



Physicians Caring for Texans

## ***TexMed 2016 Clinical Abstract***

Please complete all of the following sections:

### **Procedure and Selection Criteria**

- Submissions not directly related to quality improvement or research may be accepted and should follow the standardized format outlined below. Content should enhance knowledge in the field of clinical care and be relevant to a given patient population.

**PROJECT NAME:** Effects of Vitamin D on Human Health

**Institution or Practice Name:** Endocrine Clinic ,Denton

**Setting of Care:** Out patient Clinic

**Primary Author:** Seem Haq, MD

**Secondary Author:** Kamran Haq

**Other Members of Project Team:** Sadaf Saghier,MD

**Is the Primary Author, Secondary Author or Member of Project Team a TMA member (required)?**

Yes  No

Please provide name(s): Seema Haq

**Enhanced Perioperative Recovery/Future of Surgical Care program**

## Clinical

**Background (15 points max):** *Describe the purpose for sharing the content. What caused this subject matter to be approached? Why is this content important to share? What is the potential impact if this content is not shared?*

Vitamin D is a fat-soluble vitamin that is naturally present in very few food, and available as a dietary supplement. It is also produced endogenously when ultraviolet rays from sunlight strike the skin and trigger vitamin D synthesis.

Doctors play major role in helping optimize bone health in children and adolescents. This clinical review report discusses Vitamin D biosynthesis, facilitation of calcium and phosphorus absorption from the gut and maintaining bone health in pediatric to geriatric age group. Previous recommended daily allowances for calcium and vitamin D are updated, and clinical guidance is provided regarding factors leading to vit D deficiency and recommendations for calcium and vitamin D intake and supplementation.

Without sufficient vitamin D, bones can become thin, brittle, or misshapen. Vitamin D sufficiency prevents rickets in children and osteomalacia in adults.

**Intended Stakeholders (15 points max):** *Identify those individuals, organizations, or interest groups that could be potentially impacted by this information or benefit by obtaining this information.*

Healthcare providers in inpatient and outpatient setting.

**Description of Accomplished Work (25 points max):** *Provide an overview of the work that was accomplished, including any specific methods, tools or techniques. Also, include any milestones or key accomplishments. Note charts, graphs and tables here and send as addendum with abstract form.*

By utilizing “lessons learned” from the literature review the highest level of patient care will be possible, especially in pediatric, adult child bearing age females and geriatric population and prevent vitamin D deficiency associated consequences

**Timeframe and Budget (20 points max):** *Provide the start and end dates for the work along with any financial implications that were incurred due to the work accomplished. Note charts, graphs and tables here and send as addendum with abstract form.*

Literature review was done over the course of 2-3 months.

### Vitamin D Deficiency Causes

- Sun Exposure
  - Skin pigmentation, excessive sunscreen, winter
- Nutrition
  - ↓ intake of vit D diet/supplements, ↓ maternal vit D stores
  - & exclusive breastfeeding

- Intestines  
Malabsorption: Celiac disease, Pancreatic insufficiency, Cystic fibrosis, Food allergies, Crohns
- Liver  
↓ synthesis or ↑ degradation of 25(OH)-D (chronic liver disease & drugs: rifampicin, isoniazid, anticonvulsants)
- Kidneys  
Chronic Renal failure, Nephrotic syndrome  
Others: Chronic infections, Cancer, Obesity

Recommended Daily Allowance (RDA) for Vit D and Calcium

Age	Calcium		Vitamin D	
	RDA (mg/d)	Upper Limit (mg/d)	RDA (IU/d)	Upper Limit (IU/d)
0–6 months	200	1000	400	1000
6–12 months	260	1500	400	1500
1–3 y	700	2500	600	2500
4–8 y	1000	2500	600	3000
9–18 y	1300	3000	600	4000
19–50 y	1000	2500	600	4000
51-70y	M:1000 F:1200	M:2500 F:3000	600	4000
14-18 Pregnant/Lactating	1300	3000	600	4000
19-50 Pregnant/Lactating	1000	2500	600	4000

**Intended Use (25 points max):** *Describe how this information could be used moving forward to impact patient care.*

By review of literature related to need of vitamin D supplementation and updated information on recommended daily allowances for calcium and vitamin D; health professionals will be able to provide better quality of care to patients