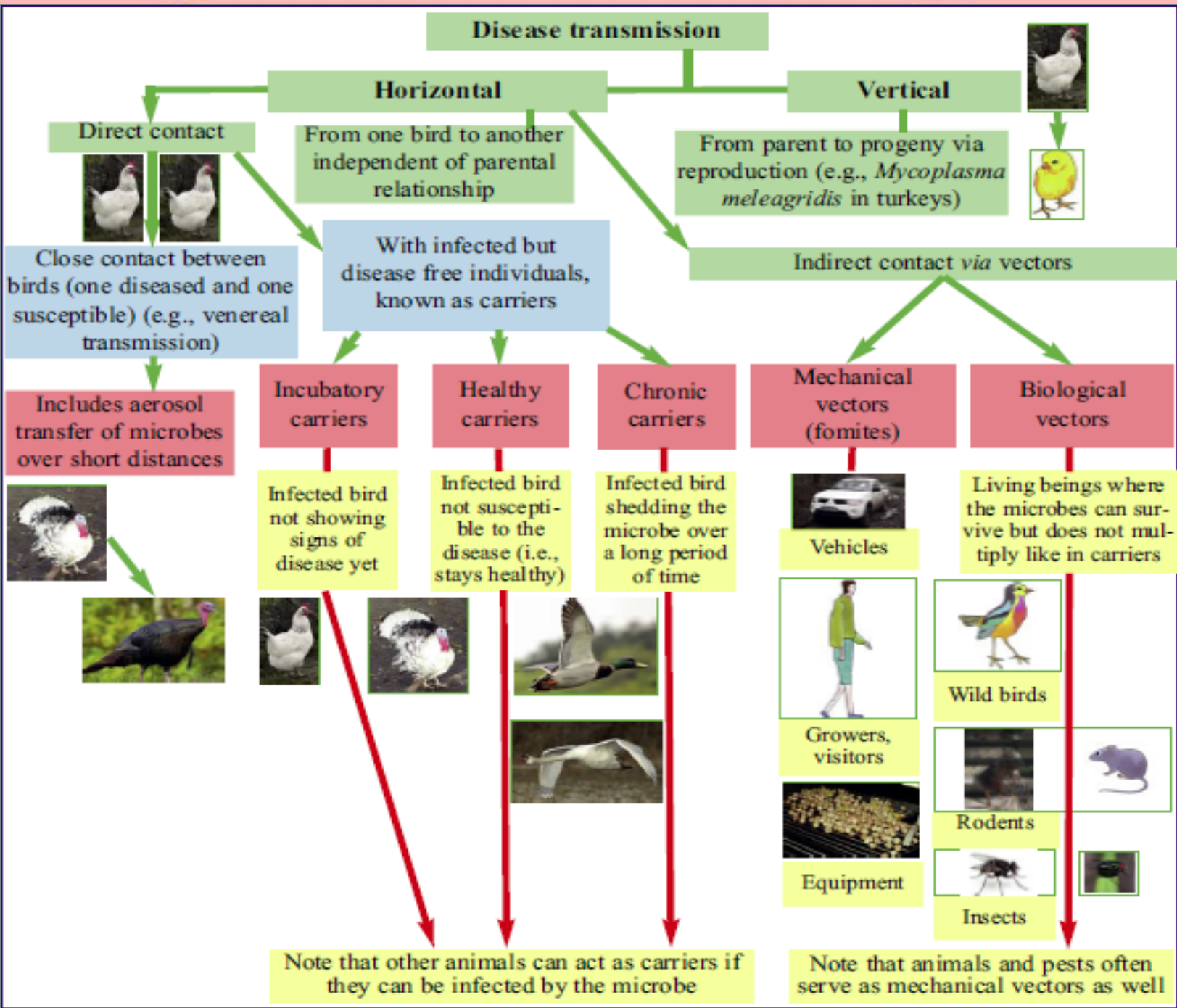


Fig. 13.1: Disease transmission.



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### The different phases of a disease (e.g., Mycoplasmosis caused by *M. gallisepticum*)

Magnitude of clinical signs

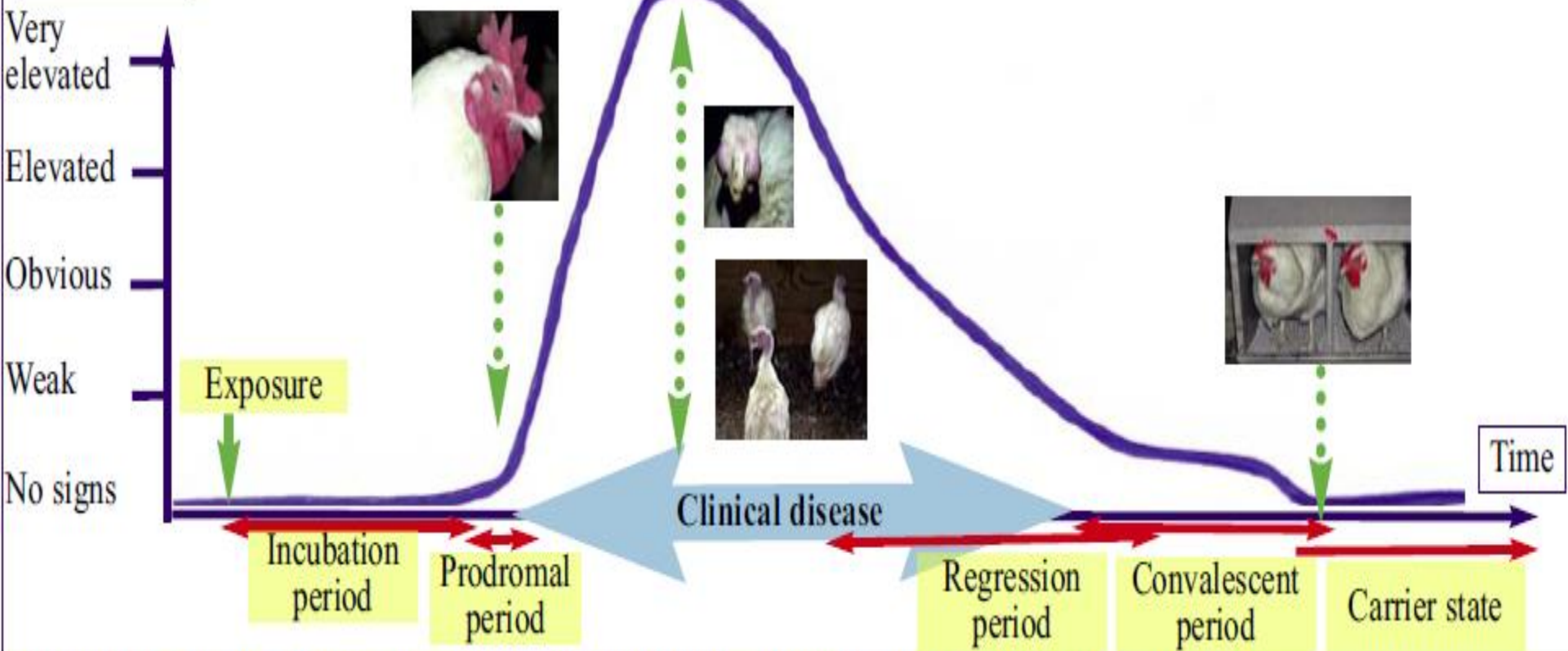


Fig.13.2: The different phases of a disease (adapted from Le Glossaire d'Epidémiologie Animale, 1999).

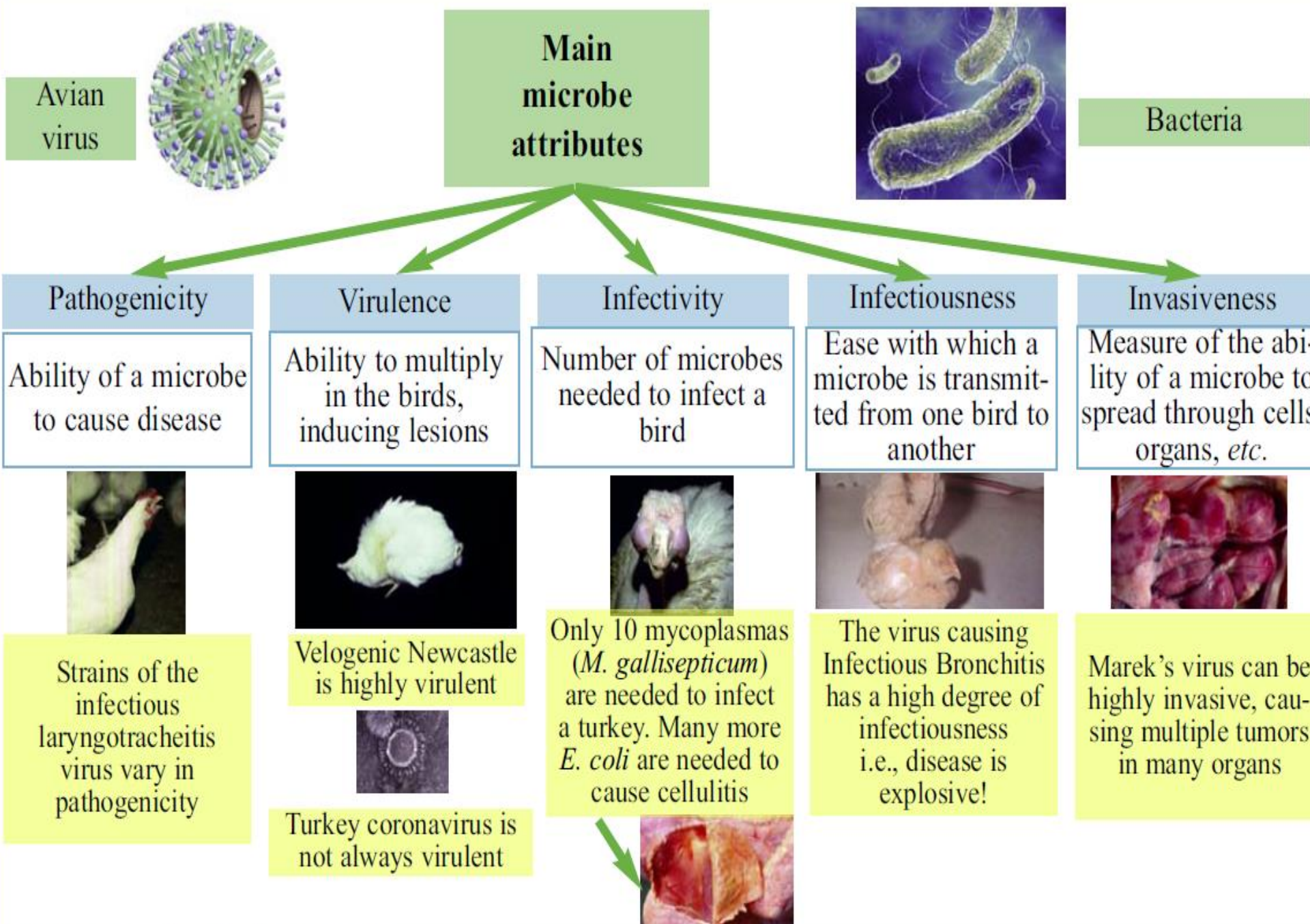


Fig.13.4: Characteristics of pathogens.

**Infection**  
Invasion by microbes capable of reproducing in sensitive individuals

**Reinfection**  
Second infection by same microbe in same individual

Infection by *E. coli* causing airsacculitis followed by another infection by *E. coli* causing cellulitis

**Secondary infection**  
Second infection following another caused by a different microbe

Infection by *E. coli* and turkey coronavirus causing severe enteritis in 4-week-old turkeys

**Subclinical**  
Cannot be clinically detected

**Clinical disease**  
Detectable signs

**Silent infection**  
No clinical signs & performance losses

**Impaired production**  
No clinical signs BUT performance losses detectable

**Relapse**  
Reoccurrence of signs after birds had improved clinically

Chickens infected with the West Nile virus

Infection by the chicken anemia virus. Although this infection can lead to disease, many cases without clinical signs have been reported. Although signs are not observed, a difference of 14.5% in revenue from infected, but clinically diseased free flocks are seen. The main cause of this difference is higher body weight variability and an overall mean weight at slaughter slightly less than non-infected birds

Laryngotracheitis, infectious bronchitis, aspergillosis, etc.

Infection with *Mycoplasma gallisepticum* in turkeys where clinical signs subsided in a flock after treatment, but the disease reoccurred in the same flock soon after medication was stopped



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### The Poultry Signals Concept

You don't manage a farm behind a desk. You have to go into the houses and see what is happening there, think what it means and act accordingly. For good observation take your time and use all your senses.

Look



What do I see?

Think



Why is this happening?

Act



What should I do now?

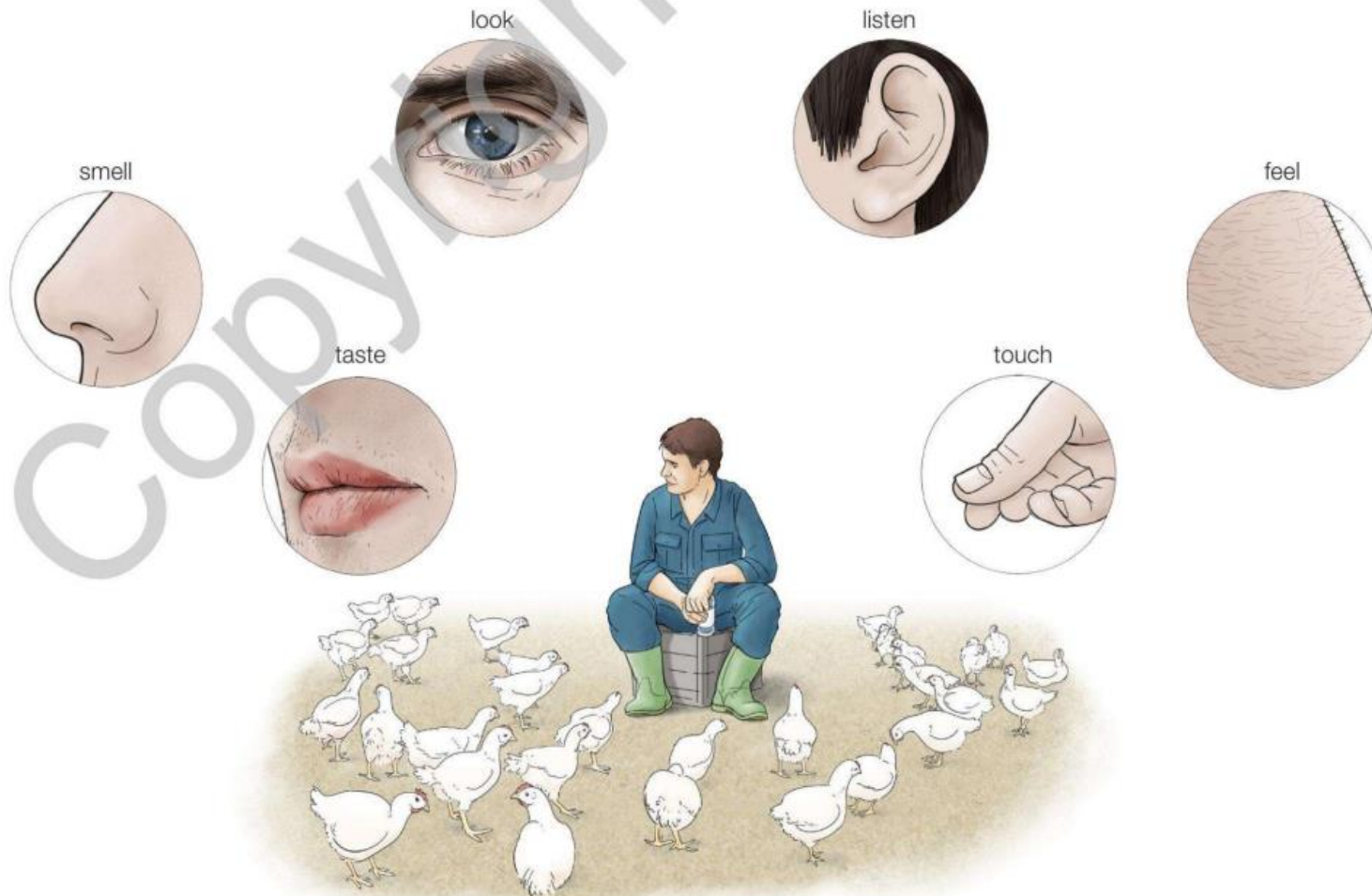


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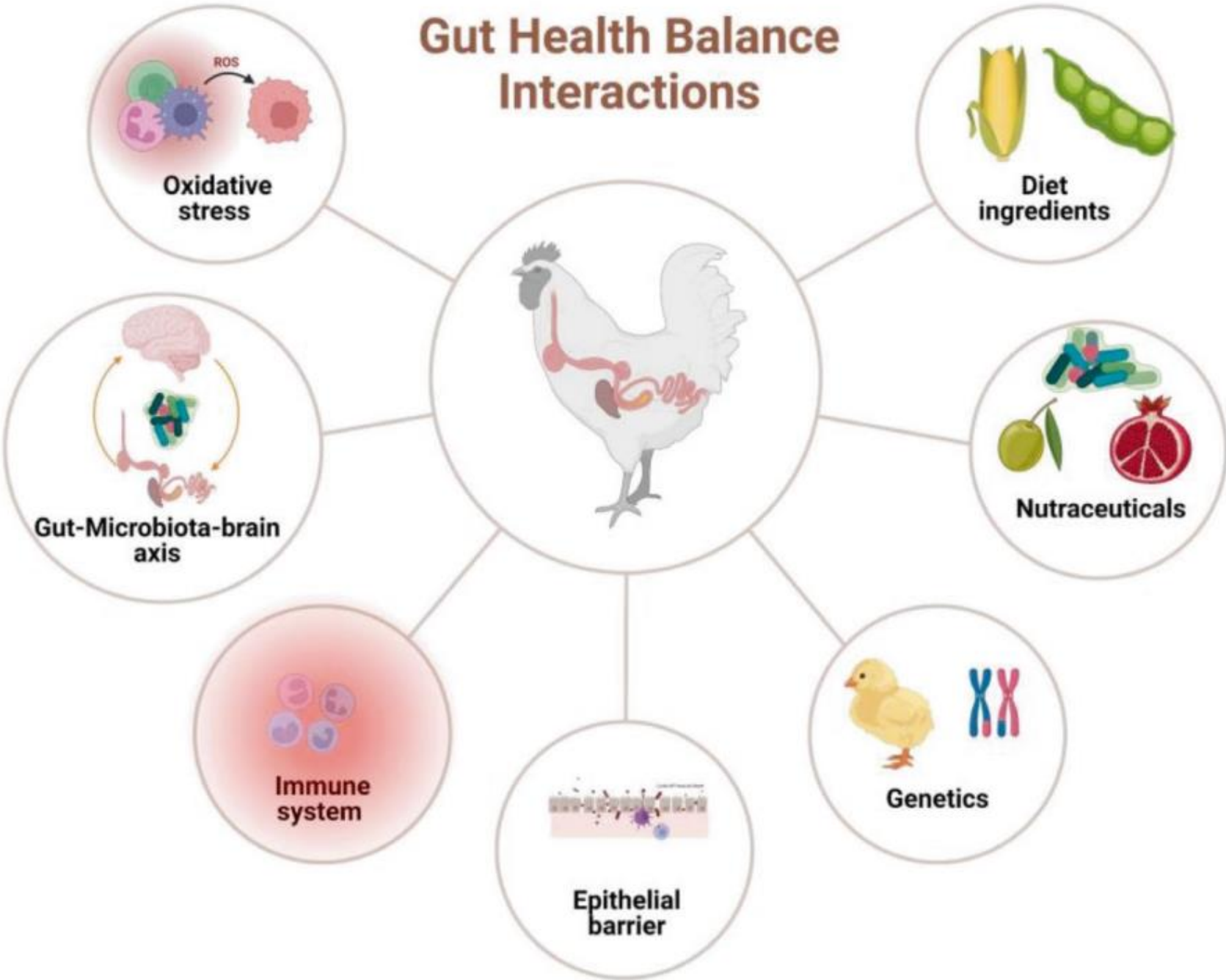
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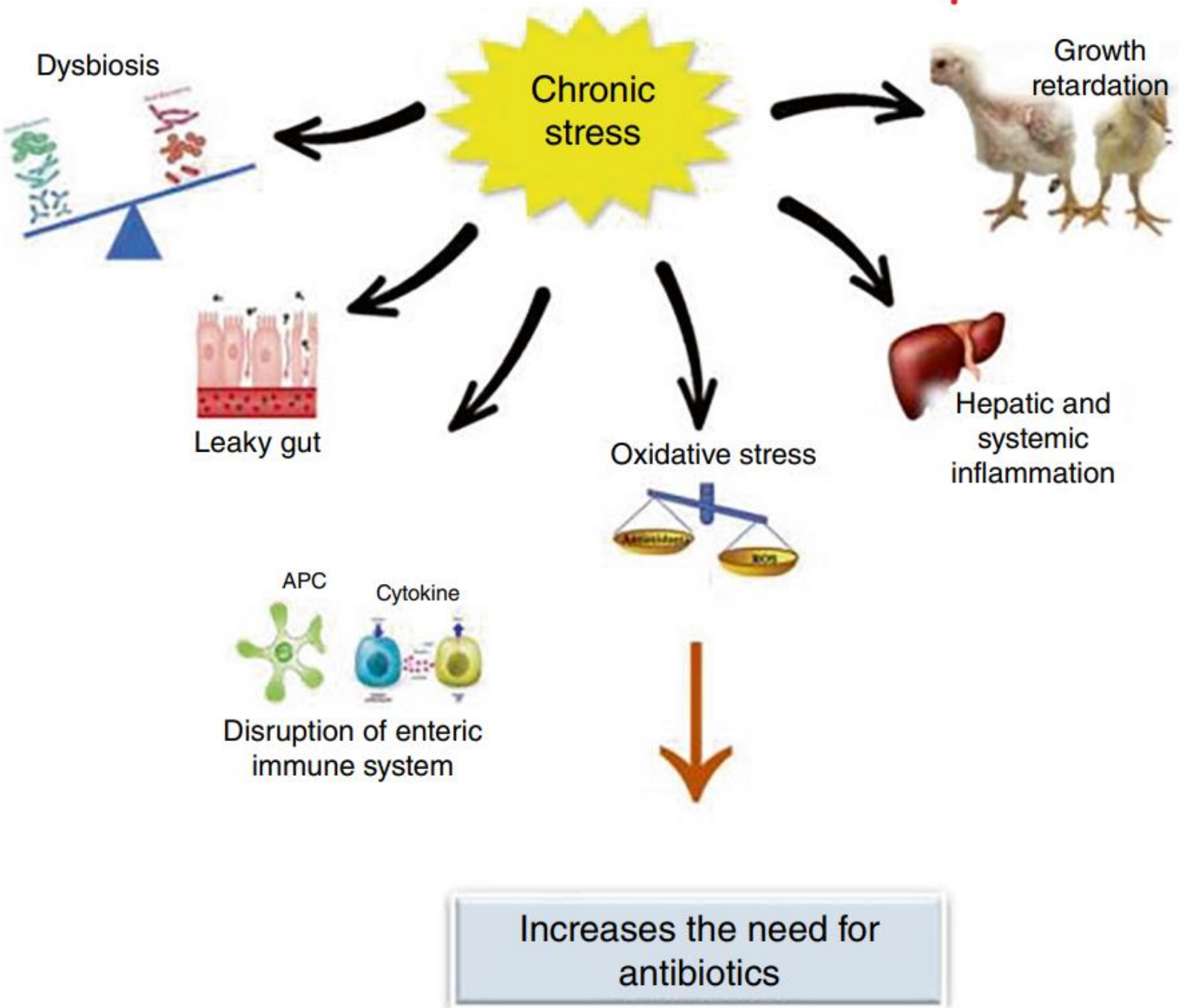
Use all your senses



# Gut Health Balance Interactions









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### Focus Points in a Broiler's Life

Broilers grow very rapidly in a short time. When you take action, don't think in days but in hours or even less. The slightest interruption can disrupt the delicate process. So it's all the more important to prevent problems, or at the very least react quickly to the signs.

#### Day 1

- day-old chick quality
- body temperature
- eating and drinking
- crop fill
- distribution



#### Week 1

- growth
- distribution
- crop fill



#### Week 2

- organ development
- bone development
- muscle development
- growth





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### Week 3

- intestinal health
- droppings
- clean feathers



### Week 4

- respiratory health
- change from requiring heat to excess heat
- panting, sniffing, sneezing





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### Week 5

- litter quality
- overheating
- footpad lesions
- mobility (lameness)



### Week 6

- leg problems
- skin damage
- heat stress



nice and cheerful sound



red and clear comb and wattles

behaviour: alert, stands up when approached

clear eyes

clean nostrils

pink and moist mucous membranes

straight neck

concave back

closed beak, normal breathing

no injuries to head, neck, back and tail

proudly upright posture

filled crop

full muscled breast

straight keel bone

pink, undamaged breast skin

clean, smooth and even plumage

wings well positioned along her body

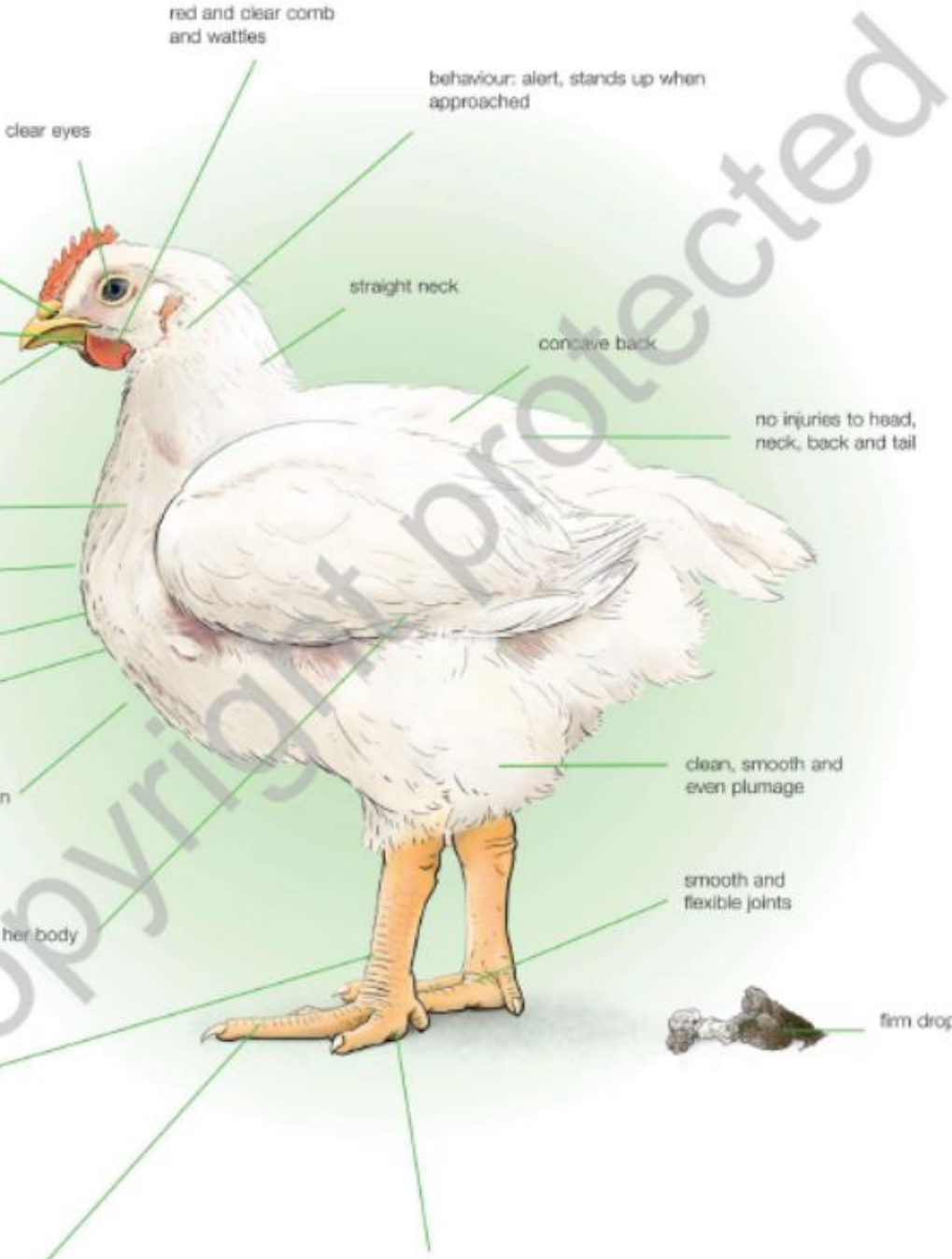
smooth and flexible joints

straight, yellow legs, and not overly warm

firm droppings

straight toes

smooth footpads



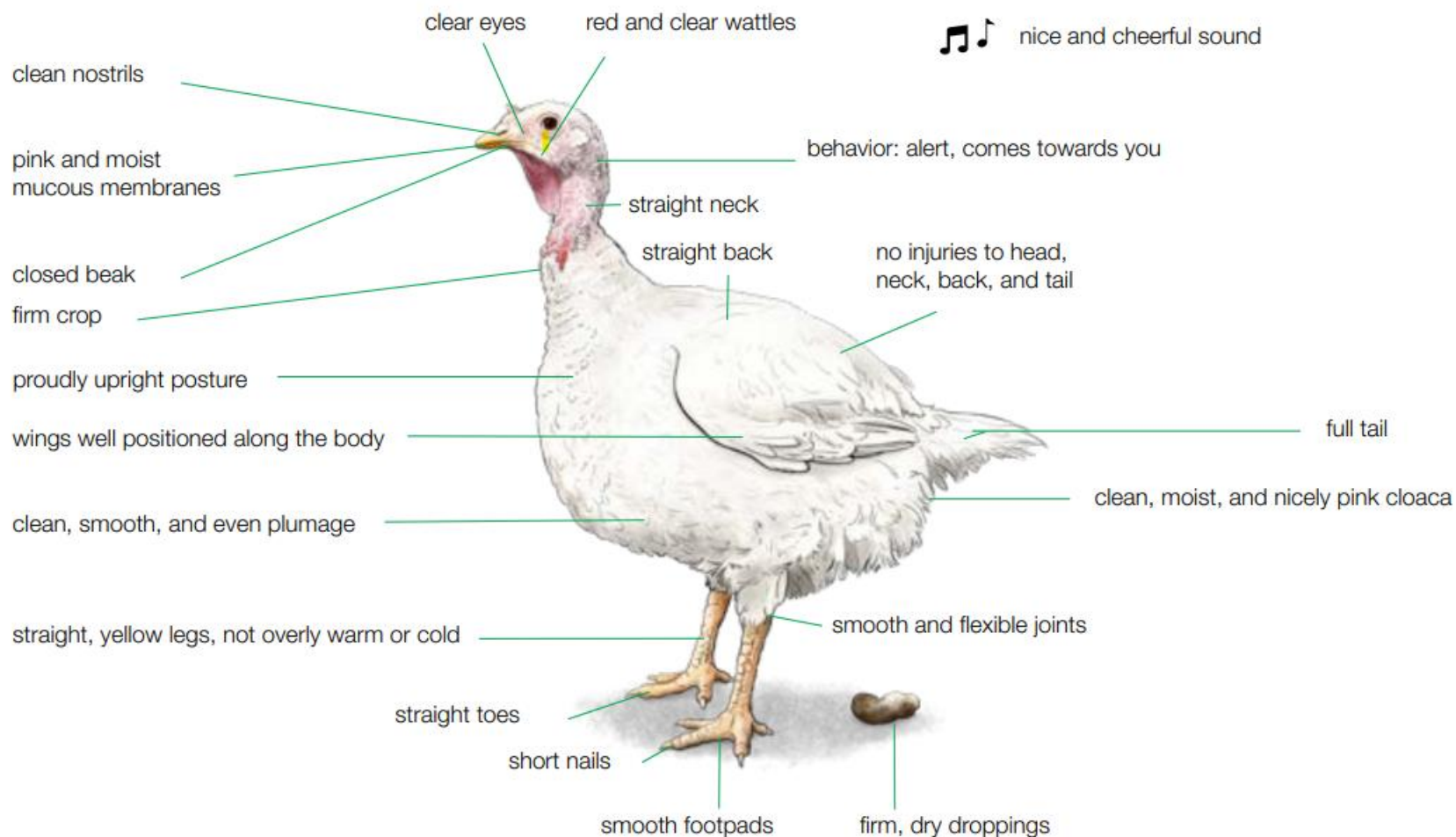


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### Healthy turkey



screaming, squeaking,  
congested sound

eyes: mucus, semi-closed, frothy, swollen,  
white eye, dry, dull/pale in colour



comb/wattles:  
pale, purple

behaviour: sits still in a  
corner, lethargic and slow

swollen nasal  
cavity

dirty,  
moist nostrils

open beak,  
gasping

tongue and mucous  
membranes pale, dull and dry

skinny breast,  
under-developed muscles

damaged breast skin: ammonia  
burn, litter spots, breast blisters

hot legs (fever)

lame, crooked legs, pulled up

foot pad lesions

empty crop

neck feathers  
standing out

convex back

pecking and  
scratching injuries

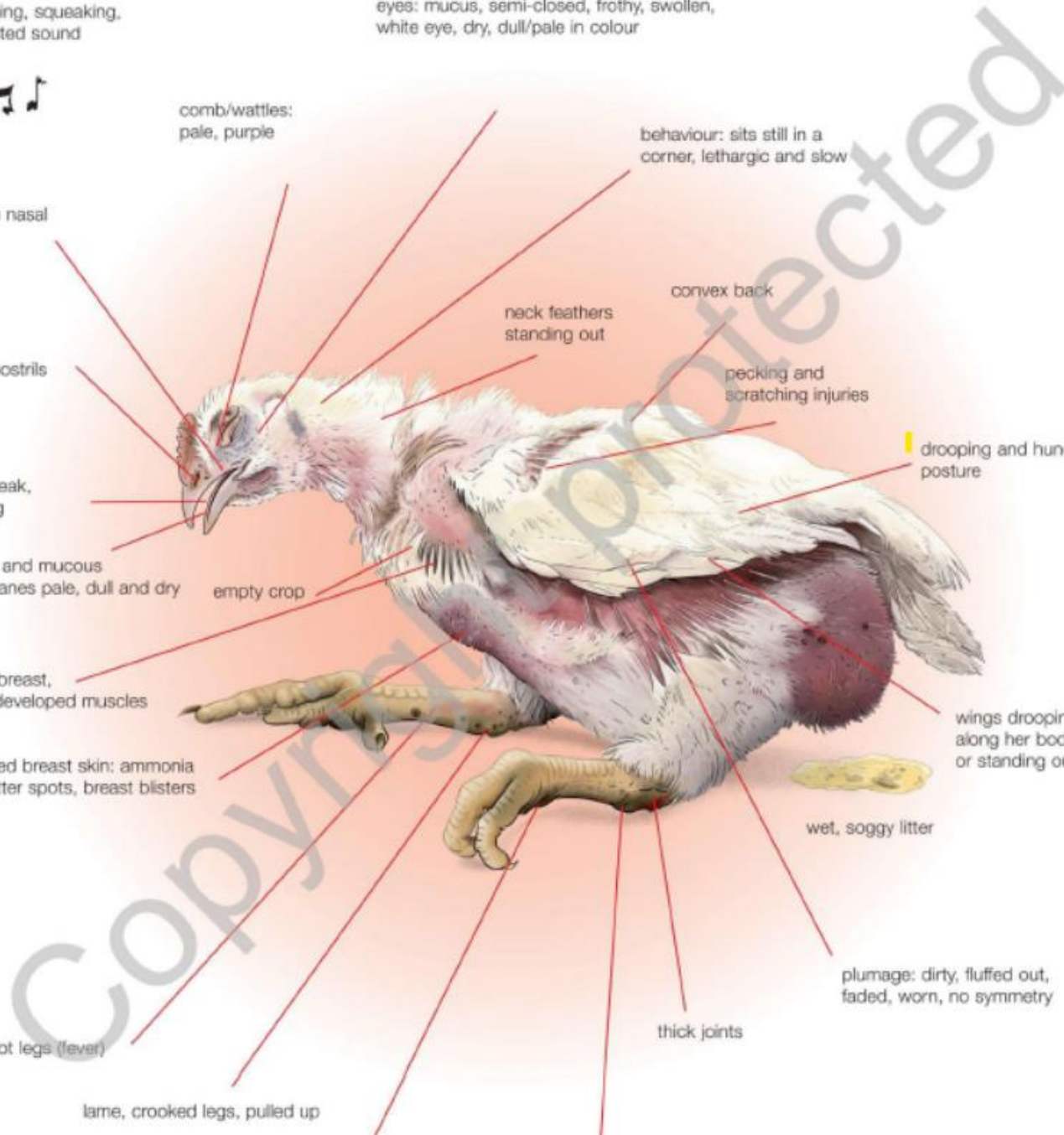
drooping and hunched-up  
posture

wings drooping  
along her body  
or standing out

wet, soggy litter

plumage: dirty, fluffed out,  
faded, worn, no symmetry

thick joints



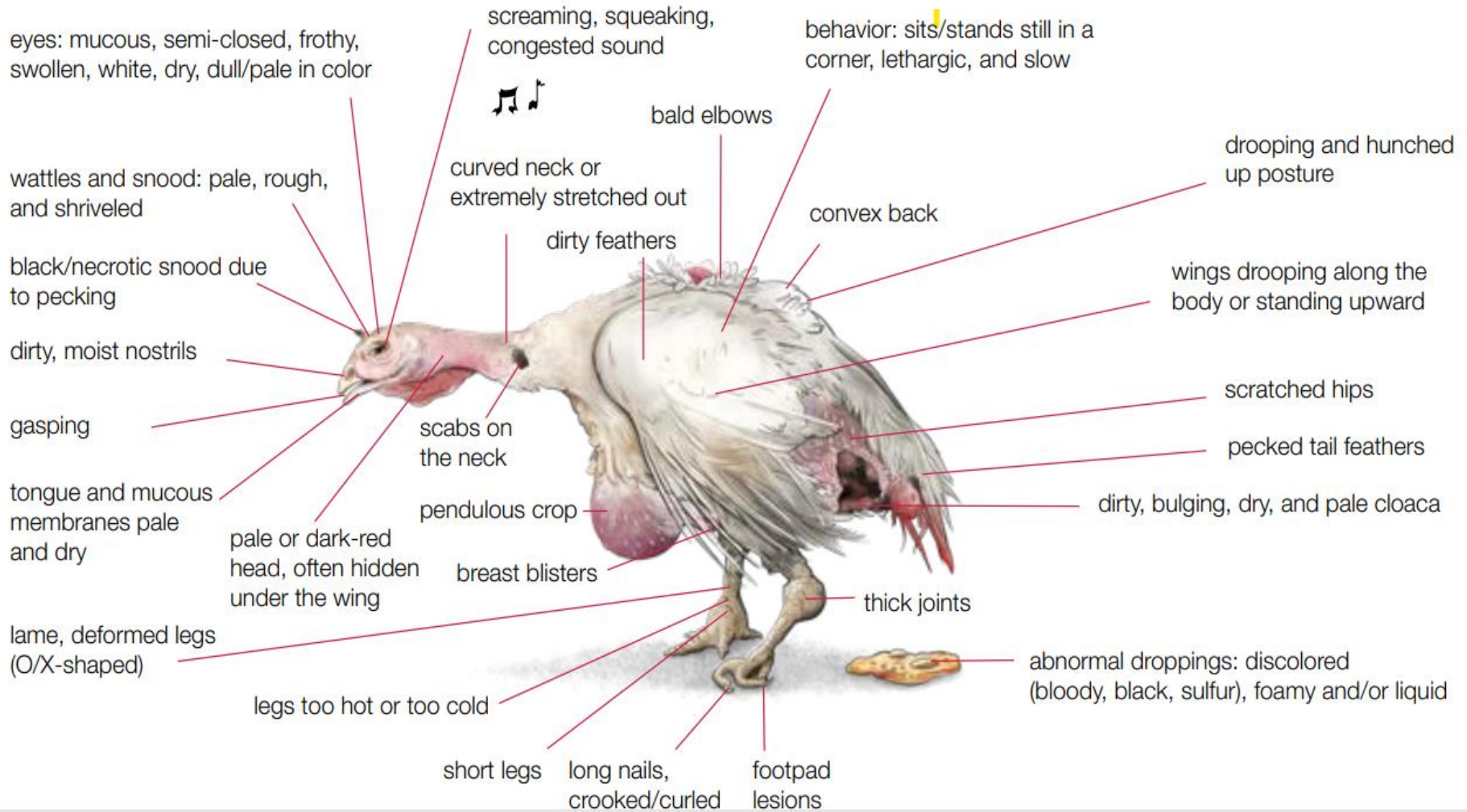


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### Unhealthy turkey







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### What is animal welfare?

Physical attributes of animal

Culling/Euthanasia

Nutrition

Handling

Daily care

**Animal health  
(physical)**

**Animal well-being  
(behavior)**

Health status  
(vaccination and  
disease freedom)

Equipment (set-up  
and maintenance)

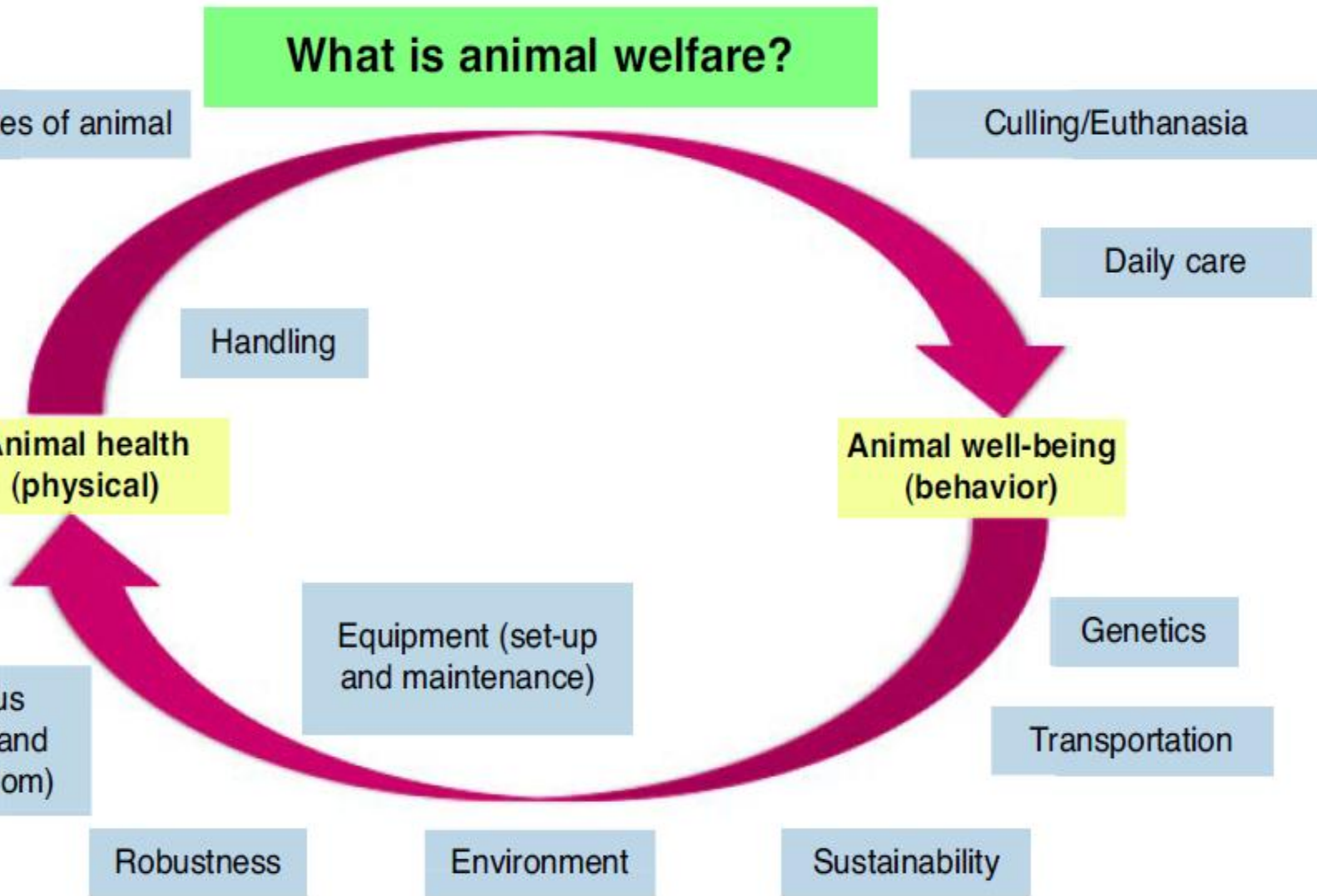
Genetics

Transportation

Robustness

Environment

Sustainability





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*Thank you*

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