

AIS Management Key Points

- Depending on **maturity** and **curve severity**
 1. **Physio** exercise
 2. **Brace**
 3. **Bone Health Px**
 - a. Counseling with Bone Health Pamphlet (for all)
 - b. 500 IU Vit-D₃ / day
 - c. Refer Bone Health Sub-unit for Bone Health Work-up and Individualized Ca+Vit-D supplementation
 4. **Surgery**

Skeletal Maturity

1. No changes in standing height in the past 6 months and
2. > 2 year post-menarche and
3. Risser ≥ 4 and fused distal radius growth plate
4. TOCI > Stage 8

Physio Exercise

- Refer to Physio for Scoliosis Exercise Class
 - PWH or TMH (or ask nursing staff for latest information on physio centers with Scoliosis Exercise Class)
- Three key elements delivered in Scoliosis Exercise Class
 - Back care: correct posture and daily activities
 - Back strengthening exercise
 - Back stretching exercise

Bracing Thresholds

- Cobb angle $> 25^{\circ}$ or
- increase in Cobb angle $> 5^{\circ}$ in the past 6 months or
- cumulative increase in Cobb angle $> 10^{\circ}$ from baseline
- Individual consideration
- Please note bracing is indicated only for skeletally immature AIS patients

Surgical Thresholds

- Cobb angle $> 50^{\circ}$ or individual consideration
- In all cases, please do not express the opinions that the patient must need surgery. Instead, please indicate surgery may need to be considered and a second opinion from a senior colleague is desirable.
- Please direct your patient to see Paed Ortho Team doctor

Bone Health Px for AIS patients

- For all AIS cases (old or new) in OPD:
 - Give Bone Health Pamphlet (at the end of each consultation)
 - Always instruct the patients to do the following
 - Watch the video displayed at waiting hall
 - Visit the Bone Health Website
 - Install the Bone Health Mobile Apps before leaving

Bone Health Px for AIS patients

- For all AIS patients who require bracing:
 - More counseling to reinforce lifestyle for bone health, ie “CDEF”
 - If needed, an option is to liaise with the patient and the guardian to take Vit-D₃ 500 IU per day
 - Please beware this is **NOT** 1,25(OH)₂Vit-D which is also called calcitriol.

Bone Health Px for AIS patients

- For AIS patients with Cobb increase $> 5^\circ$ despite being braced **and** with Vit-D supplementation:
 - Refer patients to Bone Health Sub-unit (Rm 16) for Bone Health Workup and Individualized Ca+Vit-D supplementation

Bone Health Px for AIS patients

- For those already with Bone Health Workup and with Individualized Ca+Vit-D supplementation recommended:
 - Continue with Individualized Ca+Vit-D supplementation

At Skeletal Maturity

- Continue with physio general exercise and lifestyle for bone health
- If on brace, start weaning
 - 15 hrs/day (eg 7 am to 10 pm) for 3 months then
 - 10 hrs/day (eg 7 am to 5 pm) for another 3 months then stop and FU > 2 years post-bracing
- Cobb:
 - $\leq 30^\circ$: consider discharge for GP FU
 - $> 30^\circ$: consider further follow-up at SC clinic

FAQs

- What is the Vit-D status among HK adolescents?
 - 2014 report: prevalence of Vit-D insufficiency (不足)
 - In winter: 86%
 - In summer: 66%
- How effective is Vit-D for curve control?
 - Our recent clinical trial **provided evidences** that Vit-D supplementation with adequate calcium intake **could probably** prevent curve progression defined as Cobb increase $> 5^{\circ}$.
 - Further clinical trials are required to confirm the findings.
 - In addition further studies are required to show if supplementation can help to prevent curve progression to bracing or surgical thresholds
- Any side effects with Vit-D supplementation
 - Seldom seen
 - One must be compliant with CDEF ie Calcium, Vit-D, Exercise and Fluid
 - Adequate water intake is most important: otherwise urine will become concentrated, minerals may crystalize causing renal stones
 - Please encourage patients to take a detailed look at VDP website (Vit-D Promotion, or also called Bone Health Website) and VDP or Bone Health Mobile App

FAQs

- How large are the tablets?



Vit-D₃



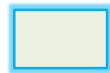
White tablet: 1500mg CaCO₃
Purple tablet: 1000mg chewable CaCO₃

FAQs

- What is the dose response on serum 25(OH)Vit-D levels
 - 0.7 nmol/L for every 40 IU (1 microgram) of oral Vitamin D3
- If I take Vit-D supplementation, is it dangerous to receive too much sunlight?
 - Too much Vit-D up to toxic levels is seldom reported with sunlight exposure
 - On the other hand, one should not take extra tablets that contain Vit-D
- If I take Vit-D according to the recommended dosage, do I still need to wear the brace?
 - If indicated, patients still need to wear the brace

FAQs

- My friend introduced an “alternative medical practitioner” who can treat my daughter’s scoliosis? How will you advice?
 - Apart from bracing and surgery, there are no Level 1 evidences reporting significant therapeutic effects with other modalities of treatment
 - We do not recommend the therapy, but cannot object since each family has their own belief.
 - Patients and their guardians should make sure
 - The therapy providers are properly trained for their practice
 - No harm is done to the patient. For example, they should stop in case patients feel discomfort after receiving the therapy
 - The therapy should not interfere with bracing treatment and general physio self-exercise prescribed at our center



Advices to Patient on bracing

- Need to wear the brace 20 hours per day, best up to 23 hours per day if possible
- Strapping tension must be correct
 - Make sure breathing not affected
 - May lower the strapping tension immediately after meal, for 30 mins
 - Make sure no pressure sore
- In case of any issues with the brace, can call P&O for brace assessment and adjustment
- Remind patient self-exercise and keep schoolbag as light as possible
- Remind to follow lifestyle for bone health