



STANDARD OPERATING PROCEDURE

Management of Vitamin D Deficiency in Adults

Special Region (1)

Union of Myanmar

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Approved by: Internal Medicine Unit

1. Purpose

To provide a standardized protocol for diagnosis, treatment, and monitoring of vitamin D deficiency.

2. Definition

Vitamin D deficiency is defined by low serum 25(OH)D levels leading to impaired bone mineralization.

3. Classification (Serum 25(OH)D Levels)

Level	Interpretation
<10 ng/mL	Severe deficiency
10–20 ng/mL	Deficiency
20–30 ng/mL	Insufficiency
>30 ng/mL	Sufficient
>100 ng/mL	Possible toxicity

4. Clinical Features

Bone pain, muscle weakness, fractures, hypocalcemia in severe cases.

5. Treatment

- **Severe deficiency:** 50,000 IU weekly for 6–8 weeks
- **Moderate deficiency:** 800–2,000 IU daily
- **Maintenance:** 800–2,000 IU daily

5.1 Special Populations

Chronic Kidney Disease

- Use active vitamin D (calcitriol) if needed
- Monitor calcium closely

Malabsorption

- Higher doses required (up to 10,000 IU/day)

Obesity

- Increase dose by 2–3 times

5.2 Calcium Supplementation

Indication	Dose
Low intake or hypocalcaemia	1,000–1,200 mg/day

6. Monitoring

- Check vitamin D after 8–12 weeks
- Monitor calcium levels also

7. Safety

Avoid toxicity (>100 ng/mL). Monitor for hypercalcemia symptoms: nausea, vomiting, confusion, polyuria, dehydration.

8. Patient Education

- **Sun exposure:** 15–30 minutes/day
- **Diet:** milk, fish, eggs
- Adherence to supplementation
- Avoid overdose

9. References

- [1] Holick MF. Vitamin D deficiency. *N Engl J Med*. 2007.
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- [4] Institute of Medicine. Dietary Reference Intakes for Calcium and Vitamin D. 2011.
- [5] KDIGO CKD-MBD Guidelines. *Kidney Int Suppl*. 2017.

[6] Misra M, et al. Vitamin D deficiency in children. *Pediatrics*. 2008.

[7] Rosen CJ. Vitamin D insufficiency. *N Engl J Med*. 2011.