

St. Stephen's Hospital

Dept of Endocrinology, Diabetes & Metabolic Medicine

Fellowship Programme in Diabetes and Metabolism

1. Title : Advanced Postgraduate Fellowship in diabetes and metabolism
2. Duration of Fellowship : One year
3. Starting Date : 1st January, 2013
4. Coordinator : Dr John Punnose MD, DM
HOD, Dept of Endocrinology
5. Eligibility criteria:
 - a. Educational qualification: M.D /DNB (General Medicine)
DNB (Family Medicine)
 - b. Upper Age Limit : 35 yrs (Relaxable in case of sponsored candidates)
6. Core Faculty Consultants of Dept of Endocrinology, others drawn from collaborating departments/Visiting faculty
7. Collaborating departments: Orthopaedics , Ophthalmology , Biochemistry, Gynaecology, Radiology, Relevant medical and surgical sub-specialities, Dietary and other relevant departments
8. Stipend : As per hospital rules for senior fellowship programme Rs. 59,000/- p.m.
9. Fees : As per hospital rules for senior fellowship programme Rs. 50,000/- for full course
10. Leave : 20 days during the fellowship programme
11. In case of discontinuation : Has to pay one month stipend to institution
12. Fellowship objectives:
 - a. The fellowship is structured to provide broad and in depth clinical training in all aspects of diabetes care and metabolic medicine. This includes diabetes care in outpatient setting including training in Medical Nutrition Therapy (MNT) and Diabetes education, Gestational diabetes screening and management, Obesity work up, All diabetes related emergencies, Hypoglycemic syndromes,

dyslipidemia, calcium disorders, metabolic bone disease, lipid disorders, All electrolyte disturbances (Na, K etc) and Acid base disorders

- b. Fellow is required to participate in a research project under the guidance of a faculty member. The fellows involvement is to the extent of preparation of abstract presentation and manuscripts for publications. Relevant training in research methodology will be given
- c. Fellowship will impart competencies in patient care handle all emergencies related to the above mentioned areas of training.
- d. Fellows will be trained in medical communication skills which include documentation of medical records, oral communication skills and interaction with patients, peers and other health care professionals
- e. The Fellows will have to attend all academic programmes of the institute which include regular clinical meetings, mortality meeting, Basic science training programmes and other CME activities.
- f. Following training , to enable the fellows to set up and run a diabetic care facility

13. Facilities:

- a. Department of Endocrinology runs daily diabetic clinics catering to ~ 2000 patients/month , diabetic education programme , diabetic foot laboratory and GDM screening programmes
- b. The Department is involved in round the clock diabetes care to all inpatients admitted to various departments
- c. Provide excellent opportunity to deal with all electrolyte disturbances and Acid base disorders
- d. The hospital provides DNB training for 120 post graduate students in 14 Specialities and Fellowship programme in Laboratory medicine
- e. Library facilities with online access to ~ 600 medical journals
- f. Teleconferencing facilities

14. Mode of selection : Aptitude test and interview

15. Syllabus : Annexure 1
16. Skills to be developed at the end of the programme: Annexure 2
17. Scheme of examination and evaluation: Annexure 3

Annexure 1: Syllabus

- Theory sessions will be held in the form of lectures , interactive sessions , seminars , symposia and journal clubs . Minimum of 6 hrs/week will be spent for these academic sessions
- CME programmes of multidisciplinary nature will be organised

Theory topics:

1. Morphology of pancreatic islets , insulin secretion and insulin biosynthesis
2. Brief review on intermediary metabolism and its hormonal regulation
3. Mechanism of insulin action
4. Methods of assessment of B cell function and insulin sensitivity
5. Diabetes mellitus : Definition , Diagnostic criteria and classification
6. Metabolic syndrome/ insulin resistance
7. Epidemiology of Diabetes mellitus
8. Type 1 Diabetes mellitus : Aetiopathogenesis
9. Type 2 Diabetes mellitus : Aetiopathogenesis
10. Role of intrauterine environment in pathogenesis of diabetes
11. Genetics of Diabetes mellitus
12. Maturity onset diabetes in the young
13. Type 2 Diabetes in children
14. Clinical features and presentation of type 1 diabetes
15. Clinical features and presentation of type 2 diabetes
16. Atypical clinical forms of Diabetes : Approach to Diagnosis
17. Secondary Diabetes mellitus
18. Management plan for Diabetes mellitus
19. Patient education in diabetes care
20. Nutritional management of Diabetes
21. Exercise in Diabetes
22. Overview of oral anti hyperglycemic drugs
23. Incretins

24. Insulin sensitisers
25. Insulin secretagogues
26. Conventional Insulins and therapy regimes
27. Insulin analogues
28. Insulin delivery systems
29. Monitoring of glycemic control
30. Monitoring of non glycemic parameters
31. Home glucose monitoring
32. Transplantation in diabetes care
33. Bariatric surgery in Diabetes
34. Obesity
35. Hypertension in diabetes
36. Dyslipidemia in diabetes
37. Acute Infections in Diabetes
38. Chronic infections and diabetes mellitus
39. Hypoglycemia in diabetic practice
40. Non- diabetic hypoglycemic syndrome
41. Pathogenesis of atherosclerosis
42. Pathogenesis of microvascular disease
43. Glycemic control and diabetic complications
44. Coronary artery disease in Diabetes
45. Non coronary cardiac diseases in diabetes
46. Diabetes and cerebrovascular disease
47. Peripheral vascular disease in diabetes
48. Diabetic foot syndrome
49. Ocular complications in diabetes
50. Diabetic retinopathy
51. Diabetes and urogenital system
52. Diabetic nephropathy
53. Autonomic dysfunction in diabetes
54. Neurological disorders in Diabetes
55. Skin disease in diabetes
56. Bone disease in diabetes
57. Rheumatological manifestations of diabetes
58. Surgery and diabetes including perioperative glycemic control

59. Pregnancy with pregestational diabetes
60. Gestational diabetes
61. Prevention of Type 1 diabetes
62. Prevention of type 2 diabetes
63. Prevention of diabetes complications
64. Organising a diabetic clinic
65. Review of Management guidelines of professional bodies
66. Review of important diabetes related trials
67. Psychosocial aspects of diabetes
68. Disorders of calcium metabolism : Hypercalcemia & Hypocalcemia
69. Metabolic bone diseases
70. Bone mineral density assessment
71. Disorders of magnesium metabolism
72. Disorders of Water metabolism
73. Hypernatremia and hyponatremia
74. Hyperkalemia and hypokalemia
75. Metabolic acidosis
76. Metabolic alkalosis

Annexure 2: Skills at the end of training

1. Evaluation and classification of the types of diabetes mellitus prevalent in indian sceneria especially the diabetes in young.
2. Systematic evaluation of all micro and macrovascular complications in diabetes
3. Recognition and if needed referral for any co-morbid conditions especially infections in Diabetes
4. Screening of pregnant women for gestational diabetes
5. Develop skills to counsel all pregnant women with GDM
6. Examination, classification of diabetic foot and interpretation of radiological investigations like MRI, Doppler US
7. Training in care of diabetic foot like wound dressing, debridement and offloading
8. Skills to identify the diabetic foot changes clinically and recommend prophylactic measures to avoid acute complications. Training in prescription of proper footwear and podiatric care

9. Perform and Interpret of diabetic foot study
10. Recognise and manage diabetic foot gangrene, necrotising fasciitis and other infections with gas forming organism.
11. Skills to carry out and interpret autonomic function tests in diabetic patient
12. Ability to prescribe Medical nutrition therapy and exercise regime for diabetes
13. Develop a therapeutic plan for Diabetes in an outpatient setting
14. Ability to handle acute metabolic complications of diabetes ie DKA , HHS, Hypoglycemia etc including the work up for the cause of acute metabolic deterioration
15. Ability to work up and manage of all electrolyte abnormalities
16. Skills in work up of calcium disorders
17. Skills in osteoporosis work up and management

Annexure 3: Evaluation for award of Fellowship

1. Internal assessment systems (Weightage 25%): Attendance , Punctuality, Logbook
2. End of training evaluation (Weightage 75%):
 - a. Theory: Paper 1 Basic & clinical aspects of diabetes care
Paper 2 Therapy and complications of diabetes
Paper 3 Metabolic medicine
 - b. Clinical a) Long case b) 2 short cases
 - c. Slides & Spotters
 - d. Viva examination

Eligibility for award of Fellowship:

1. Satisfactory Internal assessment score
2. 50% marks in combined Internal and final assessment
3. Satisfactory completion of research project