

**TILAK AYURVED MAHAVIDYALAYA**

**583/2, RASTA PETH, PUNE**

**Academic Term Planner –PG**

**Course/Class: PG 2<sup>nd</sup> and 3<sup>rd</sup> Year**

**Year 2024 - 2025**

**Subject: Shalyatantra**

PAPER – I - SHALYA TANTRA VANGMAYA – LITERATURE, RESEARCH AND DEVELOPMENT

PAPER – II - SHALYA TANTRA VIGYAN

PAPER – III - ADHUNIK SHALYA KARMA - MODERN SURGERY

PAPER – IV - SPECIALITY NO - 01 ANUSHASTRA VIGYAN – PARASURGICAL THERAPEUTICS

SPECIALITY NO–02 ASTHI SANDHI EVAM MARMA VIGYAN – ORTHOPAEDICS

SPECIALITY NO–03 SANGYAHARAN VIGYAN – ANAESTHESIOLOGY

SPECIALITY NO – 04 MUTRA ROGA – UROLOGY

**Name of the Shalyatantra Departmental Faculty:**

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|-------------------------|---------------------|
| 1. Dr Nandkishor Borse  | Professor & HOD     |
| 2. Dr Nitin Nalawade    | Professor           |
| 3. Dr Dhanaraj Gaikawad | Associate Professor |
| 4. Dr Dipak Poman       | Associate Professor |
| 5. Dr Vinod Sheth       | Assistant Professor |
| 6. Dr Omkar Jyotik      | Assistant Professor |
| 7. Dr Shruti Jondhale   | Assistant Professor |
| 8. Dr. Monali Deshmukh  | Assistant Professor |

Point No.	Content	Lecture Hours
<b>PAPER – I - SHALYA TANTRA VANGMAYA – LITERATURE, RESEARCH AND DEVELOPMENT</b>		
1	Thorough study of the Sushruta Samhita including other relevant portions of Brihatrayee and Laghutrayee	30
2	Knowledge and importance of Surgical Audit and Research.	05
3	Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act, medical profession, national health policy - Implications in a medico-legal case like accidents, assaults etc	10
4	Surgical ethics including Informed consent	05
5	Yogya Vidhi – Practical and Experimental training on different types of Surgical Models for Research in Surgery.	10
6	Clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.	20

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**HOD DEPT OF SHALYA TANTRA  
TAMV PUNE**

7	Concept of Sandhana Karma – Plastic reconstructive and cosmetic surgery. Fundamentals of Sandhana Karma – i. Karna Sandhana – Auroplasty ii. Nasa Sandhana – Rhinoplasty iii. Ostasandhana – Cheiloplasty iv. Grafts and Flaps – Techniques and applications. v. Vascular anastomosis and grafts.	15
8	Recent development on Sushruta's surgical principles and practices.	05
<b>PAPER – II - SHALYA TANTRA VIGYAN</b>		
1	Vrana – Wound management i. Management of Nija Vrana, Dushta Vrana and Nadi Vrana. ii. Vrana Chikitsa – Shasti upakramas, Pathya-apathya. iii. Wound and Ulcer. iv. Dagdha Vrana – Burns, scalds, Dhumopaghata, Ushnavata, Frost bite, electric burns and their management. v. Prameha Pidaka – Diabetic carbuncle, Diabetic wound and its management. vi. Kotha – Gangrene and Principles of Amputation. vii. Sadyo Vrana - Traumatic wounds – Nidana, Prakara, Lakshana, Upadrava and Chikitsa, Bites and stings and its management	25
2	Pranasta Shalya – Diagnosis and management.	05
3	Vranashopha-Inflammation, Vidradhi – Abscesses and Pidika – Boils	05
4	Granthi – Cyst and Arbuda – Benign and malignant Neoplasm.	05
5	Bhagna - Classification, Clinical features, Complications and Management.	10
6	Sandimoksha – Classification, Clinical features, Complications and Management.	05
7	Udara Roga - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management	05
8	Gulma Roga - Nidana, Prakara, Lakshana, Upadrava and Chikitsa	05
9	Shoola vyadhi - Nidana, Prakara, Lakshana, Upadrava and Chikitsa.	05
10	. Diseases of Rectum and Anal Canal – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Arshas, Parikartika, Bhagandara, Guda Vidradi, Gudabhramsa and Sanniruddaguda.	10
11	Ashmari - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management.	05
12	Mutraghata and Mutrakrichhra - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management.	05
13	. Niruddhaprakasha - Phimosis, Parivartika – Paraphimosis and Avapatika - Prepuceal ulcer	05
14	Vridhhi Roga - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management	05
<b>PAPER – III - ADHUNIK SHALYA KARMA - MODERN SURGERY</b>		
1	Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.	05
2	Diagnosis and Surgical treatment of head and spine injury, thoracic trauma and abdominal trauma. Blast injuries and Management	05
3	Diagnosis and surgical measures for disorders of Artery, Vein, Ligaments, Muscles and Tendons.	10
4	Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid, Thyroglossal cyst and Fistula, Branchial cyst and fistula, Cystic hygroma and Lymphadenopathies.	05
5	Diagnosis and Surgical management of breast diseases, Benign and Malignant breast tumours	10
6	Diagnosis and Surgical measures of diseases of Gastrointestinal system - i. Oral cavity - Oral ulcers, Oral cancer, Precancerous conditions, Submucosal fibrosis, Leukoplakia, Cleft lip and palate, Lip tumours, Mucosal cyst, Nasopharyngeal cancer, Tongue ulcer and cancer. ii. Oesophagus - Oesophageal varices, Dysphagia,	30

	Neoplasm, Strictures and Gastro oesophageal reflux. iii. Stomach and duodenum – Congenital anomalies, Injuries, Inflammation, Ulcer, Neoplasm, Pyloric stenosis, Acute dilatation, Hiatus hernia and Foreign bodies. iv. Pancreas - Congenital anomalies, Acute and Chronic pancreatitis, Calculi Neoplasm and Cysts of pancreas. v. Peritoneum, Omentum, Mesentery, Retroperitoneal Space – Peritonitis, Abscess, Neoplasm, Mesenteric cyst, Torsion of mesentery, Vascular thrombosis, Retroperitoneal cyst and Fibrosis. vi. Abdominal mass - Diagnosis and Management. vii. Small intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Peutz-jeghers syndrome, Chron's disease, Carcinoid tumours, Enteric perforation and Intestinal fistula. viii. Large intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Faecal fistula, Amoebiasis and Familial polyposis coli. ix. Caecum and Vermiform appendix- Appendicitis, Appendicular abscess, Appendicular mass, Perforation, Carcinoid Tumor and other Neoplasm. x. Gastrointestinal bleeding – Haemetemesis, Malaena, Haemobilia, Bleeding per anum - Causes, Diagnosis and Management xi. Rectum and anal canal - Diagnosis and Surgical management of Congenital Anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Prolapse, Haemorrhoids, Fistula-in-ano, Fissure-in-ano, Anorectal Abscess, Incontinence, Injuries, Foreign bodies and Pilonidal sinus.	
7	Umbilicus and abdominal wall – Congenital anomalies, Umbilical infections, Sinus, Neoplasm and Desmoid tumor.	05
8	Diagnosis and surgical measures of diseases of Hepatobiliary system - i. Liver – Abscess, Cyst - Hydatid cyst, Primary and Secondary malignant tumours, Portal Hypertension and Budd-Chiari Syndrome. ii. Gall bladder and Bile duct - Congenital anomalies, Acute and Chronic Cholecystitis, Cholelithiasis, Neoplasm, Cholangitis, Stenosis, Choledocholithiasis, Choledochal cyst and Cholangiocarcinoma. iii. Spleen – Splenomegaly and Splenic Injury.	10
9	Diagnosis and surgical management of Hernias – Inguinal, Femoral, Umbilical, Incisional, Abdominal wall and other hernias.	10
10	Endoscopic procedures - Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.	05
11	Principles of laproscopic surgery - Diagnostic and therapeutic laparoscopy.	05

#### PAPER IV

#### PAPER – IV SPECIALITY NO - 01 ANUSHAstra VIGYAN – PARASURGICAL THERAPEUTICS

1	1. Kshara Karma and Prayoga – Caustic therapy i. Introduction of different types of Kshara, Method of preparation, Standardization, pH value, Application, Complications and its management. ii. Surgical Anatomy and Physiology of Anus and Rectum. iii. Arshas - Nidana, Purvaroopas, Roopas, Samprapti, Prakara and Chikitsa. iv. Haemorrhoids - Aetio-pathogenesis, types and its surgical management. Knowledge of different methods of treating Haemorrhoids - Rubber band ligation, D.G.H.A.L, Radiofrequency, Ablation, Cryo-surgery, Cautery, Laser, Infrared coagulation and other advanced techniques. v. Bhagandara - Nidana, Purvaroopas, Roopas, Samprapti, Prakara, Chikitsa and application of Kshara Sutra. vi. Fistula-in-ano - Definition, Aetio-Pathogenesis, Types, Diagnostic methods and its Surgical and parasurgical management including knowledge of Fibrin Glue, Advanced Flap Therapies and other recent techniques. vii. Parikartika - Nidana, Samprapti and its Chikitsa. viii. Fissure-in-ano - Aetio-pathogenesis, types and its management. ix. Sannirudhaguda and its Chikitsa. x. Anal Stenosis - Aetio-pathogenesis and its management. xi. Gudavidradhi - Nidana, Purvaroopas, Roopas, Samprapti, Prakara and its Chikitsa. xii. Anorectal abscesses – Aetio- pathogenesis,	10
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	types, complications and its management. xiii. Foreign body in rectum and anal canal - Method of diagnosis and its management. xiv. Congenital Anorectal disorders and its management. xv. Anorectal tumour - Types and its management.	
2	. Agnikarma – Thermo therapy i. Introduction, definition and importance of Agnikarma. ii. Agnikarma - Poorva, Pradhana and Paschat karma, various substances and Shalakas used for Agnikarma and their indications, contra-indications and complications. iii. Knowledge of modern thermal equipment - Diathermy, Laser therapy, Microwave, Ultracission technique, Cryo Technique and its uses. iv. Effect of Agnikarma on skin, muscle tissue, nerves, metabolism, blood circulation and infective lesions	07
3	3. Raktamokshana – Bloodletting Procedures i. Indications, contraindications and importance of Raktamokshana. ii. Justification of usage of different types of Raktamokshana in various therapeutic applications. iii. Different types of Raktamokshana – Sastrakritha - Siravyadhana, Prachana and Asastrakritha - Shringa, Jaluka, Alabu and Ghati. iv. Jalauka - Nirukti, Paryaya, Bhedha, Sangrahana, Samrakshana, Jalaukavacharana Vidhi - Poorva, Pradhana and Paschat karma. v. Knowledge of Leeches - Morphology, Anatomy, Physiology, Bio-chemical effects of its various constituents present in its saliva.	08
<b>PAPER – IV - SPECIALITY NO-02 ASTHI SANDHI EVAM MARMA VIGYAN – ORTHOPAEDICS</b>		
1	Asthi Sharira - Etymology, Embryology, Applied Anatomy and Physiology of Asthi. Its Panchbhautik constitution, Poshan (Nutrition), Asthivaha Srotas, Upadhatu and Mala. Total Number and classification of Asthi. Concept of Dhatwagni in Ayurveda. Asthi Dhatu Kshaya and Vriddhi lakshana. Knowledge about Tarunasthi. Embryology, Ossification, Histology, Metabolism, Blood Supply, Types and Biomechanics of Bone and cartilage	01
2	Healing mechanism of bone and factors influencing the bone healing according to Ayurvedic and Modern concept. Biological and Biophysical technologies for the Enhancement of Fracture Repair. Knowledge of Sandhaniya and Ropaniya drugs.	
3	Sandhi Sharira – Classification, Applied Anatomy and Physiology of Asthi Sandhi. Classification, Applied Anatomy and Physiology of Joints and Healing Mechanism of a joint.	
4	Knowledge of Splints, Orthotics & Prosthetics.	01
5	Knowledge of Orthopedic implants (e.g. wires, screws, plates, nails) and Instruments. Knowledge of equipments (e.g. C-arm image intensifier and drill machines etc).	
6	Concept of Pain according to Ayurved and Modern Medical science	01
7	Principles of Reconstruction, Transplantation, Bone grafting, Bone Banking, Bone transportation and Amputation.	01
8	Vata Vikara – Asthi, Sandhi and Marma related Vata Vikara like Gridhrasi, Bisvachi, Avabahuka, Manyastambha, Khalvi, Dhatugata vata, Snayugata vata, Katishoola, Katigraha	01
9	Diseases pertaining to Muscles, Tendons, Ligaments, Fascia and Bursae	01
10	Diseases and Congenital anomalies of Spine e.g. Ankylosing spondylitis, Infective conditions, Tuberculosis, Spondylolisthesis, Inter-vertebral Disc Prolapse, CCIM MS Ayurved –Shalya Tantra Syllabus Page 5 of 10 Spondylosis, Scoliosis, Kyphosis, spina bifida, Hemivertebra, Block vertebra, Sacralisation and Lumbrisation	01
11	Diseases and Congenital anomalies of Cervical Spine	
12	Diseases and Congenital anomalies Sacroiliac Joint and Bony Pelvis.	
13	. Diseases and Congenital anomalies of Hand	01
14	. Diseases and Congenital anomalies of Foot	

15	Diseases and Congenital anomalies of Limbs	
16	. Orthopedic Neurological Disorders. Post Polio Paralysis & Cerebral Palsy	
17	Snehana, Swedana and Panchakarma in Marma, Asthi and Sandhi Vyadhi	01
18	Yogic Practices in Orthopedics	01
19	Principles of Arthroplasty- Joint Replacement	
20	Introduction of Peripheral Vascular Diseases	01
21	Bhagna - Etiology, classification and General Management principles and Prognosis	01
22	Modern concept of Bone and Joint injuries - Etiology, Epidemiology, Classification and General management principles	01
23	. Individual Bone and Joint injuries - Etiology, Epidemiology, Classification and management principles	01
24	External immobilization techniques - Classical and traditional Kusha -splints, Plaster of Paris Technique, Knowledge of different splints and Plasters	01
25	Pathological Fractures including Fragility fractures, Stress Fractures and Periprosthetic Fractures.	01
26	. Fractures in Children – Etiology, Epidemiology, Diagnosis, management and complications	
27	Prognosis of skeletal injuries, Complications of Fractures and Joint Injuries e.g. Myositis ossificans, Volkman's ischemic contracture, Compartment syndrome, Crush Syndrome, DVT, Thromboembolism, Fat Embolism.	01
28	.Rehabilitation of trauma patient and Principles of Sukhchestaprachara - Physiotherapy and its use in skeletal injuries.	01
29	. Treatment Principles of Asahanta Bhagna - Non-unions, Vishmolvana Sahanta - Malunions and Ignored or un-reduced dislocations	
30	Diagnosis and management principles of injuries of Vessels, Nerves, Tendons and Ligaments.	01
31	Head, Chest and Abdominal Injuries and management principles	01
32	Pelvis and Spine injuries and their management principles	
33	Sports medicine and sports injures – Sports medicine and sports related Shoulder injuries, Elbow injuries, Knee injuries, Ankle Injuries, Recurrent Dislocations and other sports related injuries.	01
34	Knowledge of Conventional and advanced procedures being done for Different Bone and Joint Injuries e.g. Open Reduction and Internal Fixation, Closed Reduction and Internal Fixation, External fixators and other operative techniques.	01
35	Knowledge of Plastic Surgery in orthopedics and Bone grafting techniques	01
36	Knowledge of various surgical procedures being done for Different Bone and Joint Diseases.	
37	Hand Surgery for Diseases, Deformities and Injuries	01
38	. Foot Surgery for Diseases, Deformities and Injuries.	
39	Amputations and Arthrodesis – General Principles of Amputations /Arthrodesis and regional Amputations.	01
40	Knowledge of Diagnostic and Therapeutic Arthroscopy.	
<b>PAPER – IV - SPECIALITY NO–03 SANGYAHARAN VIGYAN – ANAESTHESIOLOGY</b>		
1	. Knowledge of disorders like Unmada, Apasmara, Mada, Murrcha, Sanyasa and Stabdhatta etc	01
2	Madataya, Stages of Madataya and its management.	01
3	. Pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan and shamana , Svedjanan, Hridyae, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman and hrillashar (Antiemetic) dravya as mentioned in	02

	Ayurvedic samhita and their application in Sangyahan	
4	Aroma therapy as complementary and alternative therapy in pain management and Palliative care.	01
5	Sangyahan Bhesaja Vigyan (Pharmacology related to Anesthesia) Pharmacology of: Drugs acting on Autonomic nervous system:• a .Cholinergic system and drugs- Agonist and antagonist b .Adrenergic system and drugs- Agonist and antagonist Autocoids and related drugs:• a. Histamine and Antihistaminic b. 5HT and antagonist c. NSAID'S d. Prostaglandins and leukotrienes Drugs acting on Respiratory system• Drugs acting on Somatic nervous system• a. Skeletal muscle relaxants – Depolarizer and Non-Depolarizer. b. Local anesthetics Drugs acting on central nervous system• a. General Anesthetics- Fixed and Volatile anesthetic agents. b. Sedative and hypnotics c. Anti epileptics d. Anti psychotic and anti-manics e. Opioids Analgesics and antagonists Drugs acting on cardiovascular system• a. Cardiac glycosides b. Anti arrhythmic drugs c. Anti anginal and other anti ischemic drugs d. Anti hypertensive drugs Drugs acting on Kidneys• a. Diuretics b. Anti diuretics Coagulants and anti coagulants	04
6	Airway management- Intubation, failed intubation drill, LMA, Bag and mask ventilation.	02
7	Anesthesia For: General surgery, Obstetric and Gynecology, E.N.T. and Ophthalmic, Orthopedic, Dental, Pediatric, Urology, Plastic and Outpatient / Day care surgery.	02
8	Anesthesia for patients with: Diabetes mellitus, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases.	02
9	Regional anesthesia: Sub-arachnoid and epidural anesthesia, analgesia• Plexus and nerve blocks for upper and lower limb• Regional anesthesia for thorax and abdomen• Surface anesthesia, infiltration and field blocks•	03
10	Complications of Regional and general anesthesia, morbidity, mortality and medicolegal aspects.	02
11	Anesthesia for Endoscopic, laparoscopic Surgery and Laser Surgery	01
12	a. Monitoring in anesthesia: Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular• monitoring. Peri- operative Thermo- regulation and monitoring• Peri- operative awareness and monitoring depth of anesthesia with BIS• Peri- operative acid-base balance• Pt's positioning in anesthesia, its hazards and management• Peri- operative Fluid management and Blood transfusion.• Risks and hazards of anesthesia• b. Anesthesia equipments – Medical gas systems• Breathing systems• Ventilators• Anesthesia machine• c. Post operative management- Post anesthesia care• Post operative nausea and vomiting• Post operative Intra-Venous fluid therapy• Acute post operative pain• d. Miscellaneous- HDU, ICU, CCPR- BLS• & ACLS. Parenteral nutrition.• Environmental factor and electrical safety• e. Management of Acute / Chronic Pain- Assessment of pain• Peri-operative pain• Chronic pain syndrome-detection and prevention• WHO regime for Cancer pain• TENS, Behavioral therapy• f. Anesthesia in remote locations g. Clinical care in extreme environments (At high and low pressure and space). h. Relevance of Sammohana (Hypnosis), Acupressure and Acupuncture in Sangyahan. i. Recent advances in research in Sangyahrana, Pain Management and Palliative Care. Scope and Application of principles of Ayurveda in Sangyahrana Research.	04
<b>PAPER – IV - SPECIALITY NO – 04 MUTRA ROGA – UROLOGY</b>		
1	Anatomical and physiological knowledge of kidney, ureter, urinary bladder, prostate, seminal vesicles, urethra and penis	02

2	Investigations of Mutravaha Srotas – Urinary tract.	02
3	Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and management of Ashmari – Urinary stone diseases.	03
4	Kidney and ureter – Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Hydronephrosis, Hydroureter and Haematuria	03
5	Urinary bladder - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Diverticulum, Vesico-vaginalfistula, Atony, Schistosomiasis, Urinary diversions, Retention of urine – Mutraghata and Mutrakruccha.	03
6	Urethra - Clinical presentation, Investigations and Management of Congenital anomalies – Hypospadias, Epispadias, Posterior urethral valve, Trauma, Infection, and Neoplasm	03
7	Prostate and seminal vesicles – Benign and malignant enlargement of prostate, Prostatitis, Prostatic abscess and Calculi.	02
8	Penis – Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Phimosis, Paraphimosis, Peyronie's disease and Neoplasm	02
9	Testis and scrotum-Clinical presentation, Investigations and Management of Congenital anomalies, Ectopic testis, Trauma, Infection, Neoplasm, Testicular torsion, Hydrocele, Varicocele, Spematocele, Chylocele, Pyocele, Haematocele, Epididymal cyst and Fournier's gangrene.	03
10	Renal failure – Causes, Diagnosis, Investigations and Management.	02

#### PRACTICALS

1	Identification, uses, demonstration of surgical instruments and methods of sterilization.
2	Training of case taking, bed side clinicals and case presentation
3	Training of Surgery related Diagnostic imaging techniques.
4	Training of Surgery related Pre-operative, Operative and Post-operative procedures
5	Demonstration and Practical training in Anaesthesia
6	P.G. Scholars shall develop the skills by observing, assisting and performing independently all surgical and parasurgical procedures
7	P.G. Scholars shall develop the skills by observing, assisting and performing independently concerned specialities like Anushastra Vigyan - Parasurgical therapeutics, Asthi Sandhi Evam Marma Vigyan – Orthopaedics, Sangyaharan Vigyan – Anaesthesiology, Mutra Roga – Urology etc
8	Training of Surgical Emergencies and Trauma Management