Bianca

This client presents with a complex interplay of physiological, emotional, and behavioural imbalances that are all deeply interconnected.

Below is a clinical breakdown of her pathology results, and from there, tailored considerations and strategies—both from a functional and holistic perspective—aligned with your scope as a Clinical Kinesiologist and Functional Neurology practitioner.

CLINICAL OVERVIEW:

1. Mental Health & Emotional Dysregulation

- **Conditions**: Anxiety, depression, low self-esteem, negative self-talk, eating disorder.
- **Behavioural**: Cigarette smoking (likely a maladaptive coping strategy and stimulant).

2. Blood Chemistry & Nutrient Review

Test	Result	Range/Notes
TSH	1.7 mIU/L	Normal. Rule out thyroid dysfunction, but monitor.
Iron	13 µmol/L	Borderline low (lower reference often ~10)
TIBC	61 µmol/L	High-normal. Suggests unsaturated transferrin.
Saturation	21%	Low-normal
Ferritin	11 µg/L	**Low**. Indicates depleted iron stores.
CRP	<5 mg/L	No overt inflammation. (Though low-grade chronic stress still possible.)
Na/K/Cl/Bicarb	Na 139, K 4.8, Cl 113, **Bicarb 6**	**Low bicarbonate** suggests **acid-base imbalance** (possibly chronic acidosis/stress).
Albumin/Globulin	45 / 25	Normal
Vitamin B12 (total)	388 pmol/L	Borderline—could still be functionally low.
Active B12	115 pmol/L (previous)	**Low functional B12**. A red flag for neurological and mental health function.
Folate (S. Fol)	24.3 nmol/L	Good
Vitamin D3	35 nmol/L	**Low** (Optimal range is 75–125).
Hb/Hct/RCC	Hb 129, Hct 0.39, RCC 4.4	Within normal range—no overt anaemia yet.
Platelets/WCC	264 / 7.6	Normal immune profile.

INTERPRETATION & PRIORITY AREAS

A. Iron Deficiency

- Ferritin of 11 is concerning. Low iron stores can significantly affect mental clarity, mood regulation, fatigue, and neurotransmitter production.
- Iron deficiency is **common in eating disorders**, particularly if there's restriction or purging behaviour.

B. Functional B12 Deficiency

- Despite a normal serum B12, the **previous active B12 of 115** is low and more indicative of bioavailable B12 status.
- B12 is vital for **myelin integrity, mood stability, methylation**, and **detox pathways**. Combined with low iron and low D, this triad worsens neurological symptoms.

C. Low Vitamin D

- At 35 nmol/L, her D3 is clinically deficient.
- This will exacerbate low mood, poor immunity, and possibly worsen disordered eating via impaired serotonin synthesis.

D. Chronic Stress + Acid-Base Imbalance

- Bicarbonate of 6 is significantly low (reference usually ~22-29). This could reflect **metabolic acidosis**, possibly driven by smoking, stress, poor nutrition, or excessive ketone formation.
- Low bicarb can be linked with fatigue, poor buffering capacity, and heightened systemic stress.

E. Smoking & Eating Disorder

- Both affect oxygen transport, micronutrient status, digestion, liver detox pathways, and neurotransmitter production.
- Smoking depletes **vitamin C, B vitamins, zinc**, and impairs iron uptake.

HOLISTIC STRATEGIES & SUPPORT PLAN

1. Address Nutrient Deficiencies First

- **Iron**: Gentle iron supplementation (e.g., iron bisglycinate) alongside Vitamin C. Rule out ongoing blood loss or malabsorption.
- **B12**: Sublingual methylcobalamin or hydroxocobalamin injections under supervision. Especially due to active B12 concerns.
- **Vitamin D3**: Start with 3,000–5,000 IU daily, ideally with fat and Vitamin K2.
- **Magnesium & Zinc**: Consider supplementation to support stress resilience and neurotransmitter health.

2. Support Nervous System Regulation

- **Soma RESET Method – Stage 2**:
  - Vagus nerve stimulation techniques (humming, gargling, breath work).
  - Kinesiology corrections focusing on stress circuits and HPA axis.
  - Include functional neurology activities for cerebellar and prefrontal cortex activation.
- Consider including **polyvagal theory-informed sessions**, emotional decoding, and belief work to address the deep-seated patterns driving negative self-talk.

3. Smoking Cessation (Compassion-Led Approach)

- Address it not through force, but by **replacing the need** it fills: self-soothing, dopamine boost, or control.

- Bilirubin, ALP, GGT, AST, and LD are all within healthy ranges.
- **GGT and ALP** in particular are reassuring—no bile duct or alcohol-related stress evident.

⚠ **ALT is *low* (<10 U/L)**

- While high ALT typically signals liver cell damage, **very low ALT can be functionally significant**, particularly in a **malnourished, catabolic, or low-protein state**.
- ALT is a **vitamin B6-dependent enzyme**. Low B6, often seen in stress, poor diet, or alcohol/smoking use, can result in falsely low ALT.
- In this client, it reflects **low metabolic reserve**, possible protein insufficiency, or poor coenzyme availability—**not healthy hypoactivity**.

Conclusion: Is Her Liver Affected?

- Structurally and enzymatically, **the liver appears intact**—no damage or inflammation at this stage.
- Functionally, however, the **liver is likely underperforming** due to:
    - Nutrient depletion (B6, B12, iron, D3)
    - Metabolic and emotional stress
    - Smoking-related toxin load
    - Low ALT reflecting possible undernutrition or compromised liver enzyme production

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Recommended Next Steps (Functional Focus):

1. **Support phase I and II detox pathways**:
    - **Protein intake** (adequate amino acids for conjugation)
    - **B vitamins**, particularly B6, B12, folate
    - **Sulfur-rich foods** (onions, garlic, cruciferous vegetables)
    - **Magnesium** for methylation and glutathione production
2. **Restore nutrient status**:
    - Methylated B-complex or targeted support
    - Address iron and D3 as previously outlined
3. **Liver-supportive therapies**:
    - Gentle movement and breathwork (stimulate lymphatics)
    - Epsom salt baths, castor oil packs, or herbal support (if indicated)
4. **Nervous system + eating pattern regulation**:
    - As her eating disorder and smoking resolve, liver function will naturally improve.

Let me know if you'd like a client-friendly one-page summary explaining "why her liver may be under-functioning even if her tests are normal," written in simple, empowering terms.

Nutritional Repletion

- **Iron support**: Gentle iron supplement or iron-rich foods (paired with vitamin C)
- **Vitamin D**: Supplementation and safe sunlight exposure
- **Methylated B-complex**: Includes B6, B12, folate to support mood, liver, and methylation
- **Protein focus**: Minimum 2 serves daily to rebuild enzymes, hormones, neurotransmitters

- Introduce breathwork, herbal nervines (with practitioner support), or oral fidget alternatives.
- Build intrinsic motivation through values-based coaching rather than guilt.

4. Address Eating Disorder Gently

- If not already engaged with one, refer to an eating disorder-informed psychologist or dietitian.
- In session: Focus on **safety, regulation, and building trust with her body** before discussing food at length.
- Use somatic techniques to explore control, shame, and identity around eating.

5. Rebuild Sense of Self & Internal Safety

- Low self-worth will keep her in patterns of sabotage. Kinesiology can help uncover **core beliefs** and **survival adaptations**.
- Use language like:

"You are not broken. Your body and mind have found the best way they knew to keep you safe until now. Let's teach them a new way."

- Consider:
  - Journaling or spoken narrative work around self-compassion.
  - Movement-based therapy that reconnects her to physical empowerment and joy.

NEXT STEPS

- **Priority labs** to repeat or investigate further:
  - Active B12 (again)
  - Homocysteine and methylmalonic acid (if possible) for B12/methylation.
  - Comprehensive digestive stool analysis (if symptoms present).
- **Collaborative support**: With her permission, consider working alongside her GP or psychologist to ensure cohesive care.

Would you like a hand creating a written care plan summary you could share with her or integrate into your notes?

Updated Liver Function Panel Review:

Marker	Result	Reference Range (typical)	Comments
Bilirubin	5 µmol/L	3 – 20	Normal
ALP (Alk Phos)	73 U/L	30 – 120	Normal
GGT	20 U/L	< 35	Normal, very good
ALT	<10 U/L	10 – 50	**Low**
AST	14 U/L	10 – 40	Normal
LD (Lactate Dehydrogenase)	188 U/L	120 – 250	Normal

Interpretation Summary:

✅ **No signs of overt liver damage.**

The Family Practice At Kallangur

1380 Anzac Avenue
Kallangur Qld 4503

Telephone 3204 4222
Fax 3204 5922

28/3/2025

Start Patient : STOKIE,BIANCA LEE
3 ULYSSES ST, KALLANGUR QLD 4503
Birthdate: 22/02/1984 Age: Y40 Sex: F
Telephone: 0421834871

Your Reference :
QML Reference : 25-76089402
Medicare Number: 4257806358
Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-THY-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: THYROID TEST MASTER
Provider name: QML Pathology

CUMULATIVE SERUM THYROID FUNCTION TESTS

Date	27/02/19	24/04/20	14/05/24	22/01/25	
Time	13:15	08:25	15:50	08:40	
Lab No	71682891	72326503	75814712	76089402	
TSH	1.5	1.2	2.5	1.7	mIU/L (0.50-4.00)

Euthyroid level. However if hypopituitarism (rare) is suspected, free T4 assay may be indicated.

Tests Completed:TSH, SERUM FERRITIN, FSH, SE CORTISOL, FBC, SERUM FOLATE
Tests Completed:SERUM VITAMIN B12, SE E/LFT, SE VIT D, SE C-REACTIVE PROTEIN, ESR
Tests Pending :

Start Patient : STOKIE,BIANCA LEE
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Telephone: 0421834871

Your Reference :
QML Reference : 25-76089402
Medicare Number: 4257806358
Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-COR-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: ADRENAL MASTER
Provider name: QML Pathology

ADRENAL STUDIES

Serum Cortisol	330	nmol/L	(220 - 660)
Collection time: 8:40 am			

Tests Completed:SERUM FERRITIN, FSH, SE CORTISOL, FBC, SERUM FOLATE, SERUM VITAMIN B12
Tests Completed:SE E/LFT, SE VIT D, SE C-REACTIVE PROTEIN, ESR
Tests Pending :TSH

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Start Patient : STOKIE,BIANCA LEE
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Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-FHM-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: FERTILITY HORMONE MASTER
Provider name: QML Pathology

CUMULATIVE FERTILITY HORMONES

Date			22/01/25	
Time			08:40	
Lab No			76089402	
FSH			7	IU/L

Ranges:	Follicular Phase	Midcycle Peak	Luteal Phase	Post-Menopausal
LH	2 - 12	10 - 130	1 - 17	15 - 60
FSH	1 - 10	3 - 33	1 - 9	20 - 140
Oestradiol	70 - 530	230 - 1310	200 - 790	< 120
Progesterone	< 5	rising	20 - 110	< 3

Tests Completed:SERUM FERRITIN, FSH, FBC, SERUM FOLATE, SERUM VITAMIN B12, SE E/LFT
Tests Completed:SE VIT D, SE C-REACTIVE PROTEIN, ESR
Tests Pending :TSH, SE CORTISOL

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Start Patient : STOKIE,BIANCA LEE
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Telephone: 0421834871

Your Reference :
QML Reference : 25-76089402
Medicare Number: 4257806358
Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-ISM-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: MASTER IRON STUDIES

Provider name: QML Pathology

CUMULATIVE IRON STUDIES

Date	14/05/24	22/01/25			
Time	15:50	08:40			
Lab No	75814712	76089402			
Iron	13		umol/L		
TIBC	61		umol/L		
Saturation	21		%		
Ferritin	13	11	ug/L	(25-290)	

76089402
Comment:
Iron Deficiency. Correlate with full iron studies and FBC.

Tests Completed:SERUM FERRITIN, FBC, SERUM FOLATE, SERUM VITAMIN B12, SE E/LFT
Tests Completed:SE VIT D, SE C-REACTIVE PROTEIN, ESR
Tests Pending :TSH, FSH, SE CORTISOL

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Start Patient : STOKIE,BIANCA LEE
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Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-CRP-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: C REACTIVE PROTEIN
Provider name: QML Pathology

CUMULATIVE SERUM COMPLEMENT AND C-REACTIVE PROTEIN (CRP)

Date	22/01/25	
Time	08:40	
Lab No	76089402	
CRP	< 5	mg/L(0-6)

C-reactive protein (CRP) is a non-specific indicator of tissue damage.
The level rises rapidly (within 6-10 hours) after tissue injury, peaks at 48-72 hours and returns to normal within a few days. Common causes of markedly increased CRP include infection (particularly bacterial), trauma, surgery, myocardial infarction, many malignancies and inflammatory disorders.

Tests Completed:FBC, SERUM FOLATE, SERUM VITAMIN B12, SE E/LFT, SE VIT D
Tests Completed:SE C-REACTIVE PROTEIN, ESR
Tests Pending :TSH, SERUM FERRITIN, FSH, SE CORTISOL

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Start Patient : STOKIE,BIANCA LEE
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Medicare Number: 4257806358
Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-25T-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: E/LFT (MASTER)
Provider name: QML Pathology

CUMULATIVE SERUM BIOCHEMISTRY

Date	14/05/24	22/01/25		
Time	15:50	08:40		
Lab No	75814712	76089402		
	RANDOM	RANDOM		RANDOM
Sodium	139	139	mmol/L	(137-147)
Potass.	4.5	4.8	mmol/L	(3.5-5.0)
Chloride	107	113	mmol/L	(96-109)
Bicarb	26	25	mmol/L	(25-33)
An.Gap	11	6	mmol/L	(4-17)
Gluc	4.2	4.6	mmol/L	(3.0-7.7)
Urea	4.1	2.6	mmol/L	(2.0-7.0)
Creat	66	70	umol/L	(40-110)
eGFR	> 90	> 90	mL/min	(over 59)
Urate	0.21	0.20	mmol/L	(0.14-0.35)
T.Bili	4	5	umol/L	(2-20)
Alk.P	68	73	U/L	(30-115)
GGT	18	20	U/L	(0-45)
ALT	< 10	< 10	U/L	(0-45)
AST	14	14	U/L	(0-41)
LD	198	188	U/L	(80-250)
Calcium	2.42	2.50	mmol/L	(2.15-2.60)
Corr.Ca	2.32	2.43	mmol/L	(2.15-2.60)
Phos	1.2	1.0	mmol/L	(0.8-1.5)
T.Prot	71	70	g/L	(60-82)
Alb	46	45	g/L	(35-50)
Glob	25	25	g/L	(20-40)
Chol	4.8	5.2	mmol/L	(3.6-6.7)
Trig	1.2	1.9	mmol/L	(0.3-4.0)
Lab No	75814712	76089402		
Date	14/05/24	22/01/25		

Tests Completed:FBC, SERUM FOLATE, SERUM VITAMIN B12, SE E/LFT, SE VIT D
Tests Completed:SE C-REACTIVE PROTEIN, ESR
Tests Pending :TSH, SERUM FERRITIN, FSH, SE CORTISOL

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Start Patient : STOKIE,BIANCA LEE
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Medicare Number: 4257806358
Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-BFM-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: MASTER VITAMIN B12 FOLATE
Provider name: QML Pathology
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CUMULATIVE VITAMIN B12 AND FOLATE ASSAYS

Date	14/05/24	22/01/25		
Time	15:50	08:40		
Lab No	75814712	76089402		
B12 Total	332	388	pmol/L	(162-811)
Active B12	115		pmol/L	
S.Fol.	25.4	24.3	nmol/L	(8.4-55.0)

Comment:
76089402

Serum Folate Assay:
Adequate Serum Folate.
In the absence of recent oral intake, a serum folate >13 nmol/L effectively rules out folate deficiency. Consider repeat fasting Folate, if there has been inadequate fasting, and clinical concern remains.

Serum Vitamin B12 Assay:
Essentially normal B12 levels, although liver disease if present may falsely elevate the level.

Methodology:
B12 and Active B12 (HoloTC) assays performed on Siemens Atellica analyser.

For Doctor clinical enquiries, please contact Dr Peter Davidson 07 3121 4444.
Patients should contact their referring doctor in regard to this result.

Tests Completed:FBC, SERUM FOLATE, SERUM VITAMIN B12, SE VIT D, ESR
Tests Pending :TSH, SERUM FERRITIN, FSH, SE CORTISOL, SE E/LFT, SE C-REACTIVE PROTEIN

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Medicare Number: 4257806358
Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-VD-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: VITAMIN D,SERUM
Provider name: QML Pathology

CUMULATIVE SERUM VITAMIN D

Date	14/05/24	22/01/25		
Time	15:50	08:40		
Lab No	75814712	76089402		
Vitamin D3	- 40	- 35	nmol/L	(> 49)

76089402

** Progress report.
Interpretation:
Result of 30-49 nmol/L - mild deficiency.
Result of 12.5-29 nmol/L - moderate deficiency.

Follow-up:
Review after 3 months of therapy will confirm if the deficiency has been rectified.
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Tests Completed:FBC, SE VIT D, ESR
Tests Pending :TSH, SERUM FERRITIN, FSH, SE CORTISOL, SERUM FOLATE, SERUM VITAMIN B12
Tests Pending :SE E/LFT, SE C-REACTIVE PROTEIN

~~~~~~

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Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-ESR-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: ERYTHROCYTE SEDIMENT RATE
Provider name: QML Pathology

Erythrocyte Sedimentation Rate	5	mm/hr	(1-20)

Tests Completed:FBC, ESR
Tests Pending :TSH, SERUM FERRITIN, FSH, SE CORTISOL, SERUM FOLATE, SERUM VITAMIN B12
Tests Pending :SE E/LFT, SE VIT D, SE C-REACTIVE PROTEIN

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Start Patient : STOKIE,BIANCA LEE
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Birthdate: 22/02/1984 Age: Y40 Sex: F
Telephone: 0421834871

Your Reference :
QML Reference : 25-76089402
Medicare Number: 4257806358
Phone Enquiries: (07) 3121 4555

Referred By : SCOTT,DR. EMMA
Addressee : SCOTT,DR. EMMA 5513804X
Lab. Reference: 25-76089402-CBC-0
Requested: Wednesday, 22 January 2025
Performed: Wednesday, 22 January 2025
Test name: MASTER FULL BLOOD COUNT
Provider name: QML Pathology

CUMULATIVE FULL BLOOD EXAMINATION

Date	14/05/24		22/01/25		
Time	15:50		08:40		
Lab No	75814712		76089402		
Hb	129		129	g/L	(115-160)
RCC	4.3		4.4	x10 ^12 /L	(3.6-5.2)
Hct	0.39		0.39		(0.33-0.46)
MCV	90		88	fL	(80-98)
MCH	30		29	pg	(27-35)
Plats	263		264	x10 ^9 /L	(150-450)
WCC	9.8		7.6	x10 ^9 /L	(4.0-11.0)
Neuts	4.9	47 %	3.6	x10 ^9 /L	(2.0-7.5)
Lymphs	3.2	34 %	2.6	x10 ^9 /L	(1.1-4.0)
Monos	0.8	8 %	0.6	x10 ^9 /L	(0.2-1.0)
Eos	0.78	10 %	0.76	x10 ^9 /L	(0.04-0.40)
Basos	0.10	1 %	0.08	x10 ^9 /L	(< 0.21)

E.S.R.	pending	mm/hr	(1-20)

76089402 Automated Comment:
As per ISLH guidelines - Film not reviewed. If a film review is truly indicated, contact the laboratory within 24 hours of collection. Otherwise investigate any highlighted abnormalities as clinically appropriate.

Eosinophilia - this may be seen in Atopic conditions. Correlate Clinically. Consider IgE +/- RAST.

** FINAL REPORT - Please destroy previous report **

Tests Completed:FBC
Tests Pending :TSH, SERUM FERRITIN, FSH, SE CORTISOL, SERUM FOLATE, SERUM VITAMIN B12
Tests Pending :SE E/LFT, SE VIT D, SE C-REACTIVE PROTEIN, ESR