

# SP-484982

## Part3\_Security\_Audit\_Dashboard

by Academic 2025

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### General metrics

**5,993**

characters

**861**

words

**96**

sentences

**3 min 26 sec**

reading  
time

**6 min 37 sec**

speaking  
time

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### Score



This text scores better than 96%  
of all texts checked by Grammarly

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### Writing Issues

**6**

Issues left

**6**

Critical



Advanced

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### Plagiarism

This text hasn't been checked for plagiarism

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## Writing Issues

<b>6</b>	<b>Correctness</b>	
1	Incorrect verb forms	
2	Incorrect punctuation	
1	Conjunction use	
2	Determiner use (a/an/the/this, etc.)	

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## Unique Words

**43%**

Measures vocabulary diversity by calculating the percentage of words used only once in your document

unique words

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## Rare Words

**40%**

Measures depth of vocabulary by identifying words that are not among the 5,000 most common English words.

rare words

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## Word Length

**5.4**

Measures average word length

characters per word

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## Sentence Length

**9**

Measures average sentence length

words per sentence

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## Part3\_Security\_Audit\_Dashboard

### LEARNING ACTIVITY 3: THE SECURITY AUDIT DASHBOARD

Reproductive-Immune System Status Report | Patient: Pregnancy Health Monitor | Status: ACTIVE MONITORING

Single-Page Digital Widget Layout — Placenta | Immune Tolerance | Pregnancy Success

#### □ PLACENTA SHIELD STATUS

Diplomatic Shield Analysis — Ch. 31.7

The Final Diplomatic Shield is the Placenta, an organ of specialization that develops out of fetal tissue and implants in the uterine wall, forming a selective barrier between the mother and the fetus.

#### SHIELD FUNCTIONS:

✓ NUTRIENT PASSAGE: O<sub>2</sub>, glucose, amino acids, maternal blood vitamins to the fetus by concentration gradients and active transport (chorionic villi are ports of transfer)


✓ WASTE ELIMINATION: CO<sub>2</sub> and metabolic waste are transferred to the mother to be eliminated


✓ ANTIBODY TRANSFER: Maternal IgG antibodies pass through the placenta, providing the fetus with passive immunity

□ BLOCKS MATERNAL T-CELLS: The majority of maternal immune cells cannot cross the fetal barrier, leaving fetal cells immune to direct attack


□ BLOCKS LARGE PATHOGENS: Bacteria and most large pathogens blocked<sup>1</sup> (although some viruses such<sup>2</sup> as HIV<sup>3</sup>, Zika<sup>4</sup> can cross)

### SHIELD STRENGTH METRICS:

Nutrient Transfer Efficiency:  92%

Maternal T-Cell Blockade:  88%

Pathogen Defense:  75%

Antibody Passage (IgG):  95%

Shield Status: ACTIVE — FUNCTIONAL

Alert: Certain viruses (HIV, CMV, Zika) can penetrate shield<sup>5</sup>

### ⚖️ HORMONAL BALANCE MONITOR

Current Hormonal Status — Pregnancy Profile

Progesterone Level: HIGH ↑ (Diplomatic Mode ON)

Estrogen Level: ELEVATED ↑ (Immune Modulation)

hCG Level: PRESENT (Corpus Luteum Signal)

LH/FSH: SUPPRESSED (Pregnancy Mode)

Progesterone — The Master Diplomat:


Progesterone is the major pregnancy hormone and is the major immune diplomat during gestation. Synthesized initially by the corpus luteum, followed by an increasing amount by the placenta after week 8 (luteo-placental shift)


### IMMUNE ACTIONS OF PROGESTERONE:

- N• Inhibits Th1 (pro-inflammatory) immune reactions.
- Th2 (tolerogenic) immune shift.
- Increases Tregs<sup>6</sup> (T-cells) population.

- Suppresses NK cells' cytotoxicity of fetal cells.
- Decreases production of pro-inflammatory cytokines

Balance Assessment:

Progesterone Effectiveness:  90%

Immune Tolerance Signaling:  87%

Anti-rejection Activity:  85%

Overall Status: BALANCED — PREGNANCY SUSTAINED

□ IMMUNE TOLERANCE STATUS

Maternal-Fetal Tolerance Assessment

Immune Tolerance. The means whereby the immune system of the mother accepts the semi-foreign fetus as legitimate, instead of initiating a rejection response - the most important diplomatic feat in human reproduction

TOLERANCE MECHANISMS ACTIVE:

Regulatory T-cells (Tregs): EXPANDED & ACTIVE ✓

HLA-G Expression (Fetal): DETECTED ✓ — Suppressing NK attack

Th1/Th2 Immune Shift: SHIFTED TO Th2 ✓ — Tolerogenic mode

Progesterone Diplomacy: HIGH SIGNAL ✓

Anti-paternal Antibodies: MONITORED ⚠ — Blocking type detected

RISK FACTORS (Tolerance Failure):

⚠ Low Progesterone levels can cause a Th1 shift and miscarriage

⚠ Treg Depletion - T-cells can develop an assault on the placental tissue

⚠ Autoimmune diseases (e.g., APS) - autoantibodies can target fetal vessels.

△ Disproportionate immune response - repeated pregnancy loss

Tolerance Stability:  89%

Treg Population Level:  82%

Rejection Risk:  12%

Tolerance Status: STABLE — DIPLOMATIC IMMUNITY ACTIVE

□ DISGUISE ANALYSIS — Antigenic Drift vs. Immune Tolerance

Ch. 32.6 — Two Strategies to Survive Immune Surveillance

It is the same case with viruses and fetuses: They have to survive within a host that has conditioned its immune system to kill them. Their approach shows how advanced immune evasion is compared to immune cooperation.

STRATEGY A — Virus: Antigenic Drift (Deception)

Strategy A - Virus: Antigenic Drift (Deception) Mechanism Virus types such as Influenza continuously change their surface antigens (hemagglutinin, neuraminidase). Each mutation presents a new disguise that the immune system is unaware of.

Purpose: EVADE - deceive the immune system into thinking it is not the same pathogen.

Outcome: The current antibodies lose their effectiveness; the immune system has to initiate an adaptive response afresh.

Potential risk: It can cause a pandemic (a significant antigenic shift can introduce an entirely new virus strain).

STRATEGY B — Fetus: Immune Tolerance (Diplomacy)

The fetus does not conceal. Rather, trophoblast cells express HLA-G - a non-classical MHC molecule that ACTIVELY instructs NK cells and T-cells to go silent. Purpose: COOPERATE - indicate to the immune system to permit and not to conceal oneself

Outcome: Immune system of the mother is actively reconfigured to accept fetus - the Tregs are multiplying, the NK cells are transformed to a nurturing cell.

Benefit: Sustainable in the long run - the immune system actively helps, but does not just fail to kill.

#### KEY DIFFERENCE:

Virus: Evasion by changing genome passively - arms race with immunity.

Fetus: Lively diplomacy by means of specialized signaling - collaboration with immunity.

#### □ PREGNANCY SUCCESS DASHBOARD — Integrated System Status

##### □ Placenta Shield

##### FUNCTIONAL

Barrier integrity: 92%

Nutrient flow: Normal

⚖ Hormonal Balance

##### OPTIMAL

Progesterone: High ✓

Immune dampening: ON

□ Immune Tolerance

##### STABLE

Treg activity: High ✓

HLA-G detected ✓

□ Overall Score

89 / 100

**PREGNANCY SUSTAINED**

Monitor Progesterone

**SYSTEM INTEGRATION SUMMARY:**

The successful work of three interlocking systems is needed to help the pregnancy: (1) Placenta Shield physical and immunological separation; (2) Hormonal Balance, Progesterone dampening immunological aggression; (3) Active Immune Tolerance mechanisms (Tregs, HLA-G, Th2 shift) to prevent rejection of the semi-foreign fetus. The breakdown of any of the systems can be transferred to complications such as miscarriage, preeclampsia or preterm labor.

1.	are blocked	Incorrect verb forms	Correctness
2.	, such	Incorrect punctuation	Correctness
3.	<del>HIV</del> , → HIV and	Conjunction use	Correctness
4.	Zika,	Incorrect punctuation	Correctness
5.	the shield	Determiner use (a/an/the/this, etc.)	Correctness
6.	the Tregs	Determiner use (a/an/the/this, etc.)	Correctness