

# Starvation Syndrome

## Information for clinicians

### WHAT IS IT?

Starvation syndrome (SS) tells us about the impact on the body and brain when a person undergoes starvation/dietary restriction. Most of the knowledge about SS comes from the Ancel Keys' Minnesota study that occurred back in 1944-45. The study assessed the impact of 6 months of semi-starvation (consuming a reduced energy/caloric intake, engaging in exercise and losing about 25% of their body weight) on a group of men, followed by 3 months of the refeeding process. SS is common amongst individuals with eating disorders given the dietary restriction and compensatory behaviours that often occur.

### WHAT ARE THE SYMPTOMS?

Physical symptoms include: slowing down of metabolism; dry, pale skin and brittle thinning hair; reduced libido; muscle weakness, muscle cramps; feeling cold; fluid retention; fatigue, loss of strength; blood pressure, heart rate and heart volume.

Psychological symptoms include: depression, anxiety, irritability, increased sensitivity; loss of interest in sex & personal hygiene; impaired concentration, decision making, alertness and focus, motivation and ambition and interest in activities; rigidity and obsessional thinking; impaired functioning.

Behavioural symptoms include: preoccupation with food; increased interest in looking at food, hoarding food, craving food, bingeing on food, planning meals; bland food more appealing; feeling possessive and obsessive about food; slowed eating; unusual food rituals.

Social symptoms include: social withdrawal and isolation; decreased interest in social interaction; focused on food during social conversations; loss of sense of humour.

### FACTS TO KNOW ABOUT STARVATION SYNDROME:

- In the experiment, physical symptoms that occurred as a result of the semi-starvation started to improve when the participants started to refeed. They also encountered physical problems such as constipation, bloating, pain, flatulence, fluid retention and fatigue to name a few.
- In the study, mood remained low and for some participant even worsened for 6 weeks post refeeding. Irritability increased with increases in overall energy. Slowly their sense of humour and interest in being socialable returned, but it took some time.
- Participants in the study experienced intense hunger that persisted for 12 weeks as 'insatiable' leading to binge eating type behaviour including the desire to eat even when physically full.
- As restrictions were lifted in the experiment, improvements were noted and participants improved more and more over time. For some, overeating continued - even when they tried to stop, they couldn't eat less.
- A person can experience SS at any weight - a person does not need to be underweight to experience SS (and does not necessarily have to lose weight).
- SS can be triggered and experienced by any person who does not eat adequately, in individuals whose food intake is irregular (with long periods of time without food) or in individuals who engage in compensatory behaviours where energy is not absorbed adequately (purging, laxative use).
- Even weight loss as little as 5% of someone's body weight can result in SS.

### WHY IS THIS IMPORTANT IN EATING DISORDER WORK? WHAT SHOULD YOU DO ABOUT IT?

The information about SS is useful when working with clients with eating disorders because it tells us that with adequate and regular nutrition and intake, the effects of starvation can be reversed (but it takes some time). This also means that if a client is experiencing SS, it is difficult (and likely futile) to work on improving 'depression' and 'anxiety' and 'obsessionality' until adequate nutrition has consistently been consumed, in order to accurately determine whether these symptoms naturally resolve with nutritional rehabilitation. In addition to this, actively engaging in therapy requires focus, alertness, planning, memory and decision making, all of which are very difficult when someone is experiencing SS. This is why nutritional rehabilitation often comes first in eating disorder treatment.

If you are a clinician working in eating disorders, it is crucial that you are aware of all of the symptoms of starvation and that this is something that is regularly assessed (especially at the beginning of treatment and when any changes to eating/weight occur). If a client is experiencing SS, this provides an important focus for treatment and also becomes a crucial point for sharing important psycho-education. Having access to this information often helps clients and their families feel validated and normalises their experience. It also gives clients and their families a clear avenue for how these symptoms can be resolved. Don't ignore signs of SS, they are important indicators of restriction and dietary restraint and impede other aspects of treatment if left unaddressed.



# INDICATIONS OF NATURAL WEIGHT



## Physical signs

- Regular menstruation or nocturnal emissions
- Normal hormone levels
- Weight maintained without restriction, restraint, bingeing, compensatory behaviours
- Normal blood pressure, heart rate, blood chemistry, temperature (not cold all the time), bone density
- Stable energy levels (not exhausted, agitated)

## Cognitive signs

- Thinking flexibility, good attention & concentration
- Not obsessive, highly ritualised or frequently pre-occupied
- Improvement or absence of urges to engage in ED behaviours (e.g, binges, purging)

## Psychological/Social signs

- Can eat flexibly, according to what want/feel like
- Eating comfortably with others
- Can eat what others have prepared (eg, at a restaurant), without concern
  - No food rules/rituals
  - Largely stable mood
- Starting to or returning to age appropriate milestones