

## A Case Study in Personalised Health: ph360 in Clinical Practice

### Background

This case study follows an individual with a history of headaches, digestive discomfort and generally low energy, and discusses the cessation of these symptoms after addressing numerous factors associated with food selection and preparation, sensory rest, temperature regulation and geographic location. This case is very common for the Sensor biotrend, descriptive of leaner individuals with lower muscle, fat and bone than average, with less concern for body composition, and with significant symptoms that impact productivity, mental clarity and fatigue. The case describes improvement in symptoms while in the home country of Queensland, Australia, and then an exacerbation following a relocation to the USA, and subsequent improvement in symptoms after additional lifestyle changes were incorporated.

### Clinical background

18 year old elite level Ballet dancer

#### Initial consultation while in home country (Queensland, Australia)

- Reported daily symptoms of eye fuzziness, fatigue (muscle soreness, aches), nausea and headaches
- Biochemistry - low iron diagnosed 12 months prior
- Digestion - bowel movements never felt complete, pain at the bottom of sternum, some reflux but inconsistent
- Focus - inability to mentally focus after dinner.
- Sleep quality - 9 hours per night, waking up somewhat refreshed, before feeling tired in the afternoon.
- Food history - reported intolerances to milk and gluten with no official diagnosis. Current intake: gluten free muesli, assorted fruits (banana, berries); dried fruit protein balls/protein bar; brown rice/legume salads with 80-100g of protein; cheese and crackers/fruit (banana, dates, pear); meat, noodles/rice and vegetables at dinner.
- Physical: Ballet/dance training 6 to 7 days per week for a minimum of 4 hours per day.

#### Consultation after relocating to Northern Hemisphere (New York, USA)

##### Lifestyle change:

- Australian summer to New York winter - 35 degree celsius swing.
- Living independently away from family
- Increased physical and mental demands from US ballet school
- Limited cooking facilities - providing all her own food

##### Symptom change:

- Headaches have returned - intermittent in appearance (not daily, each lasting 30min)
- Rib pain has increased as per initial consultation
- Strong fatigue throughout the day
- Lost 1.5kg of body weight - unwanted

## Patient Management

HealthType determined as Sensor (Ectomorph) 350°.

### 1. Initial 10 Day Period

<i>Dietary Recommendations</i>	
All meals to be warm and cooked Protein portions to be 60-80g per meal (15-20g of protein) Specific sources of carbohydrates to be consumed (black rice, wild rice, oats), potato, sweet potato, citrus fruits (with reduction in bananas, and specific dried fruits for digestive reasons) High carb intake, however highly digestible for easier digestion and fueling for activity	Adherence: 90%
<i>Mind Recommendations</i>	
Given guidance on slow breathing techniques, and to allocate time each day before and in between dance class to practice slow breathing.	Adherence: 10%

### 2. After relocating to Northern Hemisphere (New York, USA)

<i>Dietary Recommendations</i>	
Maintain current intake, however change fruits (e.g. banana) to citrus and those with natural digestive enzymes (paw paw, pineapple) Eliminate foods high in particular FODMAPs Add regular carbohydrate throughout day (juices and fruit for digestibility), particularly in between classes Ensure cooking of all foods Lighter lunch to aid digestion with a focus on carbohydrates Protein serve at night to be highly digestible (steamed/slow cooked)	Adherence: 100%
<i>Mind Recommendations</i>	
Meditation for 10min in the morning and 20min in the evening Quiet time at night: 20min of complete relaxation next to the heater, performing stretches and deep breathing to enable complete sensory rest	Adherence: 80%
<i>Environmental Recommendations</i>	
Consume a hot drink on the way to school (whilst traveling in the cold) Eat a warm breakfast Put on an extra layer for thermoregulation	Adherence: 100%
<i>Physical Recommendations</i>	
Ballet was reduced by one class each week; class omitted was the most difficult and demanding class (determined by school curriculum)	N/A

## Results

### 1. 10 Days Post Intervention

CLIENT SUBJECTIVE RATING OF SYMPTOMS		
	Initial	10 Days Post Intervention
<b>Bowel movement regularity</b>	Once every 1 to 2 days Incomplete movement	Daily Complete movement
<b>Upper stomach pain</b>	Daily - 7/10 pain	3 Days of discomfort followed by 7 days of no report of pain (0/10)
<b>Lower stomach pain</b>	Daily - 3-4/10	Gradual reduction of discomfort over 7 days with cessation of pain (0-1/10) at end
<b>Reflux</b>	Intermittent - unsure of trigger/ frequency	No reflux reported
<b>Dizziness</b>	Daily - 7-8/10	Gradual reduction of ~1 point per day, with 0/10 reported after 9 days
<b>Mental clarity</b>	Daily - 6/10	6/10- No change after 10 days

### 2. After relocating to Northern Hemisphere (New York, USA)

#### Self-reported fatigue

	On waking	1st class	2nd class	Lunch	Afternoon
<b>Immediately after relocation</b>	7/10	2-3/10	6/10	6/10	2/10
<b>After implementing changes for new environment</b>	8/10	8/10	7/10	7/10	6/10

## Other Findings

- Deep breathing before meal times allowed her to recognize that stomach pain was from eating too quickly.
- Bowel movements improved upon doing nighttime breathing with the heater close by.
- Headaches have resolved.
- As she committed to more consistent breathing and down time at the end of the day, all symptoms improved.

## Clinical Learnings

This Sensor biotrend is typically very cold and needs external warmth as a priority. Similarly, with a very active mind, and in an environment (ballet school) that can increase body image/performance anxiety, the importance of mental rest became the strongest strategy for her to control her digestive symptoms.

The inclusion of carbohydrates, but only those that are easily digestible was key to improved athletic performance, however, the delivery of the carbs (juice/easy to digest fruit) was an important consideration.

For this biotrend, the environment and mental processing are powerful determinants of health and performance.