



2012 대한임상건강증진학회 춘계 통합학술대회 / 세미나 I

# 국내 비타민보충제 사용 현황

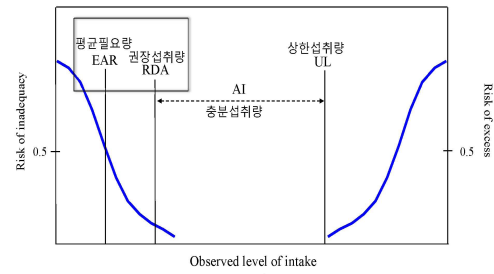
이화여자대학교  
권오란

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- Dietary Reference Intakes (DRIs)
- Tolerable Upper Intake Levels (ULs)
- Maximum Limits (MLs)
- Compliances/Current intakes

## Dietary Reference Intakes (DRI, 영양섭취기준)

DRIs

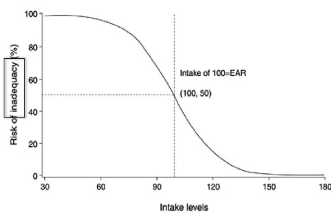


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## Recommended intake levels based on Estimated Average Requirements (EARs)

DRIs

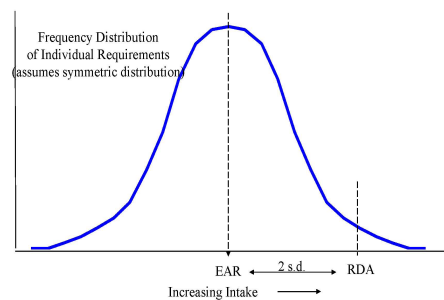
- Based on essentiality using nutrient-specific indicators
  - 8 vitamins (Vit A, C, B<sub>1</sub>, B<sub>2</sub>, niacin, B<sub>6</sub>, folic acid, B<sub>12</sub>)
  - 8 minerals (Ca, P, Mg, Fe, Zn, Cu, I, Se)



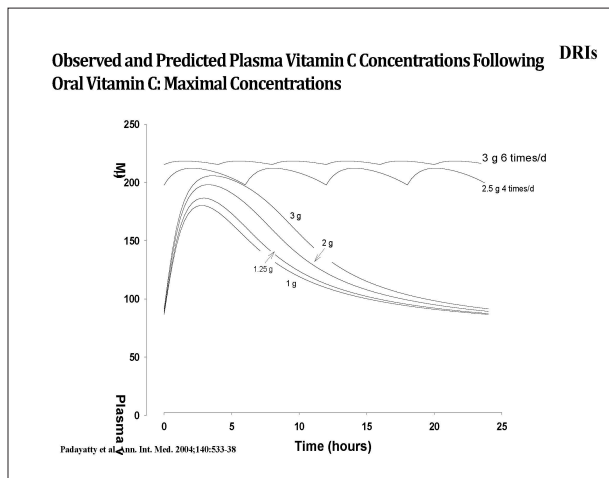
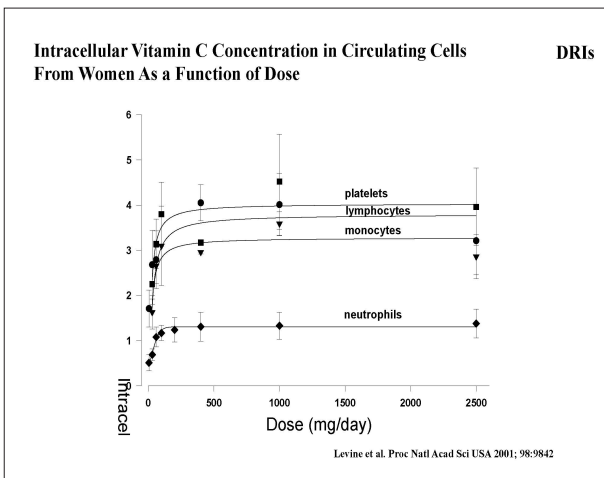
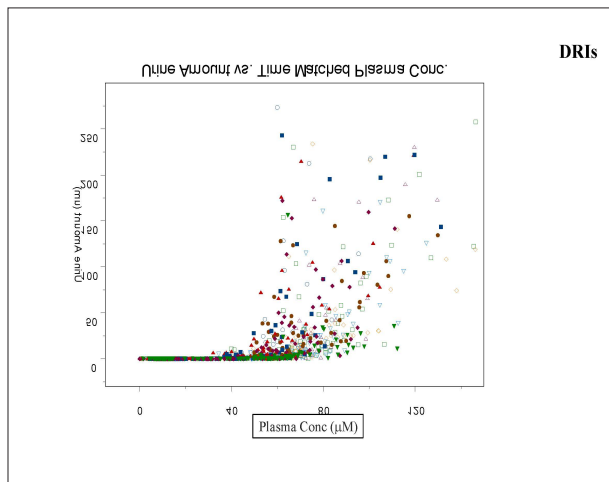
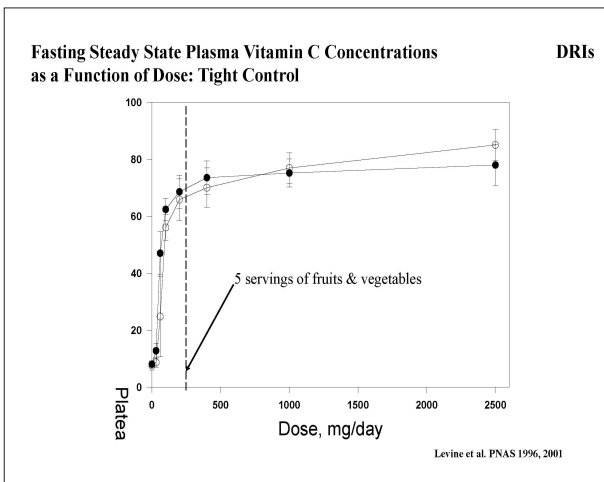
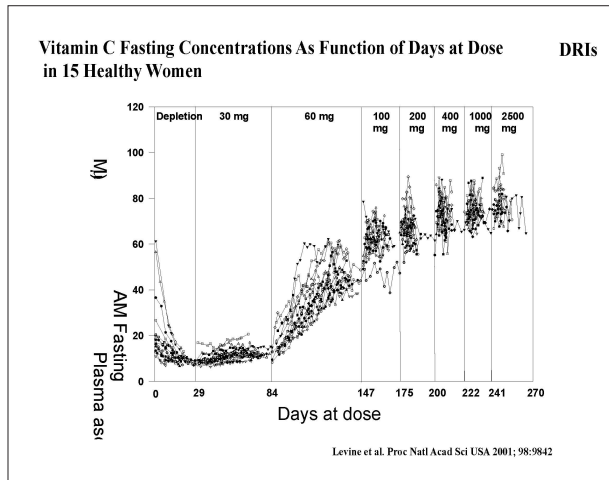
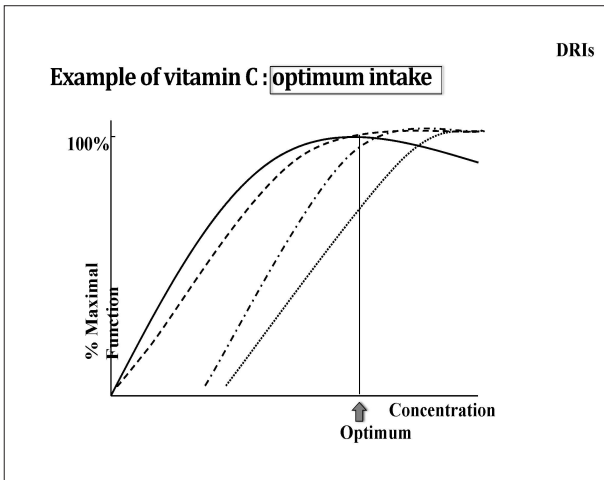
$$RDA = EAR + 2 S.D.$$

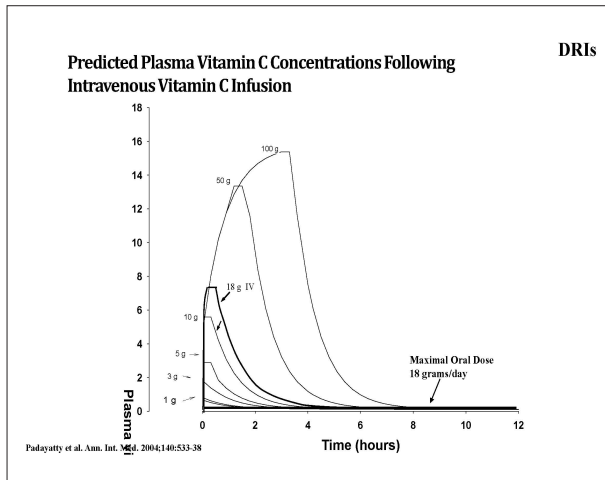
DRIs

• Estimated Average Requirement (EAR)  
• Recommended Dietary Allowance (RDA)

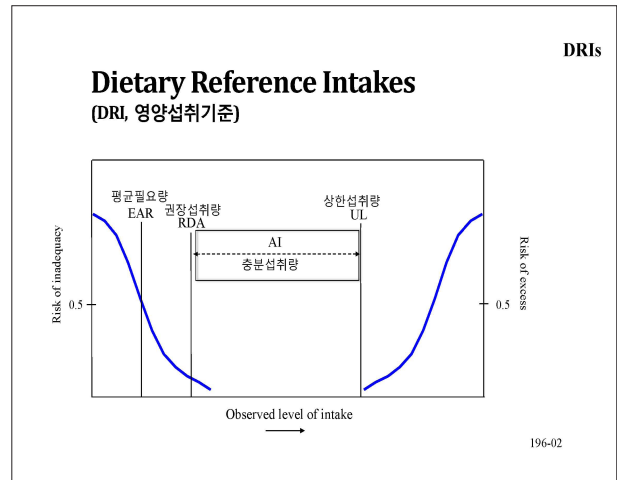


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DRI



DRI

### Recommended intake levels based on adequate intakes (AIs)

DRI

- 5 vitamins (vit D, E, K, pantothenic acid, biotin) & 5 minerals (Na, Cl, K, F, Mn)
- Vitamin D : Osteoporosis/fractures, as well as other endpoints
- Fluoride : Dental caries
- Potassium: Salt sensitivity/kidney stones/BP

DRI

### DRI are set for different age, gender, and life-stage groups.

DRI

- Infants 0-5 and 6-11 months
- 1-2, 3-5, 6-8, 9-11, 12-14, 15-18, 19-29, 30-49, 50-64, 65-74, and 75+ years
- Males and females (infants and 1-5 years combined)
- Pregnant and lactating women
- Special populations (smokers for vitamin C, iron for vegetarians)

DRI

### Tolerable Upper Intake Level (UL, 상한섭취량)

ULs

- The highest level of daily nutrient intake that is likely to pose no risks of adverse health effects to almost all individuals in the general population

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ULs

### Procedures & an example

ULs

- Procedures
  - Based on identifying an adverse endpoint
  - Identifying a lowest-observed-adverse-effect-level (LOAEL) or no-observed-adverse-effect-level (NOAEL)
  - Divide the NOAEL or LOAEL by an uncertainty factor (UF)
  - The greater the uncertainty the greater the UF
  - 7 Vitamins (vit A, D, E, C, niacin, B<sub>6</sub>, niacin) & 11 minerals (Ca, P, Na, Mg, Fe, Zn, Cu, K, Mn, I, Se)
- Example
  - Vitamin A – liver toxicity
  - LOAEL = 4,500 ug/day ÷ 1.5 = 3,000 ug/day

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### 건강기능식품 표시 정보

#### 영양 기능정보

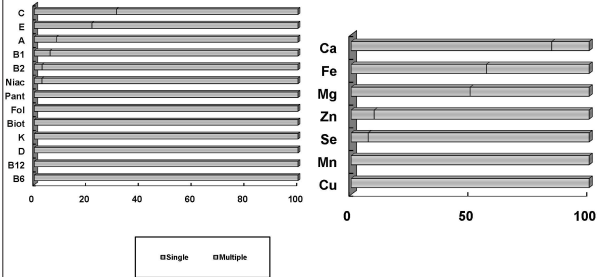
영양 기능정보		
골격과 치아의 구성성분, 항산화 작용		
1회분량 : 2정(1.0g)		
1회분량 당	함량	%영양소기준치
열량	9kcal	
탄수화물	2g	
단백질	0g	
지방	0g	
나트륨	0mg	
비타민 B1	0.23mg	30.9%
칼슘	220mg	31.4%

\* %영양소기준치: 1일 영양소기준치에 대한 비율

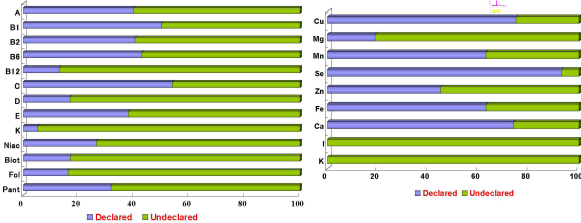
#### 원재료명 및 함량

원재료명	함량(%)
L-Ascorbic acid	1.9
과립칼슘분말 (Ca35%)	68.2
오렌지맛 분말	4.1
d-α-tocopheryl acetate 50%	0.15
결정과당	15.5
Lactose	9.1
Vitamin B6 염산염	0.012
Vitamin B2	0.012
Vitamin D3(2500 <sub>μ</sub> g/g)	0.036
Magnesium Oxide	0.99

### 유통상태



### 표시현황



### 원료사용현황

Ingredients	Domestic	Imported	Ingredients	Domestic	Imported
Retinyl palmitate	7.5	28.6	Ergocalciferol	0	8.1
Beta-carotene	22.1	60.3	Cholecalciferol	100	91.9
Dry formed vitamin A	61.3	4.2	D-a-tocopherol conc	0.1	4
Vitamin in oil	9.1	6.9	D-a-tocopherol	4.07	0.9
Dibenzoyl thiamine	0.5	2.9	DL-a-tocopherol	6.6	0.6
Dibenzoyl thiamine hydrochloride	74.0	46.1	D-a-tocopheryl acid succinate	0	8.3
Thiamine mononitrate	25.5	51.1	DL-a-tocopherol acetate	7.5	14.4
Riboflavin	99.7	92.4	D-a-tocopherol acetate	51.8	7.1
Riboflavin 5'-phosphate sodium	0.3	7.6	Phylloquinone	100	100
Pyridoxin hydrochloride	100	100	Nicotinic acid	0	7.1
Cyanocobalamin	100	100	Nicotinamide	100	92.9
L-ascorbic acid	96.1	83.5	Biotin	100	100
Sodium L-ascorbate	2.4	6.3	Folic acid	0	100
Calcium ascorbate	0.3	8.3	Sodium Pantothenate	0.4	0
Ascorbyl palmitate	0.9	1.4			
Vitamin C Ex	0.3	0.6			

## Vit/Min Supplement Intakes

- 2008 "건강기능식품 영양/기능성분 데이터베이스 기반구축 연구"

Life cycle	Subject No.	Users	Intake (%)
Elementary school students	837	394	45.9
Adolescent students	858	410	47.8
College students	848	285	33.6
Adults	946	557	58.9
Elderly	825	402	48.7

### 중년의 비타민/무기질 보충제 섭취실태

Nutrients	RDA	UL	Intakes	# of Items taken in a day	Percent (%)
A	700	3000	600	1	39
E	10	540	200-800	2	50
C	10	2000	210-1050	3	5
Ca	700	2500	217-715	4	3
Zn	10-12	35	50-100	5	3



## Codex

- **CC Food Labeling**
  - Health/Structure-Function Claims
- **CC Nutrition and Foods for Special Dietary Uses**
  - Vitamin and Mineral Supplement Guidelines
- **Commission**
  - approving body
- **Recognized by WTO as authoritative on food standards**