

*APPENDICES*

डॉ. गिरिश गुप्ता

एम.बी.बी.एस., डी आर्थो.

फ्रेक्चर, जोड़ एवं हड्डी रोग विशेषज्ञ

(पूर्व सर्जन एस.एन.जी हॉस्पिटल, इन्दौर)

समय : दोपहर 12 से 2 बजे तक शाम 6 से 8.30 बजे तक

मोबाईल : 98260-56855, 98260-60284



**APPENDIX-I (a)**



डॉ. श्रीमती नीति गुप्ता

एम.बी.बी.एस., डी.एन.बी. (इ.)

स्त्री रोग एवं प्रसूति विशेषज्ञ

समय: सुबह 10 से 1 बजे तक शाम 5 से 6 बजे तक

मोबाईल : 98260-60284, 98260-56855

क्लीनिक : 44, जावरा कम्पाऊण्ड, बड़जात्या चेम्बर, एम.वाय. हॉस्पिटल के सामने, इन्दौर

निवास : 304- बी. हाईवे टॉवर नवलखा चौराहा, इन्दौर

E-mail : drgirishgupta@yahoo.com, Website : www.drgguptaortho.com

**R**

**Certificate**

दिनांक 23/5/09

This is to certify that Miss Neeti Sharma D/O shri Pramod Sharma aged 24 Y/F has worked during BMD camp on 24/01/2009.


Her work was appreciated by the patient as well as by management to the best by my knowledge. She bears good moral character.

I wish her every success in her future life.

DATE -24/01/2009

Dr. GIRISH GUPTA.

(MBBS. D.ortho)

  
Dr. Girish Gupta  
M.B.B.S. D. Ortho.  
Orthopaedic Surgeon  
Reg. No. MP-3049  
Mob. : 98260-56855

**Gurjar Hospital & Endoscopy Centre Pvt. Ltd.**

Bhanwarkua Chauraha, A. B. Road, Indore  
E-mail: gurjarhospital@yahoo.com



**गुर्जर हॉस्पिटल एण्ड इण्डोस्कोपी सेन्टर प्रा. लि**

2 & 3, स्कीम नं. 44-बी, भँवरकुआँ चौराहा, ए.बी. रोड, इन्दौर  
फोन : 0731 - 2363716, 2363717, 2363718

*APPENDIX-I (b)*

## **CERTIFICATE**

This is to certify that Miss Neeti Sharma D/o Shree Pramod Sharma has worked during BMD camp on 23/12/2008.

Her work was appreciated by the patient as well as by Management to the best of my knowledge. She bears good moral character.

I wish her every success in her future life.

Dr. C.L. GURJAR  
M.S., F.I.C.S.

Director B.N. 4886

  
DR.C.L.GURJAR



भारतीय स्टेट बैंक  
State Bank of India

वाणिज्यिक शाखा, ए.एम.टी.-1  
ए.बी. रोड, जी.पी.ओ. के पास, इन्दौर - 452 001 (म.प्र.)  
Commercial Branch, AMT-1  
A.B. Road (Near G.P.O.), INDORE - 452 001 (M.P.)

Ph. : 0731 - 2707622 | Fax : 0731 - 2707309 | e-mail : sbi.09632@sbi.co.in

Ref: COO/08-09/  
Date: 25<sup>th</sup> November 2008

### CERTIFICATE

This is to certify that Miss Neeti Sharma D/o Shree Pramod Sharma aged 24 Y/F has worked during BMD camp on 1<sup>st</sup> of September 2008.

Her work was appreciated by the patient as well as by Management to the best of my knowledge. She bears good moral character.

I wish her every success in her future life.

  
Chief Operating Officer

State Bank of India,  
Commercial Branch,  
Indore  
M.P



Date: 25<sup>th</sup> November 2008

डॉ. अशोक जैन

एम.डी.(मेडिसिन)  
रजि. नं. 6533

कन्सल्टिंग फिजिशियन  
मधुमेह एवं हृदयरोग विशेषज्ञ  
समय : सुबह 10 से 4  
शाम 5 से 9

APPENDIX-I (d)

अर्पण हॉस्पिटल एण्ड रिसर्च सेन्टर  
अर्पण नर्सिंग होम

151-2, इमली बाजार (रजवाडा), इन्दोर - 452004  
फोन : 2530200, 2433900, 2433911  
फेक्स : 0731-2541542 मो.: 98260-43390, 9303271447

डॉ. (मिसेस) सुनंदा जैन

एम.एस.  
एफ.वाय.सी.एस.  
एल.एल.बी. (ऑनर्स)  
रजि. नं. 3582  
प्रसूति एवं स्त्री रोग विशेषज्ञ  
इन्डोस्कोपिक सर्जन  
समय : सुबह 10 से 4  
शाम 6 से 8

• आय.सी.यू. • इकोकार्डियोग्राफी • एक्स-रे • पेट्रोलॉजी लेब • अल्ट्रासोनोग्राफी • कलर डॉपलर • लेपरोस्कापी • मेडिकल शॉप

## CERTIFICATE

This is to certify that **MISS NEETI SHARMA D/O SHREE PRAMOD SHARMA** Aged 24 Y/F has worked during **BMD** camp on (I) 28/09/2008 (II) 24/10/2008

Her work was appreciated by the patient as well as by management.  
To the best of my knowledge. She bears good moral character.

I wish her every success in her future life.

DATE



Dr. ASHOK JAIN  
MD.(MEDICINE)

Dr. Ashok Jain  
M.D. (Medicine)  
Reg. No. 6533

Hospital & Reserach Centre  
151-2, Imli Bazar, INDORE-4 (M.P.)

## APPENDIX- II

### QUESTIONNAIRE

#### GENERAL INFORMATION:

Name : -----

Husband's Name : -----

Address : -----

Age : -----

Caste : -----

Qualification : -----

Occupation : -----

Marital Status : -----

Height (cm.) : -----

Weight (Kg.) : -----

Body Mass Index : -----

Income Group : -----

Food Habits : ( ) Veg. ( ) Non Veg. ( ) Ova Veg.

No. of Family members: -----

No. of Children : -----

Bone mineral density level: -----

Category : ( ) Osteoporotic ( ) Non-Osteoporotic

## **NUTRITION QUESTIONNAIRE**

- How many meals do you have daily?  
( ) Two      ( ) Three      ( ) Four      ( ) Any other
- What is the time gap between two meals?  
( ) 4 hrs.      ( ) 6 hrs.      ( ) 8 hrs.      ( ) 10hrs.
- Which kind of food do you prefer?  
( ) Spicy      ( ) Fried      ( ) Normal      ( ) Any other
- Is your meal time certain or uncertain?  
( ) Yes      ( ) No

### **FOOD FREQUENCY TABLE**

#### **CEREALS & PULSES**

<b>Cerleals</b>	<b>Daily</b>	<b>Twice a Day</b>	<b>Twice a Weak</b>	<b>Weekly</b>	<b>Monthly</b>	<b>Occasionally</b>
Missi Chapati						
Stuffed Parantha						
Upma						
Poha						
Bread						
Dosa						
<b>Pulses:-</b>						
Moong Dal						
Tubar Dal						
Masoor Dal						
Chhole						
Rajmah						

**MEAT, FISH AND POULTRY PRODUCTS**

	Daily	Twice a Day	Twice a week	Weekly	Monthly	Occasionally
Egg						
Fish						
Meat						
Chicken						

**MILK AND MILK PRODUCTS**

	Daily	Twice a Day	Twice a week	Weekly	Monthly	Occasionally
Skimmed Milk						
Skimmed Milk Curd						
Butter Milk						
Whole Milk						
Whole Milk Curd						
Paneer						
Khoa						

**SOYA PRODUCTS**

	Daily	Twice a Day	Twice a week	Weekly	Monthly	Occasionally
Soya Milk						
Soyabean Dal						
Soya Badi						



Appendices

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**NUTS OIL & SEEDS**

	Daily	Twice a Day	Twice a week	Weekly	Monthly	Occasionally
Almond						
Cashew Nuts						
Dry Coconut						
Sesame Seeds						

**VEGETABLES**

	Daily	Twice a Day	Twice a week	Weekly	Monthly	Occasionally
Green Leafy Vegetable						
Root and Tubers						
Other Vegetable						
Mixed Vegetable						

**BERVERAGES**

	Daily	Twice a Day	Twice a week	Weekly	Monthly	Occasionally
Tea, Coffee						
Fruit Juicers						

**24 HOURS DIETARY RECALL METHOD**



***Appendices***

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(      ) Yes

(      ) No

- If yes, then how may time?

**HEALTH CONDITION AND MEDICATION**

- Did you face any Health Problem after menopause?

(      ) Yes

(      ) No

- If yes, then which type of problem?

- Do you have any health problem except osteoporosis?

(      ) B.P.

(      ) Heart Diseases

(      ) Renal Diseases

(      ) Arthritis

(      ) Diabetes

(      ) Thyroid

(      ) Joint Pain

- Have you ever taken Hormone Replacement Therapy?

(      ) Yes

(      ) No

## **APPENDIX - III**

### **BONE MINERAL DENSITY**

It is important for post menopausal women to get bone mineral density testing, also known as bone densitometry. Bone mineral density testing quickly and accurately measures the amount of calcium in certain parts of bones. From this information, the doctor can determine how strong your bones are and if you could be at risk for osteoporosis.

Bone density test is the basic test done to recognize a bone disease, especially osteoporosis.

With the passing of age, human beings lose certain amount of bone mass. The bones simply get thinner and lose their normal density; this process is called as osteopenia. This happens due to the loss of calcium and such bone minerals. Osteopenia eventually leads to osteoporosis.

Bone density test actually calculates the density of the bone minerals, mainly calcium which is the most important bone mineral of all. Bone density test is performed using various methods. Our study based on ultrasound method for diagnosed osteoporosis.

#### **Ultrasound method**

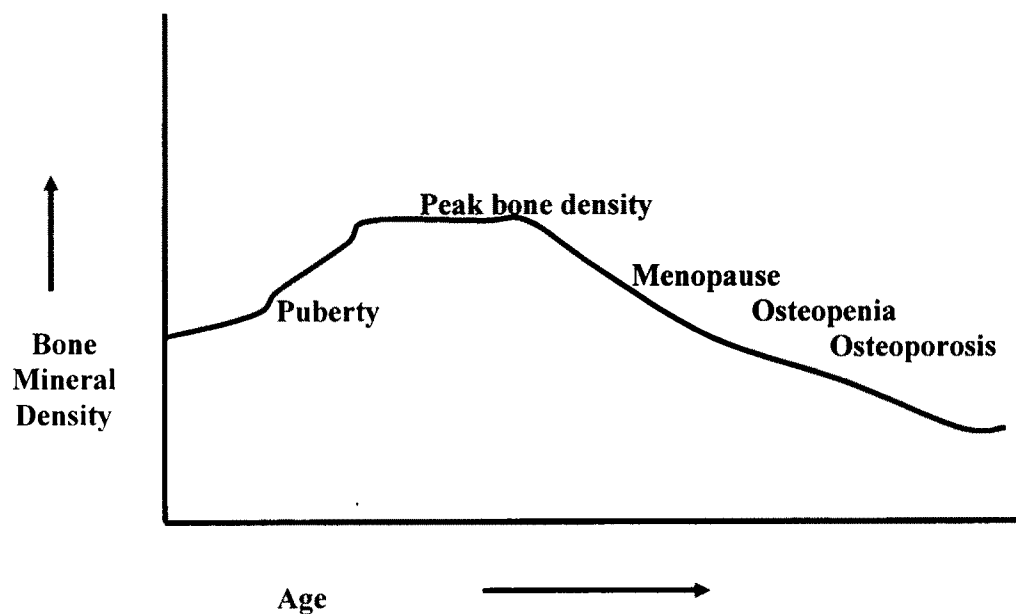
This is the most basic bone density test performed, in order to diagnose any primary bone related problem. An ultrasound machine uses sound waves of different frequencies through water or air, to perform the task. Bone density test is painless, fast and has no harmful radiations. Ultrasound is the most basic test and hence is unable to detect complicated bone problems and hence there are others that are capable of detecting the more complicated ones.

#### **T-score**

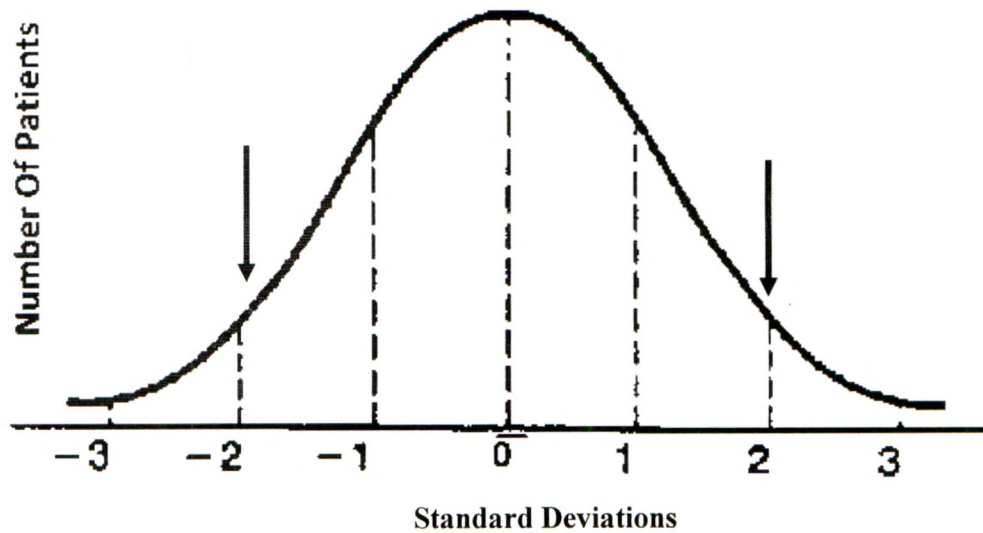
Bone mineral density (BMD) test are performed to determine whether a patient has osteoporosis or osteopenia, a low bone mass that puts her at risk for osteoporosis. To make this determination, the technologist will calculate the patient's T-Score. The world health Organization (WHO) established the criteria for determining the T-score.

T-score WHO Criteria for Osteoporosis in Women	
Normal	BMD > 1.0
Low Bone Mass (Osteopenia)	BMD is -1.0 to -2
Osteoporosis	BMD < -2.5 SD

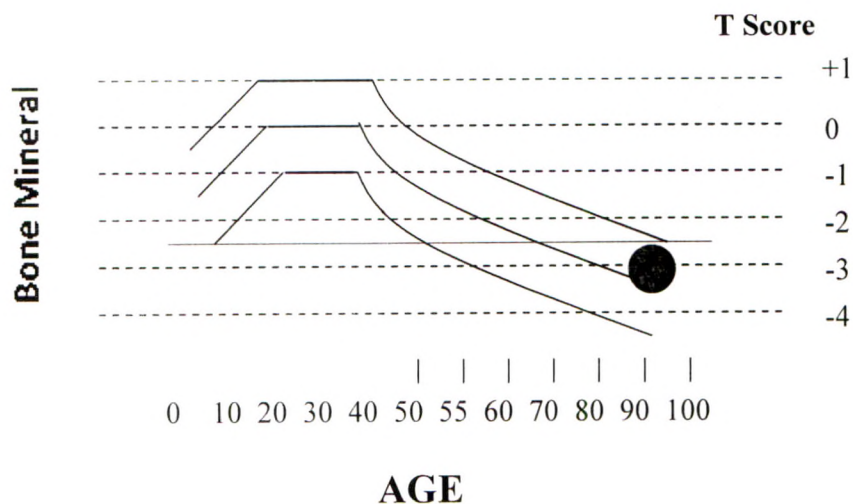
### BONE MINERAL DENSITY DECREASE AT MENOPAUSE



Bone mineral density increase until around age 35 and then levels off until menopause. During the first six to eight years of menopause, there is a sharp decline in bone mineral density. It is estimated that between 1% and 5% of bone density is lost at this time. The higher a woman's overall bone density, the less she will be affected when she loses bone density at menopause.



This diagram represents the usual (normal) distribution of biological variables – bone density included. 66% of normal values will fall between -1 and +1SD (and therefore 34%, 17% above and 17% below). Commonly, bone density reports plot the age matched mean  $\pm$  1 SD. This serves to make a larger proportion of the population seem abnormal (osteoporotic) than is usual for most diagnostic tests. The reason for this is somewhat arbitrary, but it is generally regarded as appropriate to treat more than the lowest 2.5% of densities.



The graph adjacent is a schematic of a typical normal bone density curve from virtually any bone in women (menopauses at 50). The horizontal lines are 1 SD (ie 1 “T” unit)

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apart, and the curve shows mentioned above, excludes 29% of “normals”. The thick horizontal line is -2.5 SD below the young normal mean, and therefore represents, by some definitions, the “Fracture Threshold”, or the upper limit of the osteoporotic range. Not also the increased loss rate immediately after the menopause.



*Appendices*

**APPENDIX -IV  
RECOMMENDED DIETARY ALLOWANCES FOR INDIANS**

Group	Particulars	Body Wt. kg.	Net energy kcal	Pro tein g/d	Visible Fat g/day	Calcium mg/d	Iron mg/d	Vit. A Retinol B carotin mg/d	Thiamin mg/d	Riboflavin mg/d	Nicotinic acid mg/d	Pyridoxin mg/d	Ascorbic acid ug/d	Free folic acid ug/d	Vit. B <sub>12</sub>	
Man	Sedentary work	60	2425	60	20	400	28	600	2400	1.2	1.4	16	2.0	40	100	1
	Moderate work		2875							1.4	1.6	18				
	Heavy work		3800							1.6	1.9	21				
Women	Sedentary work	50	1875	50	20	400	30	600	2400	0.9	1.1	12	2.0	40	100	1
	Moderate work		2225							1.1	1.3	14				
	Heavy work		2925							1.2	1.5	16				
Infants	Pregnant woman	50	+300	+15	30	1000	38	600	2400	+0.2	+0.2	+2	2.5	40	400	1
	Lactation		+550	+25						+0.3	+0.3	+4				
	0-6 months	50	+400	+18	45	1000	30	950	3800	+0.2	+0.2	+3	2.5	80	150	1.5
Children	1-3 years	12.2	1240	22			12	400	1600	0.6	0.7	8	0.9	30		
	4-6 years	19.0	1690	30	25	400	18	400	400	0.9	1.0	11	1.6	40	40	0.2-1.0
	7-9 years	26.9	1950	41			26	600	2400	1.0	1.2	13		60		
Boys	10-12 years	35.4	2190	54	22	600	34	600	2400	1.1	1.3	15	1.6	40	70	0.2-1.0
	13-15 years	47.8	2450	70			41	600	2400	1.0	1.2	13				
Girls	10-12 years	31.5	1970	57			19	600	2400	1.0	1.2	13				
	13-15 years	46.7	2060	65	22	600	28	600	2400	1.2	1.5	16	2.0	40	100	0.2-1.0
Boys	16-18 years	57.1	2640	78			50	600	2400	1.3	1.6	17	2.0	40	100	0.2-1.0
	16-18 years	49.9	2060	63	22	500	30	600	2400	1.0	1.2	14	2.0	40	100	0.2-1.0

*Devi Ahilya Vishwavidyalaya, Indore (M.P.)*

**APPENDIX - V**  
**ABBREVIATIONS**

<b>Abbreviation</b>	<b>Meaning</b>
i.e.	That is
et al.	(et al ibi) and other
etc	And so forth
BMI	Body Mass Index
Kg	Kilogram
Cm	Centimeter
Mg	Milligram
Wt.	Weight
Ht.	Height
SD	Standard Deviation
WHO	World Health Organization
BMD	Bone Mineral Density
Non-veg	Non vegetarian
Veg	Vegetarian
df	Degree of freedom
NS	Non- significant
*	Significant
**	Highly significant
Yrs	Years
LIG	Low income group
MIG	Middle income group
HIG	High income group
Fig.	Figure