

**ARIZONA DEPARTMENT OF
HEALTH SERVICES**

**BUREAU OF NUTRITION &
PHYSICAL ACTIVITY**



Cutoff values for Hemoglobin Levels at 0-2,999 feet

Smoking Status	action	Pregnant			Breastfeeding/Post-Partum		Infant and Child	
		1st Trimester 0 – 13 weeks	2nd Trimester 14 – 26 weeks	3rd Trimester 27 + weeks	12 years to 14 years 11 months	15 years +	Infant 6 to 23 months	Child 2 to 5 years
Non-Smoker	Anemia	10.9	10.4	10.9	11.7	11.9	10.9	11.0
	Nutritionist	8.5 16.3	8.1 15.9	8.5 16.3	9.2 17.0	8.8 16.6	7.9 15.7	8.2 16.0
up to 1 pack (1-19 cigarettes)	Anemia	11.2	10.7	11.2	12.0	12.2		
	Nutritionist	8.8 16.6	8.3 16.1	8.8 16.6	9.5 17.3	9.4 17.2		
1-2 packs (20-39 cigarettes)	Anemia	11.4	10.9	11.4	12.2	12.4		
	Nutritionist	9.5 17.3	7.9 15.7	9.5 17.3	9.7 17.5	9.9 17.7		
2+ packs (40+ cigarettes)	Anemia	11.6	11.1	11.6	12.4	12.6		
	Nutritionist	10.2 18.0	7.5 15.3	10.2 18.0	9.9 17.7	10.4 18.2		

Hemoglobin values at or below the "Anemia" cutoff are reported as anemic in WIC

Hemoglobin values outside the "Nutritionist" range are referred to a Nutritionist

Cutoff values for Hemoglobin Levels at 3,000-3,999 feet

Smoking Status	action	Pregnant			Breastfeeding/Post-Partum		Infant and Child	
		1st Trimester 0 – 13 weeks	2nd Trimester 14 – 26 weeks	3rd Trimester 27 + weeks	12 years to 14 years 11 months	15 years +	Infant 6 to 23 months	Child 2 to 5 years
Non-Smoker	Anemia	11.1	10.6	11.1	11.9	12.1	11.1	11.2
	Nutritionist	9.0 16.8	8.6 16.4	9.0 16.8	9.4 17.2	9.3 17.1	8.3 16.1	8.7 16.5
up to 1 pack (1-19 cigarettes)	Anemia	11.4	10.9	11.4	12.2	12.4		
	Nutritionist	9.3 17.1	8.8 16.6	9.3 17.1	9.7 17.5	9.8 17.6		
1-2 packs (20-39 cigarettes)	Anemia	11.6	11.1	11.6	12.4	12.6		
	Nutritionist	10.0 17.8	8.4 16.2	10.0 17.8	9.9 17.7	10.3 18.1		
2+ packs (40+ cigarettes)	Anemia	11.8	11.3	11.8	12.6	12.8		
	Nutritionist	10.7 18.5	8.0 15.8	10.7 18.5	10.1 17.9	10.8 18.6		

Hemoglobin values at or below the "Anemia" cutoff are reported as anemic in WIC

Hemoglobin values outside the "Nutritionist" range are referred to a Nutritionist

Cutoff values for Hemoglobin Levels at 4,000-4,999 feet

Smoking Status	action	Pregnant			Breastfeeding/Post-Partum		Infant and Child	
		1st Trimester 0 – 13 weeks	2nd Trimester 14 – 26 weeks	3rd Trimester 27 + weeks	12 years to 14 years 11 months	15 years +	Infant 6 to 23 months	Child 2 to 5 years
Non-Smoker	Anemia	11.2	10.7	11.2	12.0	12.2	11.2	11.3
	Nutritionist	9.1 16.9	8.8 16.6	9.1 16.9	9.5 17.3	9.4 17.2	8.4 16.2	8.8 16.6
up to 1 pack (1-19 cigarettes)	Anemia	11.5	11.0	11.5	12.3	12.5		
	Nutritionist	9.4 17.2	9.0 16.8	9.4 17.2	9.8 17.6	9.9 17.7		
1-2 packs (20-39 cigarettes)	Anemia	11.7	11.2	11.7	12.5	12.7		
	Nutritionist	10.2 18.0	8.6 16.4	10.2 18.0	10.0 17.8	10.4 18.2		
2+ packs (40+ cigarettes)	Anemia	11.9	11.4	11.9	12.7	12.9		
	Nutritionist	10.9 18.7	8.2 16.0	10.9 18.7	10.2 18.0	10.9 18.7		

Hemoglobin values at or below the "Anemia" cutoff are reported as anemic in WIC

Hemoglobin values outside the "Nutritionist" range are referred to a Nutritionist

Cutoff values for Hemoglobin Levels at 5,000-5,999 feet

Smoking Status	action	Pregnant			Breastfeeding/Post-Partum		Infant and Child	
		1st Trimester 0 – 13 weeks	2nd Trimester 14 – 26 weeks	3rd Trimester 27 + weeks	12 years to 14 years 11 months	15 years +	Infant 6 to 23 months	Child 2 to 5 years
Non-Smoker	Anemia	11.4	10.9	11.4	12.2	12.4	11.4	11.5
	Nutritionist	9.3 17.1	8.9 16.7	9.3 17.1	9.7 17.5	9.5 17.3	8.5 16.3	8.9 16.7
up to 1 pack (1-19 cigarettes)	Anemia	11.7	11.2	11.7	12.5	12.7		
	Nutritionist	9.6 17.4	9.2 17.0	9.6 17.4	10.0 17.8	10.1 17.9		
1-2 packs (20-39 cigarettes)	Anemia	11.9	11.4	11.9	12.7	12.9		
	Nutritionist	10.3 18.1	8.8 16.6	10.3 18.1	10.2 18.0	10.6 18.4		
2+ packs (40+ cigarettes)	Anemia	12.1	11.6	12.1	12.9	13.1		
	Nutritionist	11.0 0.0	8.4 16.2	11.0 18.8	10.4 18.2	11.1 18.9		

Hemoglobin values at or below the "Anemia" cutoff are reported as anemic in WIC

Hemoglobin values outside the "Nutritionist" range are referred to a Nutritionist

Cutoff values for Hemoglobin Levels at 6,000-6,999 feet

Smoking Status	action	Pregnant			Breastfeeding/Post-Partum		Infant and Child	
		1st Trimester 0 – 13 weeks	2nd Trimester 14 – 26 weeks	3rd Trimester 27 + weeks	12 years to 14 years 11 months	15 years +	Infant 6 to 23 months	Child 2 to 5 years
Non-Smoker	Anemia	11.6	11.1	11.6	12.4	12.6	11.6	11.7
	Nutritionist	9.4 17.2	9.1 16.9	9.4 17.2	9.9 17.7	9.7 17.5	8.7 16.5	9.1 16.9
up to 1 pack (1-19 cigarettes)	Anemia	11.9	11.4	11.9	12.7	12.9		
	Nutritionist	9.7 17.5	9.3 17.1	9.7 17.5	10.2 18.0	10.2 18.0		
1-2 packs (20-39 cigarettes)	Anemia	12.1	11.6	12.1	12.9	13.1		
	Nutritionist	10.5 18.3	8.9 16.7	10.5 18.3	10.4 18.2	10.7 18.5		
2+ packs (40+ cigarettes)	Anemia	12.3	11.8	12.3	13.1	13.3		
	Nutritionist	11.2 19.0	8.5 16.3	11.2 19.0	10.6 18.4	11.2 19.0		

Hemoglobin values at or below the "Anemia" cutoff are reported as anemic in WIC

Hemoglobin values outside the "Nutritionist" range are referred to a Nutritionist

Cutoff values for Hemoglobin Levels at 6,000-7,999 feet

Smoking Status	action	Pregnant			Breastfeeding/Post-Partum		Infant and Child	
		1st Trimester 0 – 13 weeks	2nd Trimester 14 – 26 weeks	3rd Trimester 27 + weeks	12 years to 14 years 11 months	15 years +	Infant 6 to 23 months	Child 2 to 5 years
Non-Smoker	Anemia	11.9	11.4	11.9	12.7	12.9	11.9	12.0
	Nutritionist	9.6 17.4	9.3 17.1	9.6 17.4	10.2 18.0	9.8 17.6	8.8 16.6	9.2 17.0
up to 1 pack (1-19 cigarettes)	Anemia	12.2	11.7	12.2	13.0	13.2		
	Nutritionist	9.9 17.7	9.5 17.3	9.9 17.7	10.5 18.3	10.4 18.2		
1-2 packs (20-39 cigarettes)	Anemia	12.4	11.9	12.4	13.2	13.4		
	Nutritionist	10.6 18.4	9.1 16.9	10.6 18.4	10.7 18.5	10.8 18.6		
2+ packs (40+ cigarettes)	Anemia	12.6	12.1	12.6	13.4	13.6		
	Nutritionist	11.3 19.1	8.7 16.5	11.3 19.1	10.9 18.7	11.3 19.1		

Hemoglobin values at or below the "Anemia" cutoff are reported as anemic in WIC

Hemoglobin values outside the "Nutritionist" range are referred to a Nutritionist

Appendix A - Blood Work Requirements, Options, and Referrals

Table of Very Low Hemoglobin Values

	Hemoglobin Reading (<g/dL)
Altitude	
0-2,999 (sea level)	6.5
3000-3999	6.7
4000-4999	6.8
5000-5999	7.0
6000-6999	7.2
7000-7999	7.5
8000-8999	7.8
9000-9999	7.8
10,000 – 11,000	7.9
Cigarette Smoking – add to cut off value	
0.5 - < 1.0 pack per day	+0.3
1.0 - <2.0 packs per day	+0.5
≥2.0 packs per day	+0.7
All smokers	+0.3