

Building the Evidence Base for Postoperative and Postpartum Advice

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Recommendations for activity after obstetric and gynecologic procedures remain based on tradition and anecdote. After reviewing the current evidence base, guidelines, and practice for postdischarge instructions related to physical activity after the most common obstetric and gynecologic surgical procedures, we conclude that the available data do not support many of the recommendations currently provided. Restrictions on lifting and climbing stairs should likely be abandoned. Guidance on driving should focus on the concern regarding cognitive function and analgesics rather than concerns of wound separation/dehiscence. Given the impact of these recommendations on daily life events, consistent, evidence-based advice on when and how women can safely resume exercise, driving, working, and sexual intercourse is critical. The evidence base informing advice for most of these issues is minimal; we need prospective, well-designed studies to help guide us and our patients.

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The goal of every surgical procedure is to obtain the best clinical outcome while avoiding postoperative complications. Much work has been done in recent years to determine how best to optimize the period of

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immediate postoperative recovery during hospitalization. As a result, many prospective studies have evaluated different approaches to postoperative pain control,¹ use of nasogastric tubes,² timing of feeding,³ prophylaxis of nausea and emesis,⁴ and prophylaxis of deep venous thrombosis.⁵ An expanding base of evidence, therefore, informs modern guidelines for acute postoperative care. Recommendations for activity after discharge, however, remain based on tradition and anecdote. No consistent evidence from clinical studies as well as Cochrane database review is available. In this article, we review the current evidence base, guidelines, and practice for postdischarge instructions related to physical activity after the most common obstetric and gynecologic surgical procedures. The domains of physical activity include such specific topics as lifting, climbing stairs, driving automobiles, exercise, and vaginal intercourse, as well as more generic issues, such as resumption of household responsibilities and return to work outside the house. In addition, we include suggestions on how best to expand the base of evidence for these issues.

METHODS

We performed a Medline search using the MeSH terms “female,” “postoperative care/rehabilitation,” “postpartum period,” “automobile driving,” “gynecologic surgical procedures,” “obstetric surgical procedures,” “motor activity/physiology,” “weight lifting,” and “sexual behavior.” We also reviewed the most recent editions of standard medical textbooks in obstetrics,^{6–8} gynecology,^{9,10} and surgery,^{11–13} as well as American College of Obstetricians and Gynecologists Practice Bulletins and Committee Opinions and clinical guidelines of Royal College of Obstetricians and Gynecologists of United Kingdom.

RESUMPTION OF NORMAL ACTIVITY

Prolonged bed rest puts patients at increased risk of pneumonia and deep venous thrombosis.¹⁴ A quick return to normal activity after vaginal delivery, cesar-



ean delivery, or gynecologic surgery should decrease the likelihood of such acute complications and may result in decreasing the risk of long-term complications, such as chronic pain. For most women, normal activity includes walking, lifting, and climbing stairs. Women commonly bear greater household responsibilities than their male partners for such tasks as cooking, cleaning, shopping, as well as care of children and other relatives. Consistent guidance from health care professionals on when and how best to resume these activities should be a routine part of preoperative counseling, discharge instructions, and advice at postoperative visits.¹⁵ As noted above, the evidence supporting these guidelines is limited.

LIFTING

Most obstetrician/gynecologists recommend that their patients limit lifting in the postoperative period.¹⁶ This advice has been grounded in the belief that lifting may cause an excessive rise in intraabdominal pressure, thus increasing the risk of wound dehiscence and/or pelvic floor disorders.^{17–21} In a healthy person who has not undergone recent surgery, however, the increase in intraabdominal pressure associated with lifting is considerably less than that associated with such normal physiologic events as a Valsalva maneuver, forceful coughing, or rise from a supine to upright position. Weir et al,²² for example, found that lifting 35 lb (16 kg) from a counter or 40 lb (18 kg) from the table or floor was associated with a 40-cm of H₂O increase in intraabdominal pressure, compared with 45 cm H₂O for climbing steps, or 90 H₂O for coughing,²² an increment of 60 cm of H₂O for rise from

supine to upright position,²² and 55 mm Hg for Valsalva maneuver²³ (Fig. 1).

One animal study²⁴ evaluated the burst strength of both early and late (6 weeks) open and laparoscopic hernia repair. The investigators found that the burst strengths for early open and laparoscopic repair were 289 mm Hg and 259 mm Hg respectively, while the burst strengths for late open and laparoscopic repair were 289 mm Hg and 291 mm Hg, respectively. These pressures are far greater than any created in humans under physiologic conditions, such as Valsalva or forceful coughing, as noted above.²³ In addition, 90% of wound dehiscence occurs between the fourth and 15th days after laparotomy.¹² This observation suggests that host factors, such as malnutrition, infection, obesity, anemia, and diabetes, as well as technical factors, such as suture material, knot slippage, and suture technique, are more likely causes of wound dehiscence than lifting.^{12,15}

Despite the absence of data on this topic, many physicians advise their patients to restrict lifting after surgery.^{16,22} A review of 93 different educational leaflets from United Kingdom hospitals for women undergoing hysterectomy found that lifting was almost always included in the list of things to avoid after surgery. The most common advice was “no heavy lifting for three months after surgery.”²⁴ A survey of 355 Danish gynecologists found highly variable recommendations for restrictions on lifting after vaginal repair. These ranged from avoiding lifting weights greater than 0.5 kg for 8 weeks to avoiding lifting weights more than 15 kg for 2 weeks.²⁶ The American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists’ (ACOG) book

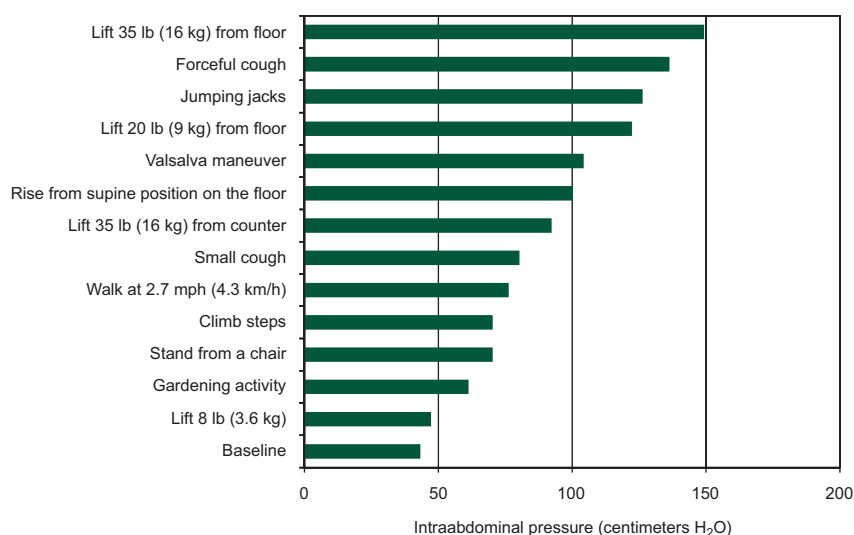


Fig. 1. Median intraabdominal pressures recorded among 30 women during various activities. Data from Weir LF, Nygaard IE, Wilken J, Brandt D, Janz KF. Postoperative activity restrictions. *Obstet Gynecol* 2006;107:305–9 and Guttormson R, Tschirhart J, Boysen D, Martinson K. Are postoperative activity restrictions evidence-based? *Am J Surg* 2008;195:401–4.

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Guidelines for Perinatal Care (6th edition) says “for women with a cesarean delivery, additional precautions may be appropriate such as abstinence from lifting objects heavier than the newborn.”²⁷

Maintaining muscle mass and level of fitness would seem, therefore, to be more important than avoiding heavy lifting after surgery, particularly in the light of data suggesting that lifting increases intraabdominal pressure much less than Valsalva, forceful coughing, or rising from supine to erect position,^{22,23,28} all of which patients are generally encouraged to do from their first postoperative day onward. Several studies have documented the development of muscle atrophy and impaired muscle protein synthesis during 15–30 days of inactivity.²⁹

A prospective cohort study of a postoperative patient population encouraged to participate in a regular program of exercise, including moderate lifting, would be able to give us some firm evidence on this topic. In addition, one could consider a trial in which postoperative women were randomly assigned to lifting weights lighter than they used before surgery or lifting the same weights as before surgery. Until prospective data are available, it might be more reasonable to recommend that women’s lifting patterns continue as before surgery. In the ideal world, recommendations on lifting from the primary surgeon, the house staff, and the nursing team should be consistent. It is also important to note that lifting may cause an increase in incision pain. An adequate analgesic regimen, however, will permit postoperative patients to resume normal activities, including lifting.

CLIMBING STAIRS

Many women routinely climb stairs at home, at work, or as part of normal activities. Surgical instructions frequently recommend limiting stair climbing in the immediate postoperative period, presumably for fear of increasing intraabdominal pressure and thus increasing the risk of wound dehiscence,^{18–20} as well as postoperative concern with balance and potential for falls. As noted above, there is no evidence that climbing stairs increases abdominal pressure any more than lifting. In addition, climbing stairs and lifting both are associated with smaller increases in intraabdominal pressure than forceful coughing, Valsalva, or rise from supine to erect position.^{22,23} As previously mentioned, one could include climbing stairs in a prospective cohort study or randomized trial among postoperative patients. Until prospective data are available, it might be more reasonable to recommend that women’s stair-climbing patterns continue as before surgery, although patients should be

advised to use handrails on stairs routinely with caution to avoid falls. As with lifting, recommendations on climbing stairs from the primary surgeon, the house staff, and the nursing team should be consistent. Increased exercise, such as climbing stairs, may well cause an increase in postoperative pain. An analgesic regimen that permits patients to resume normal activities, including stair climbing, must remain a critical part of postoperative management.

BATHING AND SWIMMING

Perhaps due to concerns of submerging an abdominal incision, baths are generally not recommended by some physicians for 2 to 6 weeks after surgery despite no evidence to suggest that bathing causes a risk of wound infection among postpartum or postoperative gynecologic patients. Once the abdominal bandage has been removed, in the absence of wound complications, there is no evidence that a tub bath is harmful. Concerns for swimming are similar; the presence of an “open wound” is a contraindication in communal pools. There is a concern not only for the pool from the wound but also for the potential of the pool water containing material that could infect the wound. It is likely, however, that once the incision is scarred, which occurs 7–10 days after operation, the restriction of bathing and swimming is unfounded. After childbirth, the presence and intensity of the lochia and vaginal bleeding will limit swimming and bathing. There is also no evidence that showering should be restricted after cesarean delivery, abdominal gynecological surgeries, vaginal deliveries, or vaginal surgeries.

DRIVING AUTOMOBILES

For many women, driving automobiles is part of normal daily activities, whether as part of family responsibilities, commuting to work, or recreation. Postoperative limitations on driving, therefore, may considerably slow an individual women’s return to normal activity. The traditional recommendations against early resumption of driving have primarily stemmed from three concerns. First, opiate analgesics in the postoperative period may cloud the sensorium, leading to drowsiness and/or mistakes while driving.³⁰ Second, surgeons have expressed concern that patients might hesitate to brake suddenly for fear of increased postoperative pain.³¹ Third, surgeons have expressed concern that the physical motions associated with driving might cause wound separation or dehiscence.¹⁷

Use of any medication, including opiate analgesics, which cause drowsiness, would clearly contraindicate driving an automobile.³⁰ Many patients in the



acute postoperative period are able to graduate to nonsteroidal analgesics for pain control, however, with occasional use of opiate analgesics at bedtime to help promote sleep.³⁰ Women who are only taking nonsteroidal analgesics for pain control, therefore, should be able to resume driving at least short distances. To date, there is no evidence that fear of increased postoperative pain from sudden braking had led to an increased risk of accidents among drivers recuperating from surgery.³² There is also no evidence that resumption of driving is associated with an increased risk of wound separation or dehiscence.^{31,33} Recommendations about resumption of driving, therefore, should be based on cognitive function and analgesic regimen, not upon unfounded fears of wound complications.

The AAP/ACOG *Guidelines for Perinatal Care* (6th edition) says “for women with a cesarean delivery, additional precautions may be appropriate such as abstinence from driving motor vehicles.”²⁷ In the United Kingdom, the agencies responsible for licensing drivers and vehicles have stated that surgeons are responsible for giving advice to their patients about when to resume driving.³¹ Surveys of general,³³ orthopedic,³⁴ and gynecologic surgeons³¹ demonstrate considerable variability in advice given to patients on this topic. General surgeons in the United Kingdom, for example, advised patients undergoing surgical repair of groin hernias that they could resume driving at times ranging from the day of surgery to 2 months after surgery.³³ More than half of Irish obstetrician/gynecologists surveyed recommended that women who underwent laparoscopy could resume driving “as soon as they can do an emergency stop.”³¹ For patients undergoing vaginal repair, 25% of this group recommended resuming driving “as soon as they can do emergency stop,” while almost 40% recommended waiting until 6 weeks after surgery.³¹ For patients undergoing abdominal/pelvic surgery or cesarean delivery, more than 20% recommended driving “as soon as they can do emergency stop” while more than 50% recommended waiting until 6 weeks after surgery. The majority of these obstetrician/gynecologists reported that their recommendations were based upon common sense and traditional practice, but they also expressed a desire to have evidence-based guidelines on the topic.³¹

Nunez et al³² have suggested that postoperative patients should first try the pedals and hand controls in a stationary car. If patients then feel confidence about handling these controls, then they should take the care for a short journey accompanied by another

adult, who could, if necessary, drive the car should the patient feel unable to continue driving.

A prospective cohort study of postoperative patients might be useful to address a number of issues regarding return to normal activity, including when to resume driving after surgery. As mentioned above, appropriate analgesic regimens are critical to ensure that patients are able to resume activity with minimal discomfort (Table 1).

RESUMING VAGINAL INTERCOURSE

The resumption of vaginal intercourse after childbirth or major gynecologic surgery is clearly an issue of great importance to women and their partners. This topic should be addressed explicitly and consistently both before and after childbirth or surgery.

Resuming Vaginal Intercourse After Childbirth

The potential risks of intercourse within the first several weeks after delivery would include endometritis as well as disruption of episiotomy and repaired lacerations. Vaginal and vulvar discomfort after vaginal delivery, as well as the relative presence or absence of libido, can also influence a woman's desire to renew sexual intimacy. In addition, the relatively low progesterone levels associated with lactation may cause vaginal dryness and dyspareunia.³⁵ The only data on which to base recommendations consist of prospective and retrospective studies in which women were asked to report when they resumed intercourse.^{36,37} In most studies, the average time to resumption of intercourse ranged between 5 and 8 weeks.³⁶⁻³⁹ One recent study found that increased maternal age, young age of the newborn, reduced parity, current breastfeeding, and the presence of vaginal tears at time of delivery were negatively associated with the resumption of sexual activity after delivery.⁴⁰ Byrd et al³⁷ reported that women who undergo a cesarean delivery resume sexual intercourse earlier than women who have a spontaneous vaginal delivery.

Physicians typically recommend that women may consider resuming sexual intercourse 2 to 4 weeks after delivery.⁴⁰⁻⁴² In the absence of data, it seems reasonable to counsel patients and their partners that the decision to resume intercourse after childbirth should be made mutually. The AAP/ACOG *Guidelines for Perinatal Care* (6th edition) state that the earliest time at which coitus may be resumed safely after childbirth is unknown, but that the risks of hemorrhage and infection are minimal by 2 weeks postpartum.²⁷ In addition, due to the relative low level of progesterone in the postpartum state, women and their



Table 1. Evidence Supporting Advice

Advice	Evidence	Our Recommendations	Future Research
Lifting	Lifting increases intraabdominal pressure much less than Valsalva, forceful coughing, or rising from supine to erect position ²²	<ol style="list-style-type: none"> 1) Patients should continue lifting patterns continue as before surgery 2) Patients need an adequate postoperative analgesic regimen 3) Preprocedure and postprocedure recommendations should be consistent 	<ol style="list-style-type: none"> 1) Prospective cohort study of patients encouraged to resume regular exercise program 2) Trial in which women are randomly assigned to lift weights lighter than before surgery or lift the same weights as before surgery
Climbing stairs	Climbing stairs increases intraabdominal pressure much less than Valsalva, forceful coughing, or rising from supine to erect position ²²	<ol style="list-style-type: none"> 1) Patients should continue climbing stairs as before surgery 2) Patients need an adequate postoperative analgesic regimen 3) Preprocedure and postprocedure recommendations should be consistent 	Prospective cohort study of patients encouraged to resume regular exercise program, including climbing stairs
Driving	No retrospective or prospective evidence	<ol style="list-style-type: none"> 1) Patients need an appropriate postoperative analgesic regimen that does not cause a clouded sensorium when driving 2) Patients may resume driving when comfortable with hand and foot movements required for driving 3) Preprocedure and postprocedure recommendations should be consistent 	Prospective cohort study of women encouraged to resume normal activities, including driving
Exercise	Limited retrospective and prospective evidence. Forceful coughing increases intraabdominal pressure as much as jumping jacks ²²	<ol style="list-style-type: none"> 1) Patients need an appropriate postoperative analgesic regimen 2) Patients may resume preprocedure exercise level 3) Exercise program may need to be tailored for postpartum women 4) Preprocedure and postprocedure recommendations should be consistent 	Prospective interventional studies to encourage women to resume exercise programs, as well as build strength and cardiovascular health
Vaginal intercourse	No consistent retrospective evidence; no prospective evidence	<ol style="list-style-type: none"> 1) Women and their partners should make the decision to resume intercourse mutually 2) Women should use vaginal lubricants and sexual positions permitting the woman to control the depth of vaginal penetration 3) Women should use appropriate contraception after childbirth 4) Preprocedure and postprocedure recommendations should be consistent 	Prospective interventional studies aimed to help women resume sexual intimacy after gynecologic surgery; such studies should capture data on incidence of vaginal vault dehiscence and its associated factors
Returning to work	No consistent prospective or retrospective evidence	<ol style="list-style-type: none"> 1) Women should be encouraged to return to work relatively soon postprocedure 2) Consider graded return to work. 3) Preprocedure and postprocedure recommendations should be consistent 	Prospective studies evaluating the optimal strategies to permit women to return to effective work

partners should routinely use a vaginal lubricant when resuming intercourse after delivery. A sexual position in which the woman is on top may also give her more control over the depth of vaginal penetration. In addition, in the absence of a tubal ligation or vasectomy, the

couple should be aware of the potential for ovulation and thus the need for appropriate contraception. Prospective studies to evaluate interventions to strengthen sexual intimacy after childbirth may expand the base of evidence on this issue (Table 1).



Resuming Vaginal Intercourse After Hysterectomy

There are few if any prospective data which might inform recommendations as to when patients can safely resume vaginal intercourse after hysterectomy. The potential risks from vaginal intercourse would include infection and disruption of the vaginal vault closure. Clearly, patients who have had a supracervical hysterectomy should be at lower risk of transvaginal ascending infection and at no risk of disruption of a nonexistent vaginal vault closure. Retrospective studies of patients who experienced a dehiscence of the vaginal vault closure after hysterectomy do not provide a consistent pattern.⁴²⁻⁴⁴ One case series reported by De Iaco et al⁴⁴ found that four of five patients aged less than 50 years who experienced vaginal vault dehiscence reported that intercourse was the triggering event. Among these women, the mean time of vault dehiscence from surgery was 2.6 months. In another literature review reported by Ramirez and Klemer,⁴² the median time to dehiscence of the vaginal vault closure was 6 months after abdominal hysterectomy (range 3 days to 380 months; median age of patients 45 years) and 20 months after vaginal hysterectomy (range 1 day to 180 months, median age of patients 40 years). As with abdominal incisions, the factors that contribute to dehiscence of the vaginal vault closure would include surgical technique, the suture utilized for closure, and infection or hematoma of the vaginal cuff, as well as such host factors as age, menopausal status, prior pelvic radiation therapy, and diabetes mellitus.^{42,45} The median time to vaginal vault dehiscence in the retrospective series, however, suggests the primary issue is the inherent short- and long-term strength of the incision rather than the timing of sexual intercourse.⁴⁶

In the absence of data, it would seem prudent to reiterate the same recommendations regarding resuming sexual intercourse after vaginal delivery. The decision to resume intercourse should be mutual. One survey⁴⁷ found that more than 15% of women expressed a desire to initiate sexual activity during the first month after hysterectomy. Presumably, an equal or higher percentage of their partners had the same desire. Women and their partners should be encouraged to use vaginal lubricants, as removal of the cervix removes a major source of the normal lubrication associated with sexual arousal. As hysterectomy generally reduces vaginal length, sexual positions with the woman on top may permit her to control the

depth of vaginal penetration and thus put less pressure on the suture line at the vaginal vault. Gynecologic surgeons, house staff, and nurses should give a consistent message to patients and their partners on this issue before surgery, after surgery while in the hospital, and at postoperative visits.

Prospective studies aimed at helping patients resume sexual intimacy after gynecologic surgery should capture information on incidence of vaginal vault dehiscence.

Resuming Exercise

Although resumption of normal activity and exercise within a week or 10 days after delivery will help a woman maintain fitness levels, the type of exercise may need to be tailored to the postpartum period. Women should be counseled regarding the possibility of transient postpartum stress urinary incontinence. Those women may require a different exercise regimen until resolution of their urinary symptoms. The ACOG Committee Opinion, "Exercise During Pregnancy and the Postpartum Period,"⁴⁸ states that prepregnancy exercise routines may be resumed gradually as soon as it is physically and medically safe, with some women able to resume an exercise routine within days of delivery. Several studies have noted that women's level of participation in exercise programs drops off after the birth of a child, often leading to a gain in body mass index.^{49,50} It is important, therefore, for health care practitioners to encourage women to resume physical activity, which may include work for pay, soon after childbirth.

RETURNING TO WORK OUTSIDE THE HOME

In most modern postindustrial societies, women comprise at least 50% of the workforce.⁵¹ In preindustrial agricultural societies, women often comprise more than 50% of the workforce. When a woman returns to work after childbirth or gynecologic surgery, she has major implications for her own financial, social, and psychological well-being, as well as her colleagues, supervisor, and employer.

Returning to Work After Childbirth

Obstetric textbooks define the postpartum period as that time required for the reproductive organs to return to their nonpregnant state, a process which takes approximately 6 weeks.⁶ However, many women continue to experience mild-to-moderate discomfort, including breast soreness, lack of sleep, back pain, pelvic pain, difficulty sleeping, and changes in bowel and urinary habits.⁵² In addition, a woman's



successful resumption of both work and family commitments are likely to be influenced by personal factors such as her preexisting health status, whether she is breastfeeding, and the availability of social support from family and friends, in addition to the presence or absence of safe and affordable child care.⁵²

According to the Guidelines for Perinatal Care (6th edition), "Although physiologic considerations indicate that a woman can return to a normal work schedule 4–6 weeks after delivery, attention also should be given to maternal-infant bonding."²⁷ There are little prospective data on which to base guidelines for return to work after childbirth. According to data collected by the 2000 United States Census,⁵³ 60% of first-time mothers had returned to work by 3 months after giving birth between 1996 and 2000. The time period of 3 months is also reflected in the United States Family and Medical Leave Act (1993), which states that parents are "entitled to 12 weeks of full-time, job-protected leave from work in association with child birth or adoption."⁵³ National laws in Europe guarantee paid leave for women in pregnancy and the postpartum period for 16 weeks in the Netherlands⁵⁴ and France and 22 weeks in Italy.^{55–57} These time periods are presumably based on the time thought necessary to facilitate lactation and begin the integration of a new child into family life, as well as permit a woman to regain her strength after delivery.

Returning to Work After Gynecologic Surgery

There have been relatively few prospective studies evaluating health outcomes when individuals resume work after surgery.^{58,59} Nonetheless, both in the United States⁶⁰ and the United Kingdom,^{61,62} national guidelines, which set out the normal parameters for patient recovery after different surgical procedures, have been developed. It is unclear what data were used to define these parameters. Diffusion of these guidelines among health care practitioners has been inconsistent. One recent British survey, for example, found that 100% of gynecologic surgeons polled were unaware of the existing United Kingdom guidelines.⁶³

As a result, there is great variability in advice given patients on when they should resume work after surgery. For example, one survey of gynecologists in the United Kingdom revealed that the recommendations when best to return to work after hysterectomy ranged from 1 to 10 weeks, with a mean of 6 weeks.⁶³ Danish gynecologists, when asked about recommendations for return to work after vaginal repair recommended a median of 4 weeks off work (range 1–8 weeks) for light manual

workers and a median of 6 weeks off work (range 3–12 weeks) for heavy manual workers.²⁶

There may also be inconsistency between the primary gynecologic surgeons, the house staff, and nursing staff in the advice they give patients on this issue.⁶⁴ Several studies have shown, however, that women are likely to return to work earlier if they are given preoperative counseling as to when they should expect to return to work,^{63,65,66} as well as postoperative encouragement to return to work. In actual practice, the nature of work itself has been shown to correlate with the duration of time off work. Patients whose work consisted of office activities were sooner to return to work than those who had light manual responsibilities,⁶³ who were in turn sooner to return to work than those with heavy manual responsibilities. In addition, those who were self-employed generally returned to work sooner than those who worked for others.⁶³ Among cancer patients, discretion over working hours and the presence of a supportive working environment were factors that were associated with a successful return to work.⁶⁷

Anecdotally, a graded return to work appears to be more effective than an abrupt transition from a postoperative period of no work to full-time work. Returning to work at first part-time may permit individuals to regain confidence and stamina before they resume full-time work.

Prospective studies evaluating the optimal strategies to permit women to return to effective work after gynecologic surgery are needed. Such studies might help inform guidelines for employers, patients, and health care providers. In addition, dissemination and diffusion of evidence-based guidelines would help ensure consistency for all parties (Table 1).

CONCLUSION

Resumption of usual activities after childbirth or gynecologic surgery helps integrate women back into their normal life. Available data do not support many of the recommendations currently provided. Restrictions on lifting and climbing stairs should be reconsidered. Guidance on driving should focus on the concern regarding cognitive function and analgesics rather than concerns of wound separation/dehiscence. Given the impact of these recommendations on daily life events, consistent, evidence-based advice on when and how women can safely resume exercise, driving, working, and sexual intercourse is critical. The evidence base forming advice for most of these issues is minimal; we need prospective, well-designed studies to help guide us and our patients (Table 1).



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