What’s New in Work Hazards and Pregnancy / Reproductive Health

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Outline

- Demographics: Work and pregnancy
- Updates: Lead
- Updates: Lifting and strenuous work
- Legal framework for pregnancy protection in the workplace
  - Pregnancy Discrimination Act
  - Court Decisions: Johnson Controls, Young v UPS
  - ADA & ADAAAA
  - New EEOC Guidance - examples
Exposure to Toxic Environmental Agents

Committee Opinion

Number 575, October 2013

The American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women
American Society for Reproductive Medicine Practice Committee
The University of California, San Francisco Program on Reproductive Health and the Environment

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Exposure to Toxic Environmental Agents

ABSTRACT: Reducing exposure to toxic environmental agents is a critical area of intervention for obstetricians, gynecologists, and other reproductive health care professionals. Patient exposure to toxic environmental chemicals and other stressors is ubiquitous, and preconception and prenatal exposure to toxic environmental agents can have a profound and lasting effect on reproductive health across the life course. Prenatal exposure to certain chemicals has been documented to increase the risk of cancer in childhood; adult male exposure to pesticides is linked to altered semen quality, sterility, and prostate cancer; and postnatal exposure to some pesticides can interfere with all developmental stages of reproductive function in adult females, including puberty, menstruation and ovulation, fertility and fecundity, and menopause. Many environmental factors harmful to reproductive health disproportionately affect vulnerable and underserved populations, which leaves some populations, including underserved women, more vulnerable to adverse reproductive health effects than other populations. The evidence that links exposure to toxic environmental agents and adverse reproductive and developmental health outcomes is sufficiently robust, and the American College of Obstetricians and Gynecologists and the American Society for Reproductive Medicine join leading scientists and other clinical practitioners in calling for timely action to identify and reduce exposure to toxic environmental agents while addressing the consequences of such exposure.

Reproductive Environmental Health
Women’s employment by industrial sector, 2006
Source: US Bureau of Labor
Demographics: Changes

- 62% of women with a birth in 2008 were in the labor force (est 3.36 million)

- For women under age 45 from 1960 to 2008:
  - having first pregnancy:
    - while employed, increased (44% → 66%)
    - while full-time employed, increased (40% → 56%)

- Better representation in non-traditional jobs (firefighting, police, construction)
Demographics: Staying-the-same

Continued representation in traditional occupations:

- Nursing (91% female in 2006)
- Social work (83%)
- Primary and secondary education (76%)
Occupational Exposures: The Challenge

- Hard to quantify exposures accurately
  - In addition, assessment of **timing** of exposure is critical
- **Presence** does not equal **exposure**
- Limited data on reproductive outcomes
- Permissible Exposure Limits (PELs) and Threshold Limit Values (TLVs) are tailored to health effects in non-pregnant workers
- Maternal and fetal physiology differs in significant ways that may increase toxicity
- Many women do not realize that they are pregnant until well into 1st trimester
Lead Exposure: Pregnant women

- Use of folk remedies and cosmetics
- Country of origin and number of years in the United States (bone stores)
  - Mexico, Belize, Jamaica, Pakistan, India, other Latin American countries
- Home renovations
- Occupational exposures
- Hobbies
Environmental reductions:
Lead levels in women of childbearing age:
NHANES 1976-2006

Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women, CDC November 2010
Lead Poisoning in Pregnant Women Who Used Ayurvedic Medications from India - New York City, 2011–2012

*MMWR Weekly*
August 24, 2012 / 61(33);641-646
Ayurvedic medications, NYC

*MMWR Weekly* August 24, 2012: Example

**Patient 4** (2011): 35 yo woman born in India
History of miscarriages; used four Ayurvedic meds 2 months before pregnancy to promote fertility.
One, *Ovarin*, found to contain 1.2% lead, 1,000 ppm arsenic, and 1.8% mercury,
She had consumed approximately 6–12 mg of lead daily, or 360–720 mg of lead during the 2 months.
BLL of 42 µg/dL at week 8 of pregnancy.
She miscarried at approximately 11 weeks' gestation.
NYC Study of BLLs in pregnant women at a city hospital

<table>
<thead>
<tr>
<th></th>
<th>U.S. Born</th>
<th>Foreign Born</th>
<th>All Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>446 (9.3)</td>
<td>4,368 (90.7)</td>
<td>4,814</td>
</tr>
<tr>
<td>Age (years)</td>
<td>23.7</td>
<td>28.3</td>
<td>27.8</td>
</tr>
<tr>
<td>Age Range</td>
<td>14-43</td>
<td>13-52</td>
<td>13-52</td>
</tr>
<tr>
<td>Mean BLL (µg/dL)</td>
<td>1.2</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>BLL Range</td>
<td>0-17</td>
<td>0-31</td>
<td>0-31</td>
</tr>
<tr>
<td>% with BLL ≥10 µg/dL</td>
<td>0.2</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td>% with BLL ≥5 µg/dL</td>
<td>1.6</td>
<td>11.5</td>
<td>10.6</td>
</tr>
</tbody>
</table>

Note: All differences between the two groups were statistically significant (p<0.001)

Lead-Check test kit: Positive (red) on glazed home dinnerware/china
Pregnancy outcomes by occupation

Consistent body of work since mid-1980s
Pregnancy outcomes better in working than non-working mothers

- Benefits (financial stability, insurance)
- Social support and structure
- ? Healthy worker effect
- ? Work a marker for higher SES, other positive attributes
Pregnancy outcomes: In working populations

Savitz (1996):
- Increased risk for all adverse outcomes in textile workers (1.5)
- PTD and stillbirth in janitors (2.0)
- Some increased risks in food service workers, electrical equip. operators
- Reduced risks in teachers and librarians

Confirmation of most risks for textile workers 2000-2010s:
- Endotoxins, ? synthetics
- Lifting, standing, strenuous work
# Low birth weight by occupational group: Connecticut, 2000
(Meyer et al, JOEM 2008)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Adjusted OR*</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other food prep and serving workers</td>
<td>3.05</td>
<td>1.39 – 6.69</td>
</tr>
<tr>
<td>Material recording, distributing, handling</td>
<td>1.98</td>
<td>1.17 – 3.36</td>
</tr>
<tr>
<td>Personal appearance workers</td>
<td>1.94</td>
<td>1.23 - 3.07</td>
</tr>
<tr>
<td>Retail sales workers</td>
<td>1.71</td>
<td>1.17 – 2.51</td>
</tr>
<tr>
<td>Nursing &amp; home health aides</td>
<td>1.69</td>
<td>1.13 - 2.51</td>
</tr>
</tbody>
</table>

LBW: <2500 g
Secretarial workers as referent group

*Adjusted for maternal age, race, smoking, initiation of prenatal care (trimester), parity, educational level
Preterm delivery: Increased risk in food industry

Ergonomic Hazards

Physically demanding work (heavy &/or repetitive lifting or load carrying, manual labor, or high physical exertion) associated with:

- SGA: Odds ratio 1.37 (1.30 – 1.44)
- PTD: Odds ratio 1.22 (1.16 – 1.29)

PTD also associated with:

- Prolonged standing: OR 1.26
- Shift/night work: OR 1.24
- High cumulative work fatigue: OR 1.63

- No association with long work hours in absence of increased physical demands

Lifting: Increased risks in patient handling


Table 4. Small-for-gestational-age (SGA)\(^a\) according to occupational heavy lifting during pregnancy, stratified by person lifting. The Danish National Birth Cohort 1996–2002. Reference group=no lifting (N=49 169). N= 66 617. [OR=odds ratio; 95% CI=95% confidence interval]

<table>
<thead>
<tr>
<th>Kilos lifted/day</th>
<th>Lifting with person-lifting (N=6393)</th>
<th>Lifting with no personlifting (N=11 055)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>OR(_{crude})</td>
</tr>
<tr>
<td>0–14(^c)</td>
<td>3168</td>
<td>0.90</td>
</tr>
<tr>
<td>15–100</td>
<td>1501</td>
<td>0.95</td>
</tr>
<tr>
<td>101–200</td>
<td>1244</td>
<td>1.03</td>
</tr>
<tr>
<td>201–500</td>
<td>387</td>
<td>1.35</td>
</tr>
<tr>
<td>501–1000</td>
<td>93</td>
<td>1.55</td>
</tr>
</tbody>
</table>
Bottom line: Current Pregnancy Risks

- Many ‘traditional’ riskier occupations better controlled:
  - Anaesthetic gases, laboratory work
- Current concerns: Small shops, less H&S oversight, increased demands
  - Food service workers: physical demands
  - Nursing personnel: physical demands, infections
  - Beauty, nail salon industries: chemicals
- Work and social risks likely additive
  - low SES, underinsurance, neighborhoods
AMA recommended weight limits for occupational lifting during pregnancy (1984)

<table>
<thead>
<tr>
<th>Week of gestation</th>
<th>Intermittent lifting</th>
<th>Repetitive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Metric</td>
<td>US</td>
</tr>
<tr>
<td>20</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>24</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>30</td>
<td>&gt;23 kg</td>
<td>&gt;51 lb</td>
</tr>
<tr>
<td>40</td>
<td>&lt;14 kg</td>
<td>&lt;31 lb</td>
</tr>
</tbody>
</table>
NIOSH: Clinical guidelines for occupational lifting in pregnancy -- 2013

- Used NIOSH Lifting Equation and biometrics at stages of pregnancy
- Constructed ‘safe-lifting’ recommendations – based mainly on extension of ‘horizontal multiplier’ from gravid uterus
- Based on biomechanical considerations, not epidemiology of repro hazards

Ask the patient the following questions:
At work do you perform lifting tasks more than once every 5 minutes?

Yes → Do you lift more than 3 times per minute?
   Yes → Highly repetitive lifting is beyond the scope of these guidelines (see text).
   No → How many hours per day you spend lifting at work?

Less than 1 continuous hour

Instructions for using graphic A, B, or C:
1) Select the left figure if gestation < 20 weeks; select the right figure if gestation ≥ 20 weeks.
2) Ask the patient to demonstrate the lifting motions to determine the lifting height from the floor and the distance in front of the body.
3) Select the numerical weight limit values along the entire path the object would travel. If the object crosses more than one weight limit category, select the lowest weight limit.
4) The number selected in step 3 above is the Recommended Weight Limit (RWL) for the gestation period.

'Repetitive short duration lifting (Graphic B) can encompass multiple hours of lifting per day; however, each continuous lifting period should be less than one hour and followed by a minimum of one hour of non-lifting activity before the next continuous lifting period is initiated.'
Clinical assessment

Identification and control works best before conception

- Exposure control is best solution; Maternal leave or transfers may be problematic before pregnancy
- **Preventive strategies effective at this stage**
  - Measure blood Pb and reduce exposure before conception.
  - Vaccines: Rubella, hepatitis B
- Biomarkers and other data to assess exposure, given current controls (Pb, urinary metabolites, film badges)
But…request for advice usually occurs after conception

- Give best appraisal given limitations of data
- Remember:
  - rates of background frequency, and
  - varied etiologies of reproductive problems
- Place risk in perspective
  - “Doubled” risk may be 2 / 1000
- Careful exposure control in postnatal period and infancy may reduce or obviate effects of prenatal exposures (Pb, PCBs)
- How do I make the workplace safer?
  - Not just for this pregnancy, but for all women/workers…
Mellisa Williamson, 35, a Bullitt Avenue resident, worries about the effect on her unborn child from the sound of jackhammers.
Legal

- Recommended exposure limits *not* intended to be protective for fetus and do not consider reproductive effects
  - except DBCP, lead, ethylene oxide, glycol ethers
- Most disability protection statutes do not protect pregnancy
  - Federal ADA, up until recently, for example (*why not?*)
- Workers’ Compensation coverage does *not* extend to offspring of workers
Before the company hires her...

you should make sure she's not pregnant.

You can do what many large corporations are doing. Make pregnancy testing a routine part of your pre-employment physical. And find the pregnant before your company gets involved in costly training programs as well as health and sick-pay coverage.

Routine pregnancy testing of all female applicants is now simple and practical with the PREGNOSTICON 6-Minute Slide Test. The most accurate slide test for pregnancy, PREGNOSTICON is economical, too. It comes in handy kits of 10 tests at 12.00 or 50 tests at 50.00. It's so simple to perform and interpret that no special training is required. Your aides can quickly become experts.

You don't need to buy any special equipment to use PREGNOSTICON. You start with a urine sample. The kit supplies everything else.

So, save your company's money and save your applicants the eventual emotional stress of a surprise pregnancy by giving this reliable and simple test a trial. Send a signed, voided prescription blank to Organon, Inc., West Orange, New Jersey 07052. And we'll send an Organon representative to tell you about the PREGNOSTICON screening program.

PREGNOSTICON® SLIDE TEST
2-Minute Slide Test for Pregnancy
What to do?

Blanket advice to “Avoid all chemicals” is probably not helpful….

- Pay, benefits affected; “Mommy track”
- Pregnancy has not been considered a disability under ADA: lack of legal protection
  - Some states may have broader disability laws
- Overlooks proper guidance on exposures, thoughtful assessment and advice can reduce inadvertent exposures
Pregnancy Discrimination Act (1978)

Amendment to Civil Rights Act of 1964
Covers employers with $\geq 15$ workers

**Pregnancy and Maternity Leave**

1. May not single out pregnancy-related conditions for special procedures to determine an employee's ability to work.

2. May require worker to submit doctor's statement on inability to work before granting leave or paying sick benefits.
Pregnancy Discrimination Act (1978)

Pregnancy and Maternity Leave

3. If employee is temporarily unable to perform her job because of her pregnancy, employer must treat her the same as any other temporarily disabled employee
   - modify tasks,
   - perform alternative assignments,
   - take disability leave or leave without pay

4. Pregnant employees must be permitted to work as long as they are able to perform their jobs

5. Employers must hold open a job for a pregnancy-related absence the same length of time jobs are held open for employees on sick or disability leave
UAW v. Johnson Controls

Manufacturer of lead batteries

- 1964: excluded women from lead exposed positions
- 1977: female employees discouraged from positions with lead exposure, required to sign waiver acknowledging risks
- 1979-1983: 8 female employees became pregnant with blood leads consistently > 30 ug/dL
- 1982: policy of exclusion of women unless documented sterility
Johnson Controls

- Decision to exclude women from jobs was not based on occupational qualifications
  - Exclusion was not based on factor that detrimentally affected ability to work
- Women have the right to make informed choice about exposures at work
- BUT: Still incumbent on employers to reduce hazards as much as possible

- Issued July 14, 2014
- Response to rising number of pregnancy discrimination complaints & questions of Federal v State jurisdiction
- Intent to expand protections available to pregnant employees
- Some controversy – expansion of disability coverage under ADA to previously non-covered pregnancy cases
US EEOC: 

_Enforcement Guidance on Pregnancy Discrimination and Related Issues_

- Pregnancy has not been considered a disability under federal law
- EEOC’s new position: Pregnancy-related conditions -- back pain, inability to stand for long periods, lifting restrictions – may be covered as disability under the ADAAA
- Challenges many past pregnancy-neutral practices:
  - Policies that offer light-duty accommodations to workers injured on the job, but denied to pregnant employees, may constitute prima facie evidence of discrimination.
Young v. UPS
(Supreme Court)

Air Driver for UPS: Required 70 lb lifting/push pull, but rarely

- July 2006- obtained LOA for IVF (successful)
- Oct 2006- sought 20 lb lifting limit for work while pregnant
- Refused: UPS offered light duty for workers with
  - on-the-job injuries,
  - those accommodated under the ADA, and
  - those who had lost DOT certification,
  - but not for pregnancy
- had to go on extended, unpaid leave of absence, during which she lost her medical coverage
Young v. UPS

- District Court ruled in favor of UPS
- Circuit Court upheld
  - Ruled that modified-light duty limited to those 3 categories = “pregnancy-blind” policy
- Young argues violation of the PDA
  - restricted to 20-lb lifting in pregnancy, she is “similar in her ability or inability to work” to these other categories
Young v. UPS – Supreme Court

Supreme Court ruled essentially in favor of Young: Sent case back to lower court

• Young may argue to lower court that:

1. she asked to be accommodated in the workplace when she couldn’t do normal job;
2. employer refused to do so, and
3. employer did provide accommodation for other worker just as unable to do their work temporarily ie that the policy was not ‘pregnancy-blind’
Examples of new EEOC Guidance:
Lifting restrictions

Carol applied for a warehouse job. One requirement was ability to lift up to 50 pounds. Carol said that she
- could not meet the lifting requirement because she was pregnant
- but otherwise would be able to meet the job requirements.

She was not hired.

Employer: did not select Carol because she could not meet the lifting requirement
-- produces evidence that it treats all applicants the same with regard to this hiring criterion.
Garcia became pregnant while working as an LPN. Due to pregnancy-related health problems, she was put on home-rest for a month. The OB released her to return to work, believing that Garcia was fit to perform the duties of an LPN in the maternity ward at the hospital.

Hospital, consistent with policy, required Dr. to certify that Garcia could perform a variety of required tasks. Dr. certified that Garcia could perform all listed tasks with the exception of pushing, pulling or supporting 150 pounds. Consistent with hospital policy, Garcia was not allowed to return to work with the above limitation, and after she was on leave for more than six months, the hospital terminated her, again consistent with hospital policy.
New EEOC Guidance
Example: Leave policies

Sherry went on medical leave for a pregnancy-related condition.

Employer’s policy provides four weeks of medical leave to employees who had worked less than a year. Sherry worked for the employer for only six months - was discharged when she did not return to work after four weeks.

She claims the employer discharged her because of her pregnancy, the evidence showed that

- the employer applied its leave policy uniformly, regardless of medical condition or sex and,
- therefore, did not engage in unlawful disparate treatment
New EEOC Guidance
Example: Light-Duty Access

Rachel worked as a nursing assistant at a long-term care facility.

After Rachel became pregnant, she applied for and was denied a light duty assignment. Facility discharged Rachel because she could not perform all of her job duties. Rachel claimed that she was discriminated against on the basis of pregnancy - by being denied light duty while light duty was provided to other workers with similar restrictions.
Example: Light-Duty Access

Investigation:
Facility has 5 administrative positions for employees unable to perform one or more regular job functions. Appropriately determined this is maximum number of light duty positions available consistent with its staffing care & safety needs.

Also in the past, pregnant workers had received light duty when positions were available and non-pregnant workers have been denied light duty when all positions were filled.

At the time that Rachel made her request, all available light duty positions were filled.
Example: Light-Duty Access

At the time that Rachel made her request, all available light duty positions were filled.

Because pregnant workers have equal access to light duty positions under the same terms as others similar in ability /inability to work –

Failure to provide light duty for Rachel when no light duty positions were available does not violate the PDA
Different Example: Light-Duty Access

An employer makes six light duty positions available to workers unable to perform job duties due to on-the-job injury, pregnancy, or injury, illness, or condition that would constitute a disability under the ADA.

A pregnant worker applies for a light duty assignment as a result of work restrictions imposed by her pregnancy.

The employer denies the request, claiming that all six positions are currently filled.
Different Example: Light-Duty Access

The employer denies the request, claiming that all six positions are currently filled.

The employee produces evidence that, in the past, the employer has provided light duty assignments to workers injured on the job even when all six assignments were filled.

Therefore, in this case, the policy's restrictions were not applied equally to the pregnant worker's request for a light duty position.
Bottom Line: A Difficult Balance:

With pregnant worker: be clear about:

- what you know may be harmful, versus what is inconvenient
- uncertainty and the limits of knowledge of most hazards
- risk in perspective
- what you can, and can’t do for them
- employer’s options and the potential downsides to the worker
Bottom Line: A Difficult Balance:

With workplace/employer: be clear about:

- what you know may be harmful versus inconvenient
- what you know to be the hazards
- how hazards might be controlled for all workers
- how they can keep worker both safe and employed

Be prepared to advocate, beyond a note or letter, if you are concerned.
The Ex-Service Men's Maternity Ward.