**SIN Factor**

The SIN factor allows you to consider aspects of the presentation in more detail to aid decision making at two different times in the assessment process

* Firstly, following the subjective interview the SIN factor guides the planning of the objective assessment.
* Secondly, after the objective assessment the SIN factor guides decision making for the final clinical impression.

SIN stands for…

S = Severity

I = Irritability

N = Nature.

Severity

Severity describes how painful the symptoms are. This can be judged by considering…

* Description of pain
* Pain scores using a Visual or Verbal rating scale
* How much pain impact on activity levels. Ie. Does it stop or limit them. This would also take into account the level of activity.
* Does the pain disturb sleep
* Levels, frequency, type of analgesic medication.
* Response to palpation
* Response to movement
* Response to objective physical examination

Severity is graded

Non Painful – Mild – Moderate – Severe

Irritability

Irritability describes the relationship between the aggravating and easing factors and the associated timescales. *(For further information see aggravating and easing factors)*

This can be judged by considering…

* How quickly the symptoms increase with an aggravating activity
* How long the symptoms last when present
* How quickly the symptoms decrease to resting level again with an easing activity.
* Time scales are important to make this judgement.
* The kinds of aggravating factors
* The kinds of easing factors

Irritability is graded

Non Painful – Mild – Moderate – Severe

Nature

Nature describes the source of symptoms.

The source of symptoms can be described using four main frameworks

1. Genics
2. Inflammatory versus Mechanical
3. Pain versus Resistance
4. Improving versus Worsening
5. Genics

*Arthrogenic* = relates to the joint and related structures such as the joint capsule, menisci, labarum and ligaments.

*Myogenic* = relates to the muscle and the relating structures relating such as the tendon, musculotendonous junction and oseostendonous junction.

*Neurogenic* = relates to the nerve which includes the spinal cord, nerve root and peripheral nerve and autonomic nerve

*Discogenic* = relates to the spinal discs

*Vasculogenic* = relates to any part of the vascular system.

*Viscerogenic* = relates to any viscera. Eg. heart, pancreas, gall bladder, appendix, kidney.

*Psychogenic* = relates to symptoms caused or maintained by psychological factors.

*Sociogenic* = relates to symptoms caused or maintained by social factors.

Genics are graded by a percentage.

Ie. What percentage is likely to be from each genic. If a genic is not considered a source of symptoms it is best practice to identify it as 0%. The score from all the genics should add up to 100%.

1. Mechanical versus inflammatory

Inflammatory pain relates to pain stimulated by chemicals of inflammation.

Common pain description for inflammatory pain is:

* Clear diurnal pattern = early morning stiffness, eases with movement (5-30mins), mornings feels better, worse as day progresses.
* Unclear aggravating and easing factors.
* Dull ache
* Throbbing
* Constant but variable
* Often high irritability.

Mechanical pain is nocioceptor activation in musculoskeletal tissue due to pressure build up and release with changes of position.

* Clear aggravating and easing factors
* Stimulated by strong mechanical stimulus.
* sharp
* Often an on / off pain with low irritability

Inflammatory versus Mechanical is graded by a percentage.

Ie. What percentage is likely to be from each component? If a component is not considered a source of symptoms it is best practice to identify it as 0%. The score from all the components should add up to 100%. It is often presented as a ratio.

For example: Inflammatory 50:50 Mechanical

Inflammatory 100:0 Mechanical

1. Pain versus Resistance

Pain versus resistance identifies how much of the problem is associated with the pain and how much is associated with resistance.

Pain versus Resistance is graded by a percentage.

Ie. What percentage is likely to be from each component? If a component is not considered a source of symptoms it is best practice to identify it as 0%. The score from all the components should add up to 100%. It is often presented as a ratio.

For example: a high severity and high irritability may make it impossible to assess for any resistance. The person may describe no symptoms of stiffness. Therefore they would be

Pain 100: 0 Resistance

For example, a non-severe and non-irritable problem but on physical examination there is significant resistance to active, passive or accessory movements with no pain reproduction on these tests.

Pain 0: 100 Resistance

1. Improving versus Worsening

Improving versus Worsening identifies the natural progression of the problem

Improving versus Worsening is graded by a percentage.

Ie. What percentage is likely to be from each component? If a component is not considered a source of symptoms it is best practice to identify it as 0%. The score from all the components should add up to 100%. It is often presented as a ratio.

The SIN factor allows you to consider aspects of the presentation in more detail to aid decision making at two different times in the assessment process

* Firstly, following the subjective interview the SIN factor guides the planning of the objective assessment.

For example, a presentation with high severity and high irritability would need an objective assessment with the minimal number of physical tests to avoid making the condition worse.

For example, a presentation with a high myogenic component would require a high number of muscle tests to be conducted in the objective examination.

For example, if the neurogenic component is considered to be 0% then it is unlikely that any neurogenic physical assessments are required in the objective examination.

For example, a condition with a high inflammatory component should consider the time of day the assessment is taking place. It may also consider more carefully the order of aggravating and easing tests or how the physical tests are conducted.

* Secondly, after the objective assessment the SIN factor guides decision making for the final clinical impression.

For example, a presentation with high severity and high irritability may just have a clinical impression identifying these components and the goals and treatment plan will be designed around managing this prior to further assessment.

For example, a presentation with a high myogenic component would require the clinical impression to be mostly based around a myogenic structure.

For example, if the neurogenic component is considered to be 0% then it is unlikely that a neurogenic component should be considered in the clinical impression, it would not be included in the problem list and there should be no neurogenic based treatments.

For example, a conditions with a high inflammatory components should consider carefully the time of day for treatment sessions and if anti-inflammatory medications have been taken.