Management of Abnormal Uterine Bleeding in Adolescents

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Learning Objectives

1. Review terminology and causes of abnormal uterine bleeding
2. Outline the clinical evaluation of the patient with abnormal uterine bleeding
3. Discuss treatment options with emphasis on extended oral contraceptives
Abnormal Uterine Bleeding (AUB)

• It is one of the most common medical problems in adolescents (12-37%)
• It includes several different types of bleeding patterns.
• The terminologies are not agreed upon.

Menorrhagia

- Prolonged (more than 7 days) or excessive (greater than 80 ml) uterine bleeding occurring at regular intervals

Heavy Menstrual Bleeding (HMB)

- Heavy menstrual blood loss, regardless of the pattern of the cycles
- Synonymous with hypermenorrhea

**Polymenorrhea**: Frequent irregular bleeding at less than 18-day intervals.

**Oligomenorrhea**: Infrequent irregular bleeding at intervals of more than 45 days.

**Metrorrhagia**: Intermenstrual bleeding between regular periods.
Dysfunctional Uterine Bleeding

Excessive, prolonged or unpatterned bleeding from the uterine endometrium that is unrelated to anatomic lesions of the uterus.
Dysfunctional Uterine Bleeding

• The most common cause of DUB is anovulation secondary to a disturbance of the normal hypothalamic-pituitary-ovarian axis.
• ACOG considers DUB synonymous with anovulatory uterine bleeding.
Anovulation

• The adolescent female often has anovulatory cycles for the first 2-4 years.

• Anovulation is the most common cause of AUB in adolescents.

Anovulation

• No cyclic production of progesterone
• A state of unopposed estrogen occurs
• The endometrial lining becomes abnormally thickened
• Spontaneous superficial breakage of lining results in asynchronous bleeding
Differential Diagnosis of Abnormal Uterine Bleeding (AUB)

- Bleeding (coagulation) disorders
- Medications
- Uterine polyps or myomas
- Trauma / sexual assault
- Foreign body
Differential Diagnosis of AUB

- Pregnancy: abortion, ectopic, GTD
- Genital tract infection
- Neoplasms of the genital tract
- Endocrine disorders
Endocrine Disorders

• Anovulation
• Polycystic ovarian syndrome
• Hyperprolactinemia
• Thyroid disorder
Bleeding (Coagulation) Disorders

- Prevalence rates range from 7 to 48% of adolescents with heavy menstrual bleeding
- Low threshold for screening

Bleeding (Coagulation) Disorders:

- Von Willebrand disease
- Immune thrombocytopenic purpura or platelet function defects
History

• Age of menarche; Last menstrual period
• Menstrual interval; Duration of flow
• How heavy? (How often does patient change pad or tampon during a school day? Is she passing clots?)

• Heavy: changing a pad every 1-2 hours; >6 pads/day; passing clots; anemia

History

• Medications
  – Contraceptive agents; seizure or psychotropic medications

• Sexual history

• Bleeding after surgery, wounds or tooth extraction
Review of Systems

- Hirsutism
- Acne
- Galactorrhea
- Weight changes
- Abnormal bruising or bleeding
- Stress
Physical Examination

- Tanner staging
- Weight / BMI
- Acne
- Hirsutism

- Source of bleeding
- Foreign body
- Pregnancy
- Neoplasm
Laboratory Evaluation

- CBC, TSH
- Pregnancy test, if indicated
- PCR (if sexually active)
- If patient has hirsutism:
  - Total testosterone
  - DHEAS
  - 17OH Progesterone
Laboratory Evaluation

- PT, PTT
- Von Willibrand screen if history of excessively heavy bleeding or anemia

* Do Von Willibrand testing before starting hormone therapy
Management

• Tranexamic acid
• Combined contraceptive hormones
• Progestins: pills, injections, implants or LNG-IUS
Combined Contraceptive Hormones

- Combined oral contraceptives (COC)
- Transdermal patches
- Vaginal rings
Benefits of Combined Contraceptive Hormones

- Regular, predictable menses
- Shorter, lighter menses
- Less menstrual pain and premenstrual symptoms
- Can extend pills/ring and space out menses
Concerns of COC

• Must remember to take a pill daily
• Possible side effects: breakthrough bleeding, weight gain, nausea, headaches, venous thromboembolism
Reasons To Modify The Standard 21/7 COC Regimen

- Decreases estrogen withdrawal symptoms during the hormone free interval: headaches, bloating, pelvic pain, & breast tenderness
- Helps prevent: endometriosis anemia, ovarian cysts, seizures, etc
- Convenience

Changing the Standard COC Regimen: Current/Future Ideas

1. Shorten the hormone free interval from 7 days to 3 to 5 days to provide greater ovarian suppression and decrease the incidence/severity of hormone withdrawal symptoms

2. Extend the # of days of active OCs to greater than 21 days

3. Add estrogen during the hormone free interval
Types of COC Use

• Cyclic: 21/7 24/4
• Extended: 6 weeks on/4 days off or 84/7
• Continuous

*Vaginal ring can also be used in a continuous fashion
Extended COC Regimen: Helpful Hints

• When initiating COCs, begin with the standard regimen for 3-4 months because of high incidence of BTB.
• Have patient return during the third or fourth cycle to assess compliance & side effects
Extended COC Regimen: Helpful Hints

• If patient having withdrawal symptoms during the hormone free interval or wants to delay menses, discuss extending the active pills.
• Instruct to extend active pills to 6-9 weeks or until BTB occurs; take a 3- 4 day hormone free interval and restart (relabel pack to correct day of week).
Extended COC Regimen: Helpful Hints

• Or do continuous pill regimen (see instructions- “Rule of 3’s”)  
• Make sure your patient understands and is comfortable with this extended or continuous regimen; if not, use standard regimen or 84/7 COC
Extended COC Regimen: Negatives

• Increases counseling time in the office; your patient must understand how to extend

• Side effects?? - no extensive data; studies underway
Extended COC Regimen: Negatives

• Possibly increased cost because more active weeks per year (prescribe 3 months at a time/4 packs)
• Some insurances/pharmacy will only give patient one pack at a time
• Confusing for some patients
Extended COC Regimen: Negatives

- Increased lifetime steroid use, but no theoretical reason to anticipate increased complications (i.e. DVT, MI, stroke, etc.); no extensive data
- No reported increase in complications; extended regimens used for decades in patients with endometriosis
Which pill do I pick?

If heavy, prolonged or painful bleeding:
COC with a strong progestin-
Levonorgestrel or Norgestrel

If acne, hirsuitism, weight concerns, PMDD:
COC with a less androgenic progestin-
Desogestrel or Drospirenone
## COC-strong progestins

<table>
<thead>
<tr>
<th>Original Brand Name</th>
<th>Branded Generic Names</th>
<th>Ethinyl Estradiol</th>
<th>Progestin (mg)</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nordette Levlen</td>
<td>Levora Portia</td>
<td>30</td>
<td>Levonorgestrel 0.15</td>
<td>21/7</td>
</tr>
<tr>
<td>Alesse</td>
<td>Leviite Aviane Lessina Lutera Sronyx</td>
<td>20</td>
<td>Levonorgestrel 0.1</td>
<td>21/7</td>
</tr>
<tr>
<td>Seasonale</td>
<td>Quasense Jolessa</td>
<td>30</td>
<td>Levonorgestrel 0.15</td>
<td>84/7</td>
</tr>
<tr>
<td>Seasonique</td>
<td>Intera</td>
<td>30</td>
<td></td>
<td>84/7 EE</td>
</tr>
<tr>
<td>Lo/Ovral</td>
<td>Low-Ogestrel Cryselle</td>
<td>30</td>
<td>Norgestrel 0.3</td>
<td>21/7</td>
</tr>
</tbody>
</table>
## COC-medium strength progestins

<table>
<thead>
<tr>
<th>Product</th>
<th>Composition</th>
<th>Days</th>
<th>Progestin Type</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ortho-Novum</td>
<td>Necon 1/35</td>
<td>35</td>
<td>Norethindrone 1</td>
<td>21/7</td>
</tr>
<tr>
<td></td>
<td>Nortel 1/35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Norinyl 1+35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ortho Novum 777</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modicon</td>
<td>Brevicon</td>
<td>35</td>
<td>Norethindrone 0.5</td>
<td>21/7</td>
</tr>
<tr>
<td></td>
<td>Necon 0.5/35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nortel 0.5/35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ortho Novum 777</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovcon-35</td>
<td>Baiziva</td>
<td>35</td>
<td>Norethindrone 0.4</td>
<td>21/7</td>
</tr>
<tr>
<td>Femcon FE (chewable)</td>
<td></td>
<td>35</td>
<td></td>
<td>21/7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loestrin Fe 1/20</td>
<td>Junel Fe 1/20</td>
<td>20</td>
<td>Norethindrone acetate 1</td>
<td>21/7</td>
</tr>
<tr>
<td></td>
<td>Microgestin Fe 1/20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loestrin 24 Fe</td>
<td></td>
<td>20</td>
<td></td>
<td>24/4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(with iron)</td>
</tr>
<tr>
<td>Loestrin Fe 1.5/30</td>
<td>Junel Fe 1.5/30</td>
<td>30</td>
<td>Norethindrone acetate 1.5</td>
<td>21/7</td>
</tr>
<tr>
<td></td>
<td>Microgestin Fe 1.5/30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demulen 1/35</td>
<td>Kelnor 1/35</td>
<td>35</td>
<td>Ethynodiol diacetate 1</td>
<td>21/7</td>
</tr>
<tr>
<td></td>
<td>Zovia 1/35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ortho-Cyclen</td>
<td>Sprintec</td>
<td>35</td>
<td>Norgestimate 0.25</td>
<td>21/7</td>
</tr>
<tr>
<td></td>
<td>Mononessa</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## COC-less androgenic progestins

<table>
<thead>
<tr>
<th>Original Brand Name</th>
<th>Branded Generic Names</th>
<th>Ethinyl Estradiol</th>
<th>Progestin (mg)</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desogen</td>
<td>Apri</td>
<td>30</td>
<td>Desogestrel 0.15</td>
<td>21/7</td>
</tr>
<tr>
<td>Ortho-Cept</td>
<td>Reclipsen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mircette</td>
<td>Kariva</td>
<td>20</td>
<td></td>
<td>21/2/5 EE 10 mcg</td>
</tr>
<tr>
<td></td>
<td>Azurette</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yasmin</td>
<td>Ocella</td>
<td>30</td>
<td>Drosperinone 0.3</td>
<td>21/7</td>
</tr>
<tr>
<td>Yaz</td>
<td>Gianvi</td>
<td>20</td>
<td></td>
<td>24/4</td>
</tr>
</tbody>
</table>
Other Progestins that alter menstrual bleeding

- LNG-IUS
- Depot medroxyprogesterone acetate (DMPA)
- Levonorgestrel implants
- Progesterone only oral contraceptives
Levonorgestrel Intrauterine System (LNG IUS)

- Levonorgestrel 20 mcg/day
- Steroid reservoir
- 32 mm

levonorgestrel 20 mcg/day
LNG IUS Counseling: Changes in Bleeding

- Bleeding characteristics:
  - 1 – 4 mo frequent spotting
  - 1 – 6 mo reduced duration and amount of bleeding
  - Reduction in menstrual blood loss
  - After 12 mo, about 20% have no bleeding

LNG IUS Counseling: Absence of Bleeding

• Local effect
  – No proliferation of endometrium

• This is expected. It is not a sign of:
  – Pregnancy
  – Ovarian or pituitary dysfunction
  – Menopause

• Rapid return to menstruation after removal
Changes in the endometrium during normal menstrual cycle

- Days of cycle
- Months
- Ovulation

LNG IUS: Endometrial Effect
LNG IUS: Endometrial Effect

Endometrium in "resting state" with LNG IUS

Months
1  2  3  4  5  6  7  8  9  10  11  12

Days of cycle
1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  1  2  3  4

Ovulation
DMPA Intramuscular Injections

- Menstrual changes occur in almost all users
- Most experience unpredictable bleeding patterns in first few months of use
- With continued use, frequency and length of bleeding episodes decreases with most becoming amenorrheic over time
Levonorgestrel Implants

- Menstrual changes occur in almost all women
- During the first year, the majority (2/3’s) experience irregular bleeding with the remainder having regular menses (1/4) or amenorrhea (about 10%)
- Over 5 years of use, the majority eventually resume a regular bleeding pattern
Bleeding Patterns in Norplant Users

- Regular Cycles
- Irregular Cycles
- Amenorrhea

Year 1 | Year 2 | Year 3 | Year 4 | Year 5
--- | --- | --- | --- | ---
0 | 10 | 20 | 30 | 40
50 | 60 | 70 | 80 | 90

*Obstet Gynecol 1991; 77: 256*
# Progestin Only Oral Contraceptive

<table>
<thead>
<tr>
<th>Original Brand Name</th>
<th>Branded Generic Names</th>
<th>Progestin</th>
<th>Regimen continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norethindrone</td>
<td>Camila</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Errin</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Micronor</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nor-Q-D</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jolivette</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norgestrel</td>
<td>Ovrette</td>
<td>0.075</td>
<td></td>
</tr>
</tbody>
</table>
Conclusion

1. AUB in adolescents is a common problem.
2. The initial evaluation of the patient can be started by the pediatrician.
3. Treatment can be initiated with a combined oral contraceptive in a cyclic manner.
4. Extended or continuous COC is the most common treatment, but LNG-IUS is also being used in certain situations.
STOP HERE
Trends in HRT

<table>
<thead>
<tr>
<th>Traditional HRT regimens</th>
<th>More recent HRT regimens</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Days 1-25 estrogen</td>
<td>• Continuous estrogen with cyclic progestin</td>
</tr>
<tr>
<td>• Days 16-25 progestin</td>
<td>• Continuous combined</td>
</tr>
<tr>
<td>• Days 26-31 no meds</td>
<td></td>
</tr>
</tbody>
</table>
Trends in Oral Contraceptives

Traditional OC regimens
- Days 1-21 EE+P
- Days 22-28 Placebo
- Shift to lower doses of estrogen
- Shift to less androgenic progestins

More recent OC regimens
- Less hormone free days
- Extended regimen
- New progestins
Contraceptive Effects on Menstruation: SUMMARY

- Most women prefer lighter, less frequent menses
- Current and future contraceptive methods will favorably affect menstruation
- Counseling regarding alterations in menstruation will be critical to initiation and continuation of these contraceptive methods
Contraceptive Effects on Menstruation: Elimination of Monthly Menses

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Professor
Texas A&M College of Medicine
Director, Division of Ambulatory Care
Department of Ob/Gyn
Director, Scott and White Sex Education Program
Scott and White Clinic/Hospital, Temple, Texas
<table>
<thead>
<tr>
<th></th>
<th>Which BCP?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Necon 1/35 (generic)</td>
</tr>
<tr>
<td></td>
<td>Desogen</td>
</tr>
<tr>
<td></td>
<td>Mircette</td>
</tr>
<tr>
<td></td>
<td>Nordette (generic)</td>
</tr>
<tr>
<td></td>
<td>Yasmin</td>
</tr>
</tbody>
</table>

- Necon 1/35 (generic) - Estrogen 35 mcg; Norethindrone 1 mg - medium strength
- Desogen - Estrogen 30 mcg; desogestrel 0.15 mg - low progestin
- Mircette - Estrogen 20 mcg; desogestrel 0.15 mg (and 5 days of estrogen only 10 mcg) - low estrogen
- Nordette (generic) - Estrogen 30 mcg; levonorgestrel 0.15 mcg - strong progestin
- Yasmin - Estrogen 30 mcg; drospirenone 3 mg - low progestin
Is Monthly Menstruation Natural???

- Late menarche
- Early childbearing
- High parity
- Prolonged breastfeeding
- Early menopause

VS

- Early menarche
- Late childbearing
- Low parity
- Shortened breastfeeding
- Late menopause
Why Alter Menstruation: Frequency, Duration, Amount

• Menstrual Disorders Affect Millions of Reproductive Age Women:
  – menorrhagia
  – dysmenorrhea
  – premenstrual symptomatology
  – “menstrual” migraines
Problems of Incessant Ovulation/Bleeding

- Anemia
- Endometriosis
- Ovarian cysts
- Ovarian cancer
Is Monthly Menstruation Natural???

VS

- Late menarche
- Early childbearing
- High parity
- Prolonged breastfeeding
- Early menopause

- Early menarche
- Late childbearing
- Low parity
- Shortened breastfeeding
- Late menopause
Costs of Monthly Menstruation

- Sanitary protection
- Medical expenses:
  - pain meds
  - office visits
  - procedures
- Lost wages/productivity
Is Monthly Menstruation Natural???

VS

• Late menarche
• Early childbearing
• High parity
• Prolonged breastfeeding
• Early menopause

• Early menarche
• Late childbearing
• Low parity
• Shortened breastfeeding
• Late menopause
Oral Contraceptive Effects on Menstruation

- Bleeding duration/quantity decreased
- Dysmenorrhea decreased
- Regulation of cycle length: predictability
Combination Oral Contraceptives

• **Standard Regimen:**
  – 21 days of estrogen + progestin
  – 7 hormone free days

• **Rationale:** mimic an average cycle length of 28 days

• **Drawback:** monthly hormone withdrawal symptoms
Hormone Withdrawal Symptoms In Oral Contraceptive Users

Objective

• Measure the frequency and severity of symptoms during the pill free interval compared to the active pill interval

_Sulak et al., Obstet Gynecol 2000, 95:261-6._
Study Design

- Prospective study of OC users
- 69 New Starts: No OC use in last 3 months
- 193 Current Users: OC use $\geq$ 12 months

*Sulak et al., Obstet Gynecol 2000, 95:261-6.*
Hormone Withdrawal Symptoms in Oral Contraceptive Users

Data Collection

• Demographics

• Daily calendars to subjectively record headaches, pelvic pain, bleeding, analgesic use, and other symptomatology

### Hormone Withdrawal Symptoms in Oral Contraceptive Users

<table>
<thead>
<tr>
<th>Symptom</th>
<th>21 active</th>
<th>7 hormone free</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic pain</td>
<td>21%</td>
<td>70%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Headaches</td>
<td>53%</td>
<td>70%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Breast tenderness</td>
<td>19%</td>
<td>58%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Bloating/swelling</td>
<td>16%</td>
<td>38%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Use of pain meds</td>
<td>43%</td>
<td>69%</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Hormone Withdrawal Symptoms In Oral Contraceptive Users

Headaches

• Headaches were more frequent and more severe during the hormone free interval

Frequency of Headaches

(Sulak et al.; Obstet Gynecol 2000; 95:261-6)
Pelvic Pain/Cramps

- Pelvic pain/cramps were more frequent and more severe during the hormone free interval

*Sulak et al., Obstet Gynecol 2000, 95:261-6.*
Frequency of Pelvic Pain and Cramps

Hormone Withdrawal Symptoms In Oral Contraceptive Users

Bloating/Swelling

- Bloating and swelling were more common during the hormone free interval
- Symptoms began in the preceding week prior to the hormone free interval

Frequency of Bloating and Swelling

(Sulak et al.; Obstet Gynecol 2000; 95:261-6)
Hormone Withdrawal Symptoms In Oral Contraceptive Users

Breast Tenderness

• Breast tenderness was more common during the hormone free interval

• Symptoms began in the preceding week prior to the hormone free interval

*Sulak et al., Obstet Gynecol 2000, 95:261-6.*
Frequency of Breast Tenderness

(Sulak et al.; Obstet Gynecol 2000; 95:261-6)
Extending the Duration of Active Oral Contraceptive Pills to Manage Hormone Withdrawal Symptoms

Objective

• Test the hypothesis that extending the number of consecutive active OCs will decrease the frequency of menstrual related problems

Sulak et al., Obstet. Gynecol. 1997; 89: 179-83
Extending the Duration of Active Oral Contraceptive Pills to Manage Hormone Withdrawal Symptoms

Method

Prospective analysis of 50 patients on OCs who experienced hormone withdrawal symptoms during the pill free interval and were allowed to extend the number of consecutive active OCs

*Sulak et al., Obstet. Gynecol. 1997; 89: 179-83*
## Symptoms During the Pill Free Interval*

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
<th>#4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migraines</td>
<td>48%</td>
<td>14%</td>
<td>6%</td>
<td>8%</td>
<td>76%</td>
</tr>
<tr>
<td>Dysmenorrhea</td>
<td>22%</td>
<td>40%</td>
<td>16%</td>
<td></td>
<td>78%</td>
</tr>
<tr>
<td>Menorrhagia</td>
<td>18%</td>
<td>12%</td>
<td>6%</td>
<td></td>
<td>36%</td>
</tr>
<tr>
<td>PMS</td>
<td>12%</td>
<td>10%</td>
<td>10%</td>
<td></td>
<td>32%</td>
</tr>
<tr>
<td>Other**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>82%</td>
<td>38%</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

*Most patients reported more than one symptom
+ most severe symptoms
** Acne, endometriosis, recurrent vuvular cysts

*Sulak et al., Obstet. Gynecol. 1997; 89: 179-83
Method of Extending Number of Active Weeks

- Instructed to take 6 consecutive weeks of active OCs followed by a hormone free week
- The interval of active pills was increased by 3 weeks each consecutive cycle (6 wks, 9 wks, 12 wks), followed by a hormone free week
- If a patient experienced intolerable side effects, she remained on the regimen that worked best for her

*Sulak et al., Obstet. Gynecol. 1997; 89: 179-83*
Study Results of the 50 Patients*

- 37 patients (74%) stabilized on an extended regimen
  - 6 week  →  8
  - 9 week  →  13
  - 12 week 16

- 13 patients (26%) not stabilized on an extended regimen
  - Most common reasons
    - Breakthrough bleeding
    - Breakthrough spotting
    - Headaches

*All patients were on a low dose monophasic pill

Sulak et al., Obstet. Gynecol. 1997; 89: 179-83
Menstrual Reduction With Extended Use of Combination OCPs: Randomized Controlled Trial

- 90 patients randomized to 21/7 day versus 42/7 day regimen of a 30 mcg monophasic OC
- 59% completed the 48 week study
- The 42/7 day regimen resulted in fewer bleeding days and no increase in mean spotting days or bleeding episodes

Acceptance of Altering the Standard 21 day/7 day Oral Contraceptive Regimen to Delay Menses and Reduce Hormone Withdrawal Symptoms

Patricia J. Sulak, M.D., Thomas J. Kuehl, Ph.D., Miriam Ortiz, R.N., and Bobby L. Shull, M.D.

Study Design

- Retrospective review of patients on 30-35 mcg OCs with hormone withdrawal symptoms during the hormone free interval, offered alterations to their 21/7 day regimen
- Electronic medical record search of the phrase “extending the number of active pills” by Patricia J. Sulak, M.D.
- Initial counseling was between December 93 and October 2000
- Counseled on increasing the number of active pills +/- decreasing the number of hormone free days
Results

• 318 counseled on “extending the number of active pills”
• 292 had follow up
• 26 lost to follow up
• hormone withdrawal symptoms: headache, dysmenorrhea, menorrhagia, premenstrual symptomatology
## Reasons For Extending Active Pills

(292 Patients)

<table>
<thead>
<tr>
<th>Primary Reason</th>
<th>% with Sx**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>35%</td>
</tr>
<tr>
<td>Dysmenorrhea</td>
<td>21%</td>
</tr>
<tr>
<td>Hypermenorrhea</td>
<td>19%</td>
</tr>
<tr>
<td>Premenstrual Sxs</td>
<td>13%</td>
</tr>
<tr>
<td>Other ***</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

* most severe symptom, ** most had more than one Sx
*** convenience, endometriosis, acne
Characteristics of the 292 Patients

- Average age 35.4 with 101 age 40 or greater
- Patients citing dysmenorrhea were younger
- Patients citing menorrhagia had a greater BMI
Results of 292 Patients

<table>
<thead>
<tr>
<th></th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: Did not extend</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>II: Extended then D/Ced OCs</td>
<td>57</td>
<td>19</td>
</tr>
<tr>
<td>III: Extended then returned to 21/7</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>IV: Continuing to extend</td>
<td>172</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>292</td>
<td>100</td>
</tr>
</tbody>
</table>
Group I: Chose Note To Extend

[25 patients (9%)]

Reasons:
- Preference for monthly menses
- Symptoms not severe enough
- Fears/concerns
- BTB on current 21/7 regimen
- Increased cost of pills
Group II: Extended, then discontinued OCs

[57 patients (19%)]

Reasons: Desire for pregnancy
Sterilization
Became menopausal
Pelvic surgery including hysterectomy
No longer sexually active
Worsening of numerous symptoms
Cost of pills
Group III: Extended, then returned to 21/7

[38 patients (13%)]

Reasons: Bleeding issues: BTB, BTS
Side Effects
Fear/concerns
Increased costs
Group IV: Continuing to extend

[172 patients (59%)]

- typical pattern was $12 \pm 12$ (mean ± SD) weeks of active pills with a median of 9 weeks and a range up to 104 weeks
- typical pill-free interval was $6 \pm 2$ days with a median of 5 days and a range of 0 to 7; 46% reported <7 day hormone free interval with 4 or 5 days most common
- range of follow up 3 months to 90 months with an average of 25 months
- using survival analysis methods, at 5 years 46% ± 5% (mean ± SE) continued an extended regimen