Overview of the Lifestyle Ready Reckoner Tool

The purpose of the Lifestyle Ready Reckoner tool is to allow educators to identify observable indicators of those Lifestyle Risk Factors associated with future risk of unhealthy weight gain in childhood. Decisions can then be made on appropriate support within the school through the Healthy Schools approach or in the community setting through a referral to a partner organisation or access to services through Healthy Schools Plus.

This tool identifies 7 Lifestyle Risk Factors for unhealthy weight gain in childhood that are observable within an education setting, provides indicators for how these factors can be observed and provides a blank assessment tool.

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Lifestyle Risk Factors for Unhealthy Weight Gain in Childhood

Unhealthy weight gain in childhood or adolescence and subsequent health concerns are determined by a number of factors that are a complex and interrelated. These determinants are varied and assessing or addressing many of them out with the scope of the Healthy Schools, for example, the local physical environment. However, some determinants of unhealthy weight gain in childhood are more personal, and therefore modifiable, and can be observed in specific individual behaviours which over long periods of time can cause unhealthy weight gain. These individual behaviours as described within the Healthy Schools approach as Lifestyle Risk Factors.

Lifestyle Risk Factors can be observed in individuals to allow identification of those at greatest risk of poorer health outcomes associated with unhealthy weight gain in childhood, even before any visual signs or health concerns become apparent. This ability to identify Lifestyle Risk Factors within Healthy Schools, therefore, supports prevention of unhealthy weight gain in some children and young people through early identification of risk and provision of associated preventative measures as well as a mechanism to engage individuals who may already be above a healthy weight range to access appropriate support.

Early identification of behavioural patterns through the Lifestyle Ready Reckoner Tool
Individual Lifestyle Risk Factors in isolation, although an indication of specific undesirable behaviours, may not be strong predictors of future unhealthy weight gain. However, when several of these Lifestyle Risk Factors are demonstrated together then this increases the likelihood that the overall behavioural patterns of the child or young person, with regards to maintaining a healthy weight status, are undesirable.

Identification of these behavioural patterns associated within unhealthy weight gain can be used as evidence for early prevention or management through either, on-going support within the school to or attempt to engage the child and their parents or carers with appropriate support out with the school.

No Lifestyle Risk Factor in isolation can be a certain predictor of future unhealthy weight gain. However, the presence of Lifestyle Risk Factors is associated with a greater potential for unhealthy weight gain in the long term, with the strength of this correlation increasing with the number of identified risk factors, and resultant unhealthy weight gain, while not inevitable, is a likely consequence.

Combinations of Lifestyle Risk Factors

Lifestyle Risk Factors can be seen in any combination, however, certain factors can cluster together. Demonstrating some Lifestyle Risk Factors can place children and young people at increased risk of other related factors through a causal influence. These clustered factors can act through a process of causation where an initial behaviour e.g. a high level of screen time exerts an influence on behaviours, triggering an associated factor e.g. long periods of inactivity.

Cyclical Lifestyle Risk Factors can occur when a set or chain of behaviours are established which reinforce themselves through a feedback loop. For example, low levels of physical activity and low fitness levels can cycle together and reinforce each other. Cyclical Lifestyle Risk Factors can move in a positive or negative direction; however the Lifestyle Ready Reckoner identifies those behaviours which have a tendency to cycle in a more undesirable direction. These cycles will often continue in this undesirable direction until acted on by an external influence to break the cycle.

If a child or young person displays multiple, clustered or cyclical Lifestyle Risk Factors then this can indicate that the pupil may have a lifestyle which puts them at greater risk of future unhealthy weight gain in childhood or adolescence. Some scenarios in which risk factors act causally or cyclically are outlined below.

Scenario 1: Clustered screen time, sedentary lifestyle & low levels of physical activity
A child who spends long periods playing computer games and therefore demonstrates the greater than 2 hours of screen time per day outside school risk factor may also demonstrate the long periods of sedentary behaviour and/or inactivity risk factor. If these two risk factors are identified then there is a possibility that screen time and sedentary activities are displacing other more physically active pursuits and the child may also be at risk of not meeting the national guideline for participation in 60 minutes of physical activity per day and therefore may also be displaying a third risk factor.

Scenario 2: Clustered missing or poor quality breakfast & sugary drink consumption
If a child is missing breakfast or eating a low nutritional quality breakfast then they are demonstrating a lifestyle risk factor. However, this risk factor is likely to make them hungry by morning break and seek out high energy snacks or to consume sugar sweetened drinks, therefore placing them at increased risk of a second related lifestyle risk factor.

Scenarios 3: Cycle of low physical activity levels & low fitness
A child who does not meet the national guideline of 60 minutes physical activity per day or takes part in little vigorous activity is displaying a single lifestyle risk factor. However, this lack of overall physical activity or avoidance of more vigorous activities is likely to impact on their fitness levels and it is therefore possible that they may also have a second related lifestyle risk factor of low levels of fitness. A vicious cycle can become established in which low physical activity levels cause low fitness levels which in turn discourage participation in some activities and so on.

Scenario 4: Cycle inadequate sleep, missing breakfast & sugary drink consumption
If a child does not get an adequate amount of sleep then they are displaying a single lifestyle risk factor but this can result in them oversleeping in the morning and often missing breakfast, a second lifestyle risk factor. However inadequate sleep will impact on normal hormonal production and functions within in the brain impacting on satiety. The result of this is that they will crave higher energy foods in the morning which often come in the form of poor nutritional quality, high energy breakfast items or sugar sweetened drinks, therefore, increasing the likelihood of additional risk factors. However, drinking sugar sweetened drinks can become a habit for children and consuming these drinks, with high sugar and often caffeine levels, in the afternoon or evening will make it difficult for the child to sleep, causing inadequate sleep and exacerbating the cycle.

These scenarios are intended to demonstrate the inter-related nature of behaviours and show the propensity for individual Lifestyle Risk Factors to be related to, cause or in some cases cyclically reinforce associated Lifestyle Risk Factors. This highlights the need for educators to further investigate the lifestyles of children and young people once a single Lifestyle Risk Factor has been observed to gain a full picture of undesirable behavioural patterns. Furthermore, the longer behaviours occur the harder it is to relearn new behaviours which further emphasises the need to address behavioural chains and cycles through early intervention.

Observable Lifestyle Risk Factor Indicators

Observation of Lifestyle Risk Factors is not based on incontrovertible evidence. For example, it is not necessary to use an established fitness assessment to determine fitness levels. It is acceptable to use more subjective measures such as a teacher's observation of a child's fitness level relative to their peers within a P.E. lesson or a report from a playground supervisor that the child quickly drops out of active games, to determine if in the opinion of the educator the child is displaying low levels of fitness.

What the Lifestyle Ready Reckoner is attempting to establish is indication of the presence of risk factors, not incontrovertible proof derived from detailed evidence gathering. If required, multiple subjective indicators can be used to establish the presence of a Lifestyle Risk Factor, which in some cases may constitute a more valid evaluation than a single assessment. For example, the bleep test gives a specific score which can be used to determine cardiovascular fitness but while this may be seen as more valid than an observation of child's interactions in the playground, the bleep test score could be influenced by illness, motivation, peer pressure, assessor error etc and therefore, may be less accurate than the opinion of a teacher which is built up through several observations over a period of months.

Educators should remain cognisant of the need to look for multiple indicators, across multiple risk factors throughout the year in order to establish a clear picture of the patterns of behaviour and therefore, associated risk to their overall health and wellbeing. This can include an educational assessment across several of the 8 SHANARRI indicators or a Learner Self-Assessment of their own wellbeing.

Seven Lifestyle Risk Factors Associated with Future Unhealthy Weight Gain

Those Lifestyle Risk Factors which were highlighted within the evidence base as being the strongest predictors of increased risk of future unhealthy weight gain in childhood and adolescence and which are also observable within an education setting are:

1. *More than 2 hours of screen time (TV, tablet, phone) per day outside school or watching TV during meals*
2. *Less than 60mins moderate physical activity per day or low levels of vigorous physical activity*
3. *Missing breakfast or eating breakfast with a low nutritional quality*
4. *Sleeping for less than 10 hours per night*
5. *Consumption of sugar sweetened drinks*
6. *High levels of sedentary behaviour and/or long periods of inactivity*
7. *Low levels of fitness*

While these seven specific Lifestyle Risk Factors were identified as measurable indicators they can be divided into four broader categories which are more commonly associated with unhealthy weight gain which are:

- Sedentary lifestyles
- Low levels of physical activity
- Some poor dietary habits
- Inadequate amount of sleep

Ranking of Risk Factors

This tool was designed to identify sources specific lifestyle risk factors that are observable in the nursery and school setting but did not seek to compare the relative strength of individual risk factors as predictors of future unhealthy weight gain. Therefore, each Lifestyle Risk Factor should be treated with equal significance when using the Lifestyle Ready Reckoner.