

## 1 – THE PELVIC FLOOR 2005 09

### **Evidence for the innervation of pelvic floor muscles by the pudendal nerve.**

Guaderrama NM, Liu J, Nager CW, Pretorius DH, Sheean G, Kassab G, Mittal RK  
Obstet Gynecol 2005 Oct;106(4):774-81.

**OBJECTIVE:** To evaluate whether the pudendal nerve innervates the levator ani muscles by assessing the effect of pudendal nerve blockade on pelvic floor muscle function. **METHODS:** Eleven nulliparous women without symptoms of anal or urinary incontinence were studied before and after pudendal nerve blockade with vaginal manometry, electromyography of the external anal sphincter and puborectalis muscle, and 3-dimensional transperineal ultrasound imaging of the urogenital hiatus during rest and squeeze. **RESULTS:** After pudendal nerve blockade, mean vaginal resting pressures decreased from 19 +/- 10 mm Hg to 15 +/- 10 mm Hg ( $P < .05$ ), and mean vaginal squeeze pressures decreased from 61 +/- 29 mm Hg to 37 +/- 24 mm Hg ( $P < .05$ ). After pudendal nerve blockade, the anterior-posterior length of the urogenital hiatus increased from 51 +/- 4 mm to 55 +/- 5 mm at rest ( $P < .05$ ) and increased from 47 +/- 3 mm to 52 +/- 5 mm during squeeze ( $P < .05$ ). Resting and squeeze electromyography amplitude of the external anal sphincter and puborectalis muscle was markedly reduced by pudendal nerve blockade. **CONCLUSION:** Pudendal nerve blockade decreases vaginal pressures, increases length of urogenital hiatus, and decreases electromyography activity of the puborectalis muscle, all of which suggest that the pudendal nerve does innervate the levator ani muscle. **LEVEL OF EVIDENCE:** II-2.

### **Arcus tendineus fascia pelvis: a further understanding.**

Albright TS, Gehrich AP, Davis GD, Sabi FL, Buller JL  
Am J Obstet Gynecol 2005 Sep;193(3 Pt 1):677-81.

**OBJECTIVE:** The study was undertaken to further define the anatomy of the arcus tendineus fascia pelvis (ATFP). **STUDY DESIGN:** Thirty cadavers were dissected to find the average length, SD, and range of the ATFP. Comparisons were made to height and pelvis type. The average distance between the ischial spine and the attachment of the fascia of the rectovaginal septum (RVF) to the ATFP was measured. **RESULTS:** The average length, SD, and range in centimeters for the ATFP are 9.0, 0.70, and 7 to 10.5, respectively. The length of the ATFP increased with height. No associations could be made regarding pelvis type. The average distance between the ischial spine and the attachment of the RVF to the ATFP is 2.15 cm with a SD and range of 0.21 and 1.75 to 2.5, respectively. **CONCLUSION:** In this study, an average length for the ATFP is established and the distance between the ischial spine and the attachment of the RVF to the ATFP is redefined.

### **Terminologia Anatomica versus unofficial descriptions and nomenclature of the fasciae and ligaments of the female pelvis: A dissection-based comparative study.**

Ercoli A, Delmas V, Fanfani F, Gadonneix P, Ceccaroni M, Fagotti A, Mancuso S, Scambia G  
Am J Obstet Gynecol 2005 Oct;193(4):1565-1573.

**OBJECTIVE:** The aims of this study were: (1) to define and classify those connective structures of the female pelvis that are of potential clinical interest, (2) to evaluate the adequacy of the Terminologia Anatomica (official nomenclature) and (3) to establish a correspondence between the official nomenclature and the most commonly used terms. **STUDY DESIGN:** The results of 30 macroscopic and laparoscopic dissections of fresh cadavers with and without vessel injection of colored latex solutions were compared with the descriptions and definitions in the Terminologia Anatomica and the most frequently cited English and non-English literature from 1890 to 2003. **RESULTS:** We identified 3 groups of fasciae, parietal pelvic fascia, visceral pelvic fascia, and extraserosal pelvic fascia, which could be divided into diverse clinically relevant anatomical structures characterized by different locations, spatial orientation, and consistency. These structures differed considerably with regard to number and nomenclature from those described in the Terminologia Anatomica and part of the literature. **CONCLUSION:** Our results suggest that the official terminology applied to the connective structures of the female pelvis could be profitably revised and expanded. We offer a complete description of these structures and suggest a classification that may be useful for teaching and clinical purposes.

### **Levator trauma after vaginal delivery.**

Dietz HP, Lanzarone V  
Obstet Gynecol 2005 Oct;106(4):707-12.

**OBJECTIVE:** To date, the evidence on pelvic floor injury in labor remains sketchy due to a lack of prospective studies comparing pelvic floor imaging before and after childbirth. We intended to define the incidence of major trauma to the pubovisceral muscle. **METHODS:** A total of 61 nulliparous women were

seen at 36-40 weeks of gestation in a prospective observational study. The assessment included an interview and 3-dimensional translabial ultrasound and was repeated 2-6 months postpartum. RESULTS: Fifty women (82%) were seen postpartum. Of the 39 women delivered vaginally, levator avulsion was diagnosed in 14 (36%, 95% confidence interval 21-51%). Among those delivered vaginally, there were associations with higher maternal age ( $P = .10$ ), vaginal operative delivery ( $P = .07$ ), and worsened stress incontinence postpartum ( $P = .02$ ). CONCLUSIONS: Avulsion of the inferomedial aspects of the levator ani from the pelvic sidewall occurred in approximately one third of all women delivered vaginally and was associated with stress incontinence 3 months after childbirth. LEVEL OF EVIDENCE: II-3.

#### **Functional and histological effects of intravaginal electrical stimulation on the pelvic muscles: a study in the rat.**

Wyndaele JJ, Poortmans A

Int Urogynecol J Pelvic Floor Dysfunct 2005 Sep 28;:1-5.

We studied functional and histological effects of electrical stimulation (ES) on pelvic muscles of the rat. With intravaginal electrodes, the musculus pubococcygeus and musculus iliococcygeus in the awake animal were stimulated three times 6 min per day with 5 min of rest in between, 5 days per week, 7 consecutive weeks with a biphasic rectangular symmetrical current of 25 Hz, 400-mus pulse duration, on/off time of 5/10 and with an amplitude of 2-4 mA. A "sham group" received the same handling but no stimulation. Contraction measured with intra-rectal pressure during stimulation increased more in the stimulated than in the sham group, but did not reach statistical significance probably due to low power. The 2A fast fibres increased with 14% in the musculus iliococcygeus and with 6% in the musculus pubococcygeus. Type 1 slow fibres did not change. Increased capillary density was found after stimulation. Repeated intravaginal ES has mainly an influence on the fast fibres in the pelvic muscles. To influence slow fibres, another stimulation program or current parameters would seem necessary.

#### **Effect of Warming on the Rectal Motile Activity: Identification of Rectal Warming Reflex.**

Shafik A, Shafik AA, El Sibai O, Shafik I

J Surg Res 2005 Sep 7;.

BACKGROUND: The identification in the rectal wall of warm receptors sensitive to warm temperature has not been found in the literature. Therefore, we investigated the hypothesis that rectal warming effects rectal dilation, which seems to indicate the existence of warm receptors. MATERIALS AND METHODS: The rectal wall tone was studied in 24 healthy volunteers (14 men, 10 women, mean age 36.7 +/- 10.4 years). It was assessed by a barostat system during rectal infusion with normal saline at 30 degrees C, 40 degrees C, 45 degrees C, and 50 degrees C. The test was repeated after rectal anesthetization with lidocaine. RESULTS: The rectal tone on rectal saline infusion at a temperature of 30 degrees C showed no response ( $P > 0.05$ ), whereas at a temperature of 40 degrees C, 45 degrees C, and 50 degrees C, it exhibited a significant decrease ( $P < 0.05$ ,  $< 0.01$ ,  $< 0.001$ , respectively), which was proportional to the rising degree of temperature. Warm saline infusion into the anesthetized rectum resulted in no significant change in the rectal wall tone. CONCLUSIONS: Rectal infusion with warm saline produced rectal dilation that increased with temperature elevation. This effect is suggested to be mediated through a reflex called "rectal warming reflex: and advances the possibility of the existence of warm receptors in the rectal wall; however, further studies are needed to confirm the issue.

#### **Classical conditioned response of rectosigmoid motility and regional cerebral activity in humans.**

Kanazawa M, Endo M, Yamaguchi K, Hamaguchi T, Whitehead WE, Itoh M, Fukudo S

Neurogastroenterol Motil 2005 Oct;17(5):705-13.

The relationship between the central processes of classical conditioning and conditioned responses of the gastrointestinal function is incompletely understood in humans. We tested the hypothesis that the rectosigmoid motility becomes conditioned with anticipatory painful somatosensory stimulus and that characteristic brain areas become activated during anticipation. In nine right-handed healthy male subjects, a loud buzzer (CS, conditional stimulus) was paired with painful transcutaneous electrical nerve stimulation to the right hand (unconditional stimulus). Rectosigmoid muscle tone measured by the barostat as the intrabag volume, phasic contractions of the bowel measured as the number of phasic volume events (PVEs), and regional cerebral blood flow assessed by positron emission tomography (PET), were measured before and after conditioning. Following conditional trials, the bag volume after CS alone did not show significant changes between before and after the stimulus, but the number of PVEs after 2-minute interval of the CS alone was significantly greater than that before the stimulus ( $P < 0.05$ ). The PET data showed the conditioning elicited significant cerebral activation of the prefrontal, anterior cingulate, parietal and insula cortices ( $P \leq 0.001$ , uncorrected). Rectosigmoid motility can be conditioned with increase in phasic

contractions in humans.

## 2 – FUNCTIONAL ANATOMY 2005 09

### **Stem cells, progenitors and myelin repair.**

Zhao C, Fancy SP, Magy L, Urwin JE, Franklin RJ  
J Anat 2005 Sep;207(3):251-8.

Remyelination, the process by which new myelin sheaths are restored to demyelinated axons, represents one of the most compelling examples of adult multipotent progenitor cells contributing to regeneration of the injured central nervous system (CNS). This process can occur with remarkable efficiency in both clinical disease, such as multiple sclerosis, and in experimental models, revealing an impressive ability of the adult CNS to repair itself. However, the inconsistency of remyelination in multiple sclerosis, and the loss of axonal integrity that results from its failure, makes enhancement of remyelination an important therapeutic objective. Identifying potential targets will depend on a detailed understanding of the cellular and molecular mechanisms of remyelination. In this article we address two important issues. First, we consider the nature of the cell or cells that respond to demyelination and generate new oligodendrocytes, identifying current areas of uncertainty and addressing the role of adult CNS stem and progenitor cells. Second, we discuss the concept of adult progenitor activation following demyelination, focusing on the increased expression of (1) olig transcription factors, (2) bone morphogenetic proteins and (3) fyn, a member of the src-family of tyrosine kinases.

### **The Location and Contents of the Lateral Ligaments of the Rectum: A Study in Human Soft Cadavers.**

Pak-Art R, Tansatit T, Mingmalairaks C, Pattana-Arun J, Tansatit M, Vajrabukka T  
Dis Colon Rectum 2005 Aug 29;.

**PURPOSE:** This study was designed to identify the location of the lateral ligaments of the rectum and to reveal its contents. **METHODS:** From 18 human soft cadavers (9 males), 18 pelves were sagittally sectioned into 36 hemipelvic specimens affording good anatomic view of the lateral aspect of the rectum. All of them were dissected and mobilized by using sharp technique under direct vision by one surgeon to avoid confounding factor. The lateral ligaments of the rectum were identified and the distances from the center of its pelvic attachment to the promontory of sacrum and coccyx were measured. After measurement, they were transected and brought for histologic examination. **RESULTS:** In 36 hemipelvic specimens, 18 lateral ligaments of the rectum were found on the right side of the rectum and 18 were found on the left side. One cadaver had no lateral ligament on the right side and another had two lateral ligaments on the right side 3-cm apart. The location of the lateral ligaments was posterolateral to the rectum. The distance from the lateral ligament to sacral promontory on right side was 8.14 +/- 1.82 cm (mean +/- standard deviation) and 8.14 +/- 1.22 cm on left side. The distances from the lateral ligament to coccyx on the right and left sides were 5.12 +/- 1.4 cm and 4.88 +/- 1.29 cm, respectively. The content of the lateral ligaments of the rectum consisted of loose connective tissue with cluster of small nerves. No artery was detected in all specimens. The small arterioles and venules were discovered in only four specimens. **CONCLUSIONS:** The lateral ligaments of the rectum were located at posterolateral side of the rectum. They were closer to the coccyx than to the sacral promontory. Its component was loose connective tissue containing multiple small nerves. There was no artery found in any lateral ligaments by histologic study. Small arterioles and venules were detected 11 percent.

## 3 – DIAGNOSTICS 2005 09

### **Effect of test position on pelvic floor muscle assessment.**

Frawley HC, Galea MP, Phillips BA, Sherburn M, Bo K  
Int Urogynecol J Pelvic Floor Dysfunct 2005 Oct 5;:1-7.

## 4 – PROLAPSES 2005 09

### **Posterior intravaginal slingplasty for vaginal prolapse.**

Jordaan DJ, Prollius A, Cronje HS, Nel M  
Int Urogynecol J Pelvic Floor Dysfunct 2005 Sep 27;:1-4.

**OBJECTIVE:** To evaluate the results of the posterior intravaginal slingplasty (IVS). **PATIENTS AND METHODS:** From a urogynecology database, 42 patients who had undergone posterior IVS procedures were analyzed. All the selected patients had also had a posterior colporrhaphy (88% with mesh inserted into the rectovaginal space). **RESULTS:** Intraoperatively, there was one complication, a rectum perforation. All patients were followed-up, with a median of 13 months. Recurrent prolapse, grade 3 or 4, developed in 12

patients (29%) which included ten cystoenteroceles (24%), four rectoenteroceles (10%), and three cases of utero/vault prolapse (7%). Repeat surgery was performed in six patients (14%). For utero/vault prolapse, eight patients presented preoperatively with grades 3 and 4 prolapse. On follow-up, three patients had utero/vault prolapse, one of whom did not have utero/vault prolapse on presentation. Therefore, of the eight patients presenting with utero/vault prolapse, only two had repeat prolapse on follow-up, which reflected an improvement of 75%. **CONCLUSION:** The posterior IVS delivered satisfactory results for vault and posterior compartment prolapse, with a 75% improvement in vault prolapse. It was not possible, however, to separate the effect of posterior IVS and posterior colporrhaphy on the prevention of recurrent prolapse nor on the improvement of difficulty in defecation. Due to the utilization of the now-abandoned vaginal anterior colposuspension procedure for the treatment of anterior compartment prolapse, no conclusions regarding the impact of the posterior IVS on the anterior compartment can be made.

### **Pelvic organ prolapse: is it time to define it?**

Swift S

Int Urogynecol J Pelvic Floor Dysfunct 2005 Sep 22;.

### **Classification and evaluation of prolapse.**

Mouritsen L

Best Pract Res Clin Obstet Gynaecol 2005 Sep 23;.

Pelvic organ prolapse is prevalent among older women. Milder stages of prolapse, cranial to the hymen, are common and usually symptomless. A specific symptom is a bulge outside the vagina. Functional symptoms from the bladder, bowel and sexual life frequently coexist without a known cause/effect relationship to prolapse. Prolapse should be measured by the validated internationally approved pelvic organ prolapse quantification (POPQ) system that can measure prolapse in the three compartments and three levels of the vagina. We should work on a common classification system and agreement in which symptoms should be recorded as related to prolapse and expected to improve by prolapse surgery.

### **Childbirth and pelvic floor trauma.**

Dietz HP, Wilson PD

Best Pract Res Clin Obstet Gynaecol 2005 Sep 21;.

The issue of traumatic damage to the pelvic floor in childbirth is attracting more and more attention amongst obstetric caregivers and laypersons alike. This is partly due to the fact that elective caesarean section as a potentially preventative intervention is increasingly available and perceived as safe. As there is a multitude of emotive issues involved, including health economics and the relative roles of healthcare providers, the discussion surrounding pelvic floor trauma in childbirth has not always been completely rational. However, after 25 years of urogynaecological research in this field it should be possible to determine whether pelvic floor trauma in childbirth is myth or reality, and, if real, whether it matters for the pathogenesis of incontinence and prolapse. On reviewing the available evidence, it appears that there are sufficient grounds to assume that vaginal delivery (or even the attempt at vaginal delivery) can cause damage to the pudendal nerve, the inferior aspects of the levator ani muscle and fascial pelvic organ supports. Risk factors for such damage have been defined and variously include operative vaginal delivery, a long second stage, and macrosomia. It is much less clear, however, whether such trauma is clinically relevant, and how important it is in the aetiology of pelvic floor morbidity later in life.

### **Posterior pelvic floor compartment disorders.**

Davis K, Kumar D

Best Pract Res Clin Obstet Gynaecol 2005 Sep 27;.

Posterior pelvic floor compartment disorders generally refer to functional anorectal disturbances that by definition are symptom-based rather than anatomical defect-based and have a significant impact on quality of life. Symptoms attributed to the posterior compartment are often non-specific and associated with structural, neuromuscular and functional defects giving rise to symptoms of prolapse, pelvic pressure, faecal incontinence, stool trapping and constipation. They may range from mild to incapacitating and occur in varying combinations. While symptoms of constipation and incontinence may conceptually represent the opposing extremes of normal anorectal function, the dynamic interrelationships between the different pathophysiological mechanisms involved in the development of these disorders suggest a more complex explanation. Faecal continence and defecation are dependent on several neurological and anatomical factors that involve coordinated physiological processes, including intestinal transit and absorption, colonic transit, rectal compliance, anorectal sensation and continence mechanism. However, it is well recognized that pelvic floor symptoms originating from one compartment do not imply absent pathology in another

compartment. Furthermore, symptoms associated with one disorder (such as constipation related to functional obstructed defecation) can be causative in the sequential development of other pelvic floor disorders, such as a urogenital prolapse syndrome, that may further exacerbate symptoms. In addition, it has been found that treatment that corrects one problem may improve, worsen or even predispose to other symptoms from another compartment. Consequently, while the concept of global pelvic floor dysfunction has emerged, the traditional single speciality referral and evaluation of pelvic floor problems continues to foster potentially segregated management strategies that can overlook the relevance of concomitant symptomatology. The evaluation and treatment of posterior pelvic compartment disorders needs to assume an individualized but multidisciplinary therapeutic approach. Given the variation in surgical approaches described to correct anatomical integrity of posterior pelvic compartment deficits, the consensus on optimal management has yet to be achieved. Therefore, it is critical that outcome measures following surgery are clearly defined. Treatment is to a great extent dictated to by functional severity and the impact that symptoms have on quality of life. Long-term follow-up should ensure that the potential for complications is minimized and satisfactory bowel, bladder and sexual function is maintained.

### **The use of prosthetics in pelvic reconstructive surgery.**

Birch C

Best Pract Res Clin Obstet Gynaecol 2005 Sep 23;

With an ageing population, increasing numbers of women are presenting with pelvic floor disorders. The lifetime risk of undergoing prolapse or incontinence surgery in the USA is 1 in 11. With a recognized reoperation rate exceeding 30% for prolapse surgery, attempts are being made to improve our primary surgical outcomes. The introduction of synthetic and biological prostheses have been proposed to reduce recurrence rates whilst maintaining vaginal capacity and coital function. The role of synthetic prostheses is well established for use in continence surgery in the form of midurethral slings and for abdominal sacrocolpopexy to correct vault prolapse. However, postoperative morbidity-specifically the risk of mesh erosion-has limited their use for vaginal prolapse surgery. Biological prostheses have been introduced to offer an alternative for use in these repairs. While these grafts largely obviate the problem of erosion there are concerns regarding longevity, and only short-term outcome data are currently available. The role of prosthetics in pelvic floor surgery is an evolving and controversial field. Current and future research should be directed at evaluating the safety and efficacy of specific products and comparison of subjective and objective outcome parameters to standard surgical techniques for pelvic organ prolapse.

### **Prevalence of rectocele in young nulliparous women.**

Dietz HP, Clarke B

Aust N Z J Obstet Gynaecol 2005 Oct;45(5):391-4.

Background: It is generally assumed that fascial defects in the rectovaginal septum are the result of childbirth. However, rectoceles do occur in women who have never delivered vaginally. Aims: To determine the incidence of rectocele in a cohort of asymptomatic, young nulliparous women. Methods: Observational cohort study on 178 nulliparous caucasian women (aged 18-24) recruited for a twin study of pelvic floor dysfunction. All women were interviewed and examined by translabial ultrasound, supine and after voiding. In 52 women, 3D imaging was obtained and 171 datasets were complete and available for analysis. Ultrasound findings were reviewed for rectovaginal septal integrity by an assessor blinded against interview and demographic data for rectovaginal septal integrity. Results: A discontinuity of the anterior rectal wall with extrusion of rectal mucosa or contents (depth of  $\geq 10$  mm) was observed in 21/171 (12%). The depth of this herniation ranged from 10 to 25 mm and was filled with stool (n = 10) or rectal mucosa (n = 11). Defects were associated with a higher BMI (P = 0.049), with the complaint of constipation (P = 0.049) and non-significantly with straining at stool (P = 0.09). Descent of the ampulla to beyond the level of the symphysis pubis without fascial defect, that is, significant perineal relaxation, was observed in 23/171 (13%). Conclusions: Twelve percent of 171 young nulligravid caucasian women showed a defect of the rectovaginal septum. Associations were observed with higher body mass index and a history of constipation. It is hypothesised that in some women defects of the rectovaginal septum and perineal hypermobility may be congenital in nature.

### **Transvaginal paravaginal repair of high-grade cystocele central and lateral defects with concomitant suburethral sling: report of early results, outcomes, and patient satisfaction with a new technique.**

Rodriguez LV, Bukkapatnam R, Shah SM, Raz S

Urology 2005 Nov;66(5 Suppl):57-65.

Baden-Walker classification grade III-IV (pelvic organ prolapse quantification [POP-Q] system stage III-IV) cystocele is associated with a constellation of abnormalities including urethral hypermobility, lateral defect,

central defect, and concomitant vault and posterior wall prolapse. We describe a new transvaginal paravaginal technique to correct this group of abnormalities and report on our early results. We prospectively evaluated patients with high-grade cystocele who underwent repair with the new transvaginal paravaginal repair. Preoperative evaluation included history and physical examination, dynamic pelvic magnetic resonance imaging, urodynamics, and symptom questionnaire. All patients first underwent a distal urethral polypropylene sling surgery. After repair of the central defect of the cystocele, a paravaginal repair of the lateral defect was performed by using a circular 5 cm x 5 cm soft polypropylene mesh attached proximally to the sacrouterine/cardinal ligament, distally to the bladder neck, and laterally to the infralevator obturator fascia. Postoperative evaluation at 3-month intervals included history and physical examination using the POP-Q system, a voiding dysfunction and incontinence symptom questionnaire, the validated short form of the Urogenital Distress Inventory (UDI-6), a validated global quality-of-life question, and a postvoid residual. We performed the repair in 98 patients with a mean age of 65 years (range, 40 to 86 years). Of these, 26% underwent concomitant vaginal hysterectomy, 45% had enterocele repair, and 94% had rectocele repair. There were 2 complications, including transient ureteral obstruction due to bladder wall hematoma and 1 patient who presented with a recurrent enterocele requiring surgical repair. No patient experienced urinary retention. De novo stress urinary incontinence was seen in 3 patients; de novo urge incontinence was seen in 2 patients. Postoperative POP-Q scores showed 85% of patients with stage 0-I, 13% with stage II, and 2% with stage III anterior vaginal wall prolapse. Of patients with preoperative stress urinary incontinence, 70% reported never experiencing symptoms under any circumstances. Quality of life improved from 4.7 to 1 ( $P < 0.005$ ). Transvaginal paravaginal repair of grade III-IV cystocele using soft polypropylene mesh fixed to the obturator fascia, sacrouterine ligaments, and bladder neck area provides excellent support of the central defect repair as well as repair of the lateral defect. The operation is safe, simple, and outpatient based, and provides excellent anatomic results with minimal complications. Concomitant distal polypropylene sling did not increase the rate of complications and did not compromise results of stress urinary incontinence surgery.

#### **A Randomized, Controlled Trial Comparing Fascia Lata and Synthetic Mesh for Sacral Colpopexy.**

Culligan PJ, Blackwell L, Goldsmith LJ, Graham CA, Rogers A, Heit MH

Obstet Gynecol Surv 2005 Oct;60(10):643-644.

One hundred women with posthysterectomy vaginal vault prolapse who were scheduled for sacral colpopexy at the University of Louisville Health Sciences Center participated in this double-blind, randomized trial comparing the use of cadaveric fascia lata and polypropylene mesh. The Pelvic Organ Prolapse Quantification system (POP-Q) was used for patient evaluation preoperatively and at 3 months, 6 months, and 1 year postoperatively. Fascial lata was used in 46 patients and polypropylene mesh was used in 54. Eighty-nine women, 44 in the fascia group and 45 in the mesh group, completed the 1-year study period. The 2 groups were similar in social demographics, clinical characteristics, and operative data. Adverse events possibly related to the graft were experienced by 26% of women who received mesh and 15% of women who received fascia ( $P = .19$ ). Other surgical procedures, in tension-free tape procedures, posterior repairs, and paravaginal repairs were performed frequently and at similar rates in the 2 groups. At the 1-year examination, the rate of objective anatomic failure, as defined by Weber et al, was greater in the women who received fascia (14 of 44; 32%) compared with those who received mesh (4 of 45; 9%) ( $P = .007$ ). There were 15 instances of POP-Q point Aa (point along the distal anterior vaginal wall) and 3 of POP-Q point Ap (posterior vaginal wall) reaching at least the -1 position. There were no point C (vaginal cuff) failures. The results of the POP-Q evaluations changed over the year of observation. At the end of 12 months, significant differences in between the 2 groups were seen for the mean values of point Aa ( $P = .02$ ), point C ( $P = .04$ ), and prolapse stage ( $P = .03$ ). No differences were seen in total vaginal length, genital hiatus, perineal body, or points Ap or Bp (points along the posterior vaginal wall). When risk factors for surgical failure of sacral colpopexy, other than graft material (age, body mass index, prior prolapse or continence surgery), were subjected to univariate analysis, no significant predictors of failure were seen.

#### **Abdominal sacral colpopexy: an independent prospective long-term follow-up study.**

Higgs P, Goh J, Krause H, Sloane K, Carey M

Aust N Z J Obstet Gynaecol 2005 Oct;45(5):430-4.

#### **17{beta}-Estradiol suppresses proliferation of fibroblasts derived from cardinal ligaments in patients with or without pelvic organ prolapse.**

Liu YM, Choy KW, Lui WT, Pang MW, Wong YF, Yip SK

Hum Reprod 2005 Sep 9;.

Our results suggest that decreased fibroblast turnover may contribute to the development of POP; and ERT may not be an effective POP treatment.

**Prospective study of the effect of rectopexy on colonic motility in patients with rectal prolapse.**

Brown AJ, Nicol L, Anderson JH, McKee RF, Finlay IG  
Br J Surg 2005 Sep 26;.

**Hemorrhoidal Ablation and Fixation: An Alternative Procedure for Prolapsing Hemorrhoids.**

Gupta PJ

Digestion 2005 Sep 19;72(2-3):

Background: Many new techniques have been evolved to curb the problem of post-operative pain after hemorrhoidectomy. Stapler hemorrhoidopexy and Doppler-guided hemorrhoidal artery ligation are the two methods gaining popularity amongst proctologists. The author proposes another technique called radiofrequency ablation and fixation of hemorrhoids to add to this list. Patients and Methods: The surgical technique and clinical follow-up of 410 patients operated by this technique are presented. An Ellman radiofrequency generator was used for hemorrhoidal ablation at the output power intensity of 80. Post-defecation pain and pain at rest were assessed using a visual analogue scale. Patient satisfaction score was calculated at the mean follow-up of 60 months (range 48-72). The results in terms of mean hospital stay, post-operative pain, post-operative complications, and period of incapacity for work were compared with the published data of results of stapled hemorrhoidopexy and Doppler-guided hemorrhoidal artery ligation. Results: Pain score at first evacuation was 6. The post-defecation pain score in the first week was 4 (range 3-6) and it was 3 (range 2-5) in the second week. The mean pain score at rest in the first week was 2 (range 1-4) and 1 (range 0-2) in the second post-operative week. In the long-term follow-up at a mean of 60 months, this procedure was found in most of the cases to control prolapse, discharge, and bleeding, with no stenosis or incontinence. The recurrence rate was less than 2%. The patient satisfaction score was high. Conclusion: The results of this technique of radiofrequency ablation and fixation of hemorrhoids hold positive promises in terms of less post-operative pain, early discharge from the hospital and faster return to work. The results are comparable to stapled hemorrhoidopexy and are better than Doppler-guided hemorrhoidal artery ligation in terms of effectiveness and symptomatic relief on a long-term basis.

**5 – RETENTIONS 2005 09**

**Female voiding dysfunction.**

Olujide LO, O'sullivan SM

Best Pract Res Clin Obstet Gynaecol 2005 Sep 9;.

Female voiding dysfunction is poorly understood; it lacks standard definitions, and there is no consensus on diagnostic criteria. In the majority of women who are neurologically intact the cause is idiopathic. It affects the sufferers' quality of life, but unfortunately there is a paucity of published literature on its management. This review examines the current knowledge on the management of this common problem. Diagnosis is aimed at identifying the underlying aetiological factors, which are discussed, as well as the importance of a detailed history and focused physical examination. Investigations essential to management are outlined. Developments in the medical treatment of voiding dysfunction have been disappointing. The role of surgery is even more limited except for those with postoperative voiding problems after new-generation sling procedures. Intermittent self-catheterisation, supervised and supported by a dedicated nursing specialist, remains the mainstay of management. A multidisciplinary approach is essential to success. Emerging treatment modalities such as sacral and peripheral neuromodulation and the use of alpha(1)-blockers are discussed. Botulinum toxin A injections have been useful in some cases. There are relatively few publications on the effectiveness of these interventions in clinical practice. These issues need to be addressed by quality research. Female voiding dysfunction presents a challenge to urogynaecologists and urologists alike.

**6 – INCONTINENCES 2005 09**

**Translevator posterior intravaginal slingplasty: anatomical landmarks and safety margins.**

Smajda S, Vanormelingen L, Vandewalle G, Ombelet W, Jonge E, Hinoul P

Int Urogynecol J Pelvic Floor Dysfunct 2005 Sep-Oct;16(5):364-8. Epub 2005 Jan 27.

The posterior intravaginal sling is a new tension-free needle suspension technique. It is used for the treatment of middle compartment (vaginal vault or uterine) prolapse. The Prolene sling suspends the vagina at the upper border of level II support as described by DeLancey (Am J Obstet Gynecol 166:1717, 1992). Human cadaveric dissections were undertaken to explore the pertinent anatomy that is involved when using

this blind needle technique. Pre-dissected cadaveric material was used to obtain didactic illustrations of the anatomy of the procedure. Description of the surgical technique using anatomical landmarks and relative distances of the needle to these landmarks will improve the surgeon's visual understanding of the procedure. The measurements obtained demonstrate that the needle stays at a minimal distance of 4 cm away from the major (pudendal) vessels that could potentially cause life-threatening haemorrhage.

#### **Overactive bladder.**

Freeman RM, Adekanmi OA

Best Pract Res Clin Obstet Gynaecol 2005 Sep 19;

The overactive bladder is a common condition, which has significant effects on quality of life. The aetiology in most cases is unknown, and treatment outcomes have until recently been unsatisfactory. Management includes excluding pathology and implementing behavioural changes such as caffeine reduction, bladder and pelvic floor training, as well as antimuscarinic drug therapy. Compliance is often problematic, and this can be improved with some of the newer antimuscarinics with fewer side-effects, and a good therapist/patient relationship. In the majority of cases this 'treatment package' is successful, but in those where it is not, intravesical therapies have been introduced, e.g. neuromodulation, alternative drug therapies (e.g. vanilloids, botox) and surgery. With a better understanding of the aetiology and identification of risk factors better outcomes from treatment are likely.

#### **Midurethral Tissue Fixation System sling - a 'micromethod' for cure of stress incontinence - preliminary report.**

Petros PE, Richardson PA

Aust N Z J Obstet Gynaecol 2005 Oct;45(5):372-5.

Aims: To assess the effectiveness of the Tissue Fixation System (TFS) in patients with stress incontinence. The TFS uses two small plastic anchors to fix an (adjustable) midurethral polypropylene mesh sling into the soft tissues below the pubic bone. Patients and methods: Thirty-six patients with stress incontinence, mean age 55 (35-87), mean weight 76 kg (33-117 kg), mean 0.8 previous operations for stress incontinence, underwent a TFS midurethral sling operation. The patients were preoperatively assessed with a structured questionnaire, 24-h urinary diary, cough stress test, transperineal ultrasound, and urodynamics. Using the TFS delivery system, a midurethral mesh tape was attached to the fibromuscular tissues behind the perineal membrane. The suburethral vaginal fascia was also tightened. Post-operatively. the patients were reviewed at 6 weeks, and at 3-monthly intervals with ultrasound, and cough stress tests. Results: Primary symptomatic cure rate at mean 9 months (3-15 months) was 83.4% (n = 36). Pad test loss decreased from a mean 12.7 g to a mean of 0.2 g; mean operating time was 5 min, and mean hospital stay was 24 h (12-48 h). There were no cases of obstructed micturition, and minimal analgesia only was required postoperatively. Conclusion: The TFS is a promising new method. The results at this stage are similar to those achieved previously with the 'tension-free' tape operations, but with greater safety and shorter operating time. Testing by other surgeons will be required to evaluate this method further.

#### **Validation of a Two-Item Quantitative Questionnaire for the Triage of Women With Urinary Incontinence.**

Bent AE, Gousse AE, Hendrix SL, Klutke CG, Monga AK, Yuen CK, Meadows ES, Yalcin I, Muram D

Obstet Gynecol 2005 Oct;106(4):767-773.

OBJECTIVE: To evaluate the reproducibility, construct validity, and preferences for the 2-item Stress/Urge Incontinence Questionnaire. METHODS: The questionnaire asks a patient to recall the number of stress urinary incontinence and urge urinary incontinence episodes she experienced during the preceding week. The 4-week prospective study included 3 office visits and enrolled women with stress, urge, or mixed urinary incontinence symptoms. The test-retest reproducibility was assessed after 3 days, and the construct validity of the questionnaire was evaluated against a diary and other measures of incontinence severity and effect. The bother associated with completing (patients) or analyzing (physicians) the diary was assessed. Both groups also reported their time requirements and preferences for the questionnaire or diary. RESULTS: Reproducibility for the classification of symptoms was moderately strong ( $\kappa = .536$ ). Test-retest agreement was good (64-80%) for all but balanced mixed incontinence (38%). Intraclass correlations revealed good reproducibility for the number of stress (.694), urge (.703), and total (.726) incontinence episodes. Significant ( $P < .01$ ) correlations with other measures of incontinence established construct validity. Patients and physicians reported it took less time to complete the questionnaire than the diary, but the majority said the completion or analysis of the diary was of little or no bother and preferred the diary. CONCLUSION: The Stress/Urge Incontinence Questionnaire is a valid tool that can be used in clinical practice to differentiate between symptoms of stress and urge urinary incontinence to make an initial

diagnosis, especially in primary care where incontinence is not a focus of the practice. LEVEL OF EVIDENCE: III.

### **Severe mesh complications following intravaginal slingplasty.**

Baessler K, Hewson AD, Tunn R, Schuessler B, Maher CF

Obstet Gynecol 2005 Oct;106(4):713-6.

**OBJECTIVE:** Synthetic meshes are increasingly used in the management of stress urinary incontinence and pelvic organ prolapse. This report describes severe complications following anterior and/or posterior intravaginal slingplasties employing a multifilament polypropylene mesh. **METHODS:** We describe the symptoms, findings, subsequent management, and outcome of 19 consecutive women who have been referred with complications following anterior (n = 11) and/or posterior intravaginal slingplasty (n = 13) employing the multifilament polypropylene tape. **RESULTS:** The main indications for removal of the 11 anterior intravaginal slings were intractable mesh infection in 6 women, retropubic abscess with cutaneous sinus in one, and vesico-vaginal fistula in one, intravesical mesh and pain syndrome in one, and voiding difficulties and pain syndrome in two. The main indications for removal of the 13 posterior intravaginal slings were intractable mesh infection in three and pain syndrome and dyspareunia in 10 women. Removal of the slings was performed after a median time of 24 months post-slingplasty. At follow-up between 6 weeks and 6 months, in all women genital pain, chronic vaginal discharge and bleeding, voiding, and defecation difficulties had been markedly alleviated (5) or they had ceased (14). Twelve of 17 sexually active women (71%) resumed sexual intercourse without difficulties. Ten women required subsequent surgery for stress incontinence and pelvic organ prolapse. **CONCLUSION:** Surgeons should be aware of the potential complications of synthetic meshes. Until data on the safety and efficacy of the intravaginal slingplasties are available, these procedures cannot be recommended. LEVEL OF EVIDENCE: III.

### **Risk Factors for Female Anal Incontinence: New Insight Through the Evanston-Northwestern Twin Sisters Study.**

Abramov Y, Sand PK, Botros SM, Gandhi S, Miller JJ, Nickolov A, Goldberg RP

Obstet Gynecol 2005 Oct;106(4):726-732.

**OBJECTIVE:** To evaluate risk factors for anal incontinence using an identical twin sisters study design to provide control over genetic variance. **METHODS:** A total of 271 identical twin sister pairs (mean age 47 years) completed the validated Colorectal Anal Distress Inventory questionnaire detailing the presence and severity of anal incontinence. Data were analyzed using a stepwise logistic regression with repeated binary measures to account for correlated data within twin pairs. Three different statistical models were used to analyze nonobstetric as well as obstetric risk factors separately. **RESULTS:** Significant risk factors for anal incontinence and higher Colorectal Anal Distress Inventory anal incontinence subscale scores included age 40 years or older (fecal: odds ratio [OR] 2.82, 95% confidence interval [CI] 1.21-6.0; flatal: OR 1.90, 95% CI 1.11-3.24), menopause (fecal: OR 2.10, 95% CI 1.15-3.8; flatal: OR 2.11, 95% CI 1.43-3.13), increasing parity (parity  $\geq$  2; fecal: OR 3.09, 95% CI 1.25-7.65; flatal: OR 2.72, 95% CI 1.65-4.51), and the presence of stress urinary incontinence (fecal: OR 2.11, 95% CI 1.12-3.98; flatal: OR 1.72, 95% CI 1.14-2.59). Obesity was associated with significantly higher Colorectal Anal Distress Inventory anal incontinence subscale scores (mean difference 5.18,  $P = .007$ ). Cesarean delivery after initiation of labor was associated with a lower prevalence of anal incontinence than vaginal birth; however, this difference was not statistically significant (17% compared with 4%,  $P = .11$ ). No anal incontinence was noted in women who had only elective cesarean deliveries. **CONCLUSION:** Age, menopause, obesity, parity, and stress urinary incontinence are the major risk factors for female anal incontinence. LEVEL OF EVIDENCE: II-2.

## **7- PAIN 2005 09**

### **Insight into the treatment of vulvar pain: A survey of clinicians.**

Updike GM, Wiesenfeld HC

Am J Obstet Gynecol 2005 Oct;193(4):1404-1409.

**OBJECTIVE:** The purpose of this investigation was to determine practice patterns among clinicians who frequently treat patients with vulvar pain syndromes. **STUDY DESIGN:** A cross-sectional survey was distributed to providers in the United States whose names were on a referral list of clinicians that care for women with vulvar pain (National Vulvodynia Association, Silver Springs, MD). The survey included 2 clinical vignettes. Clinicians were asked to report what treatments they would use to treat women with generalized vulvodynia and localized vulvodynia. Data were analyzed with descriptive statistics. A comparison of categorical data was accomplished with the Fisher's exact test. **RESULTS:** Surveys were mailed to 327 providers; 167 completed surveys were returned, for an overall response rate of 51%. The most commonly

used treatment for vulvodynia was tricyclic antidepressants. There was no difference in the use of physical therapy, estrogens, injected or topical steroids, interferon, or laser therapy to treat generalized and localized vulvodynia. Respondents were more likely to use tricyclic antidepressants ( $P < .001$ ), gabapentin ( $P < .001$ ), and psychiatric care ( $P < .001$ ) and less likely to use local anesthesia ( $P < .001$ ) and vestibulectomy ( $P = .007$ ) for the clinical scenario that represented generalized vulvodynia than they were for the scenario that represented localized vulvodynia. Most clinicians reported screening for vaginal infections, and many clinicians perform colposcopy and/or vulvar biopsy. Respondents recommend a variety of lifestyle modifications in the treatment of vulvodynia. **CONCLUSION:** Clinicians use a wide variety of treatments for vulvar pain and use different therapies for variants of vulvodynia.

**A Randomized, Prospective, Double-Blind, Placebo-Controlled Trial of the Effect of a Calcium Channel Blocker Ointment on Pain After Hemorrhoidectomy.**

Silverman R, Bendick PJ, Wasvary HJ  
Dis Colon Rectum 2005 Sep 2;.

**PURPOSE:** Spasm of the internal sphincter plays a role in hemorrhoidal disease and may be a source of anal pain after hemorrhoid surgery. We have evaluated the effects of topical diltiazem, a calcium channel blocker, in reducing pain after hemorrhoidectomy. **METHODS:** After hemorrhoidectomy, 18 patients were randomly assigned to receive 2 percent diltiazem ointment ( $n = 9$ ) or a placebo ointment ( $n = 9$ ). Ointments were applied to the perianal region three times daily for seven days. Patients were prescribed hydrocodone bitartrate (Vicodin ((R))) to take as needed. The type and number of prescribed or nonprescribed medications taken during the postoperative period were recorded. Patients maintained a log to measure postoperative pain daily and perceived benefit of the ointment, using a Visual Analog Scale ranging from 0 to 10. Any postoperative morbidity noted during the follow-up period was recorded. **RESULTS:** Patients using the diltiazem ointment had significantly less pain and greater benefit than those in the placebo group throughout the first postoperative week. Postoperative pain scores in the placebo group averaged 8.8 +/- 1.2 early and diminished to 5.2 +/- 1.7 at the end of one week, compared to the diltiazem group of 5.2 +/- 2.4 early and 2.3 +/- 1.2 at the end of one week ( $P < 0.001$ , both time periods). Perceived benefit in the placebo group averaged 2.7 +/- 1.2 vs. 5.6 +/- 1.4 in the diltiazem group ( $P < 0.001$ ). Total and daily narcotic use was higher in the placebo group, but this was not statistically significant ( $P = 0.13$ ). No differences in the frequency of use of nonsteroidal anti-inflammatory drugs and acetaminophen were seen between the two groups, and there were no differences in morbidity between the two groups. **CONCLUSIONS:** Perianal application of 2 percent diltiazem ointment after hemorrhoidectomy significantly reduces postoperative pain and is perceived as beneficial, with no increase in associated morbidity. Patients using a placebo ointment tend to take more prescription narcotics for pain relief postoperatively, with a similar usage of nonsteroidal anti-inflammatory drugs and acetaminophen, although differences were not significant.

**A randomized controlled trial of a probiotic combination VSL# 3 and placebo in irritable bowel syndrome with bloating.**

Kim HJ, Vazquez Roque MI, Camilleri M, Stephens D, Burton DD, Baxter K, Thomforde G, Zinsmeister AR  
Neurogastroenterol Motil 2005 Oct;17(5):687-96.

**Aim:** To evaluate the effects of a combination probiotic on symptoms and colonic transit in patients with irritable bowel syndrome (IBS) and significant bloating. **Methods:** Forty-eight patients with Rome II IBS were randomized in a parallel group, double-blind design to placebo or VSL# 3 twice daily (31 patients received 4 weeks and 17 patients 8 weeks of treatment). Pre- and post-treatment colonic transit measurements were performed using scintigraphy with (111)In charcoal. Symptoms were summarized as an average daily score for the entire period of treatment and separately for the first 4 weeks of treatment. Weekly satisfactory relief of abdominal bloating was assessed. **Results:** Treatment with VSL# 3 was associated with reduced flatulence over the entire treatment period (placebo 39.5 +/- 2.6 vs VSL# 3 29.7 +/- 2.6,  $P = 0.011$ ); similarly, during the first 4 weeks of treatment, flatulence scores were reduced (placebo 40.1 +/- 2.5 vs VSL# 3 30.8 +/- 2.5,  $P = 0.014$ ). Proportions of responders for satisfactory relief of bloating, stool-related symptoms, abdominal pain and bloating scores were not different. Colonic transit was retarded with VSL# 3 relative to placebo (colon geometric center 2.27 +/- 0.20 vs 2.83 +/- 0.19,  $P = 0.05$  respectively). **Conclusion:** VSL# 3 reduces flatulence scores and retards colonic transit without altering bowel function in patients with IBS and bloating.

**8 – FISTULAE 2005 09**

**Martius repair in urethrovaginal defects.**

Baskin D, Tatlidede S, Karsidag SH

J Pediatr Surg 2005 Sep;40(9):1489-91.

AIM: To repair a urethrovaginal defect in childhood is a challenge for a pediatric surgeon. Martius fat-pad flap repair is being used in women successfully. Here, we report 2 girls who had Martius repair for their urethrovaginal defects. METHOD: Topical estriol and asiaticoside perineally were administered for preoperative 3 weeks to reinforce the tissues. Martius repair was done using 1-sided labial fat-pad flap. Urethral and bladder catheters were inserted. Urethral catheter was removed on postoperative day 14 and bladder catheter on day 21 after controlling residual urine. PATIENTS: Patient 1, a 6-year-old girl, had lipomeningocele repair at the age of 18 months and had an iatrogenic urethrovaginal fistula that is caused by catheter insertion. She developed urinary incontinence, and 3 primary repair attempts were unsuccessful. Patient 2 is a 5-year-old girl who had pouch colon with persistent cloacal malformation and had posterior anorectovaginourethroplasty. The urethrovaginal septum did not heal, and she was incontinent. One attempt of primary repair was unsuccessful. The urethrovaginal wall was completely open at the time of Martius repair in both patients. RESULTS: Urethral wall was completely healed after Martius repair in both patients. CONCLUSION: Martius fat-pad flap repair can be used to repair urethrovaginal fistulas in girls. It has both functionally and cosmetically good results, and neourethra is easily catheterizable.

## 9 – BEHAVIOUR, PSYCHOLOGY, SEXOLOGY 2005 09

### Sexual function and pelvic floor disorders.

Achtari C, Dwyer PL

Best Pract Res Clin Obstet Gynaecol 2005 Sep 23;

Sexual wellbeing is an important aspect of women's health. Female sexual dysfunction is multifactorial and involves physical, social and psychological dimensions. Dysfunction may result from lack of sexual desire, sexual pain or arousal, and orgasmic problems. Sexual dysfunction is common and increases with age and pelvic floor disorders such as urinary incontinence and pelvic organ prolapse. Surgical treatment of pelvic floor disorders has been poorly studied but has the potential to improve sexual satisfaction or to cause sexual difficulties. New instruments such as condition-specific sexual questionnaires have recently been developed and will help us to better evaluate the results of incontinence and prolapse surgery on sexual function.

### Sexual dysfunction: treat or refer.

Sarrel PM

Obstet Gynecol 2005 Oct;106(4):834-9.

Sexual dysfunction is common in postmenopausal women, but because this problem may be caused by several factors, the primary need for these patients is an initial assessment and accurate diagnosis by the primary care provider. Listening to the patient and clarifying her concerns are important for defining the nature of the problem, its severity and duration, and her motivation for treatment. A complete physical evaluation, including a pelvic examination and measurement of postmenopausal hormone levels, may provide important information for structuring a treatment plan to address the patient's concerns. Providing postmenopausal women with reassuring reading materials and focusing on their specific concerns about sexual dysfunction will help reduce anxiety, as will physician suggestions keyed to the patient's individual needs. Alleviation of some menopause-related sexual function difficulties with prescription medications may be warranted, and referral to a specialist for further treatment and counseling may often be the best course of action for a primary care provider. Sexual problems in postmenopausal women are usually amenable to fairly simple interventions that are within the competence of primary care professionals. This paper provides the primary care provider with a perspective on the appropriateness of treatment compared with referral for women experiencing postmenopausal sexual dysfunction.

## 10 – MISCELLANEOUS 2005 09

### Radical prostatectomy versus watchful waiting.

Marantz PR, Hall CB, Derby CA

N Engl J Med 2005 Sep 22;353(12):1298-300; author reply 1298-300.

### Modified collagen fleece, a scaffold for transplantation of human bladder smooth muscle cells.

Danielsson C, Ruault S, Basset-Dardare A, Frey P

Biomaterials 2005 Sep 17;

Several congenital and acquired diseases of the human genito-urinary tract may need, due to lack or

destruction of functional tissues, mechanically stable biomaterials as cell carriers for the engineering of these tissues. When using collagen scaffolds, both their capacity to induce tissue regeneration and their biocompatibility are advantageous characteristics to render them apt for tissue engineering. The attachment of extracellular matrix or serum proteins to their surfaces does further improve these characteristics, mimicking a close to natural cell environment. In this study, equine collagen scaffolds (TissueFleece((R))) were modified by coating fetal bovine serum proteins, before human bladder smooth muscle cells were seeded. Cell growth was evaluated by WST-1 proliferation assay and improved when using modified collagen scaffolds. However, cell penetration assessed by histology showed similar results on modified and native scaffolds. These cell-scaffold constructs were further implanted in the dorsal subcutaneous space of athymic mice. In vivo studies showed the presence of the fluorescent-labeled transplanted smooth muscle cells until day 3 and thereafter angiogenesis was induced and infiltration of mouse fibroblasts and polymorphonuclear cells were observed. The latter had completely disappeared after 3 weeks.

**Urinary tract injuries during pelvic surgery: incidence rates and predisposing factors.**

Bai SW, Huh EH, Jung DJ, Park JH, Rha KH, Kim SK, Park KH

Int Urogynecol J Pelvic Floor Dysfunct 2005 Sep 30;:1-5.

OBJECTIVE: To review the cases of urinary tract injury following major pelvic surgery that were treated in our hospital over the last 12 years, in relation to possible predisposing factors and incidence rates of injury arising in various surgical procedures. MATERIALS AND METHODS: From 8,824 major gynecological operations performed in our department, 29 cases of intraoperative urinary tract injury were found. Thirty eight patients visited the urology department during the same period for the management of urogenital fistula following pelvic surgery. Parameters that were examined included type of urinary tract injury, indication for surgery, type of operation, coexisting pathological conditions, past history of pelvic surgery or pelvic irradiation, and the delay in the recognition and management of the urinary tract injury. RESULTS: The overall incidence of urinary tract injury in pelvic surgery was 0.33%. The incidence of urinary tract injury in radical hysterectomy was higher than that of total abdominal hysterectomy(0.76 vs 0.26%). Of the intraoperative urinary tract injuries, 48.4% coexisted pelvic pathologies. Of all the cases with urinary tract injury, the most common type of operation was total abdominal hysterectomy (n=45, 67.2%), and the most common indication was uterine myoma (n=25, 36.9%). The most common type of urinary tract injury was bladder injury, including bladder laceration and vesicovaginal fistula(n=57, 76.1%). The frequency of reoperation was found to be lower in patients with a shorter delay in the recognition of the injury (p<0.05). CONCLUSION: Possible predisposing factors for urinary tract injury are coexisting pelvic adhesion, distortion of normal pelvic configuration, previous irradiation history, previous operation history, and the extent of surgery. In high-risk patients, proper evaluation is needed to avoid urology complications before operation.

**Female urethral diverticula.**

Lee JW, Fynes MM

Best Pract Res Clin Obstet Gynaecol 2005 Sep 19;.

Urethral diverticula are frequently under-diagnosed. The pathogenesis of this condition is poorly understood, and these lesions represent a spectrum of disorders ranging from isolated suburethral cysts to herniation of the urethral lining into the vaginal mucosa. Women with this disorder frequently complain of a host of symptoms referable to the lower urinary and genital tracts. Accurate diagnosis is based on history and clinical evaluation. Perineal ultrasound and MRI are often helpful. Repeated courses of antibiotics and urethral dilatation often fail to resolve the problem, and definitive intervention usually requires surgical excision to provide relief. This chapter describes the current management of this condition, and it heralds a re-look at the patho-aetiology in view of recent MRI findings of symptomatic non-communicating microcystic lesions.

**Varicose veins arising from the pelvis due to ovarian vein incompetence.**

Hobbs JT

Int J Clin Pract 2005 Oct;59(10):1195-203.

Vulval varices and perivulval veins are common though often unrecognised, and pelvic pain is a common complaint, sometimes without an obvious cause, hence treatment is not always successful. An association between these two problems has long been established, and some cases of pelvic pain are clearly associated with venous pathology. Often, these patients present to the vein clinic with recurrent varicose veins, because the standard procedures have failed and the pelvic origin was not recognised. The understanding of the pathology has evolved and will be reviewed. To establish diagnosis, the communication from the atypical varicose veins in the legs to the ovarian veins must be shown and incompetence of one or both ovarian veins must be demonstrated. Treatment requires elimination of the retrograde flow in the

ovarian veins. This can be by either surgical ligation and removal or obliteration with coils and sclerosant. Having removed the cause and relieved the pelvic symptoms, the leg veins can then be successfully treated.

#### **Ambulatory gynaecology: What can we do?**

Mikos T, Downes E

Best Pract Res Clin Obstet Gynaecol 2005 Sep 17;.

The aim of ambulatory gynaecology is to admit, treat and discharge the patient on the same day in an outpatient setting. Traditional inpatient operations are being rapidly replaced by office, outpatient or day surgery procedures. In this review, a brief assessment of current ambulatory gynaecological practice is attempted, followed by a discussion of audit and quality assessment methods. Epidemiological studies, clinical trials, socio-economic studies and meta-analyses offer research opportunities in the ambulatory setting. There is a need to review the training of junior gynaecologists and nurses in this field. At present, only a few gynaecology residency programmes offer experience in outpatient procedures and ambulatory care. Specific issues that need to be addressed include training, patient selection, consenting issues, decisions to cancel/transfer as inpatients, and the management of common gynaecological problems.

#### **Standard setting for outpatient gynaecology procedures: A multidisciplinary framework for implementation.**

Black JE, Hudson HJ, Duffy SR

Best Pract Res Clin Obstet Gynaecol 2005 Sep 9;.

This chapter describes the changing cultural background of health care from which any service is delivered. In particular, the authors hope to outline cultural, educational, technical and environmental changes that have been used as opportunities to develop a quality-assessed outpatient hysteroscopic service. Examined within the chapter will be the roles and limitations of evaluation and audit, research and the multidisciplinary team. The importance of process, relationships and collaborative working within organizations will be explored, and outpatient hysteroscopy will be used as a working example of how these inform a model of practice development.

#### **The Impact of Age and Intrauterine Contraception on the Clinical Course of Pelvic Inflammatory Disease.**

Viberga I, Odland V, Berglund L

Gynecol Obstet Invest 2005 Oct 4;61(2):65-71.

#### **T1 Adenocarcinoma of the Rectum: Transanal Excision or Radical Surgery?**

Bentrem DJ, Okabe S, Wong WD, Guillem JG, Weiser MR, Temple LK, Ben-Porat LS, Minsky BD, Cohen AM, Paty PB

Ann Surg 2005 Oct;242(4):472-479.

**BACKGROUND::** Recent studies suggest local excision may be acceptable treatment of T1 adenocarcinoma of the rectum, but there is little comparative data with radical surgery to assess outcomes and quantify risk. We performed a retrospective evaluation of patients with T1 rectal cancers treated by either transanal excision or radical resection at our institution to assess patient selection, cancer recurrence, and survival. **METHODS::** All patients who underwent surgery for T1 adenocarcinomas of the rectum (0-15 cm from anal verge) by either transanal excision (TAE) or radical resection (RAD) between January 1987 and January 2004 were identified from a prospective database. Data were analyzed using Fisher exact test, Kaplan-Meier method, and log-rank test. **RESULTS::** Three hundred nineteen consecutive patients with T1 lesions were treated by transanal excision (n = 151) or radical surgery (n = 168) over the 17-year period. RAD surgery was associated with higher tumor location in the rectum, slightly larger tumor size, a similar rate of adverse histology, and a lymph node metastasis rate of 18%. Despite these features, patients who underwent RAD surgery had fewer local recurrences, fewer distant recurrences, and significantly better recurrence-free survival (P = 0.0001). Overall and disease-specific survival was similar for RAD and TAE groups. **CONCLUSION::** Despite a similar risk profile in the 2 surgical groups, patients with T1 rectal cancer treated by local excision were observed to have a 3- to 5-fold higher risk of tumor recurrence compared with patients treated by radical surgery. Local excision should be reserved for low-risk cancers in patients who will accept an increased risk of tumor recurrence, prolonged surveillance, and possible need for aggressive salvage surgery. Radical resection is the more definitive surgical treatment of T1 rectal cancers.