AOHC 221
Reproductive and Developmental Hazard Management:
Lifting, Physical Work and Update on Legal Guidelines

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Outline

- Demographics: Work and pregnancy
- Updates: Lifting and strenuous work
- Legal framework for pregnancy protection in the workplace
  - Pregnancy Discrimination Act
  - Court Decisions: Johnson Controls, Young v UPS
  - ADA & ADAAA
  - New EEOC Guidance - examples
Women’s employment by industrial sector, 2018

- Management/Professional: 24%
- Retail/Wholesale Trade: 17%
- Service: 19%
- Education & Health Svc: 31%
- Manufacture/Transportation/Material Moving: 7%
- Resources, Construction, Maintenance: 1%
- Other: 1%

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%)
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
Lifting & physically demanding work: US meta-analysis, 2000

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

- 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

European meta-analysis: 2013

Updated a 2005 meta-analysis
Reports 1966-2011: n= 86; sample sizes from 50 - >350,000

Estimates (RR) for Preterm delivery:

<table>
<thead>
<tr>
<th>Work Activity</th>
<th>Median effect estimate</th>
<th>IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work physical activity</td>
<td>1.20</td>
<td>(1.10 – 1.70)</td>
</tr>
<tr>
<td>Lifting</td>
<td>1.12</td>
<td>(0.90 – 1.30)</td>
</tr>
<tr>
<td>Standing</td>
<td>1.16</td>
<td>(1.00 – 1.35)</td>
</tr>
<tr>
<td>Shift work</td>
<td>1.10</td>
<td>(0.67 – 1.60)</td>
</tr>
</tbody>
</table>
European meta-analysis: 2013

Estimates (RR) for SGA delivery:

<table>
<thead>
<tr>
<th>Work Activity</th>
<th>Median effect estimate</th>
<th>IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work physical activity</td>
<td>1.00</td>
<td>(0.82 – 1.38)</td>
</tr>
<tr>
<td>Lifting</td>
<td>1.03</td>
<td>(0.73 – 1.15)</td>
</tr>
<tr>
<td>Standing</td>
<td>1.00</td>
<td>(0.93 – 1.26)</td>
</tr>
<tr>
<td>Shift work</td>
<td>1.25</td>
<td>(0.94 – 1.49)</td>
</tr>
</tbody>
</table>

### US: National Birth Defects Prevention Study (2016)

<table>
<thead>
<tr>
<th>Occupational physical activity</th>
<th>PTB</th>
<th></th>
<th></th>
<th>SGA</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Crude OR</td>
<td>Adj OR</td>
<td></td>
<td>Crude OR</td>
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<tr>
<td>Q1</td>
<td></td>
<td>Ref</td>
<td>Ref</td>
<td></td>
<td>Ref</td>
</tr>
<tr>
<td>Q2</td>
<td>1.00 (0.75 - 1.32)</td>
<td>1.00 (0.76 - 1.33)</td>
<td>1.09 (0.81 - 1.46)</td>
<td>1.09 (0.81 - 1.46)</td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>1.23 (0.94 - 1.61)</td>
<td>1.12 (0.85 - 1.49)</td>
<td>1.31 (0.99 - 1.74)</td>
<td>1.18 (0.88 - 1.58)</td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>1.37 (1.05 - 1.79)</td>
<td>1.24 (0.93 - 1.64)</td>
<td>1.52 (1.15 - 2.00)</td>
<td>1.36 (1.02 - 1.82)</td>
<td></td>
</tr>
<tr>
<td>ptrend</td>
<td></td>
<td>0.01</td>
<td></td>
<td></td>
<td>0.001</td>
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</tbody>
</table>

O*NET based physical activity: (1) general physical activities (eg, climbing, lifting, balancing, walking, stooping and handling of materials); (2) bending or twisting the body; (3) standing; (4) handling and moving objects; (5) walking and running; (6) kneeling, crouching or stooping and (7) keeping or regaining balance.

European meta-analysis: 2013

- Balance of evidence against a ‘strong’ effect of these work activities in pregnancy
  - On the other hand, no evidence for beneficial effects
- Given uncertainties, may be a precautionary case for advice against long hours, long standing and heavy lifting/physical work

US NBDP Study: 2016

- Maternal occupational physical activity was positively associated with the odds of PTB and SGA in offspring, with a dose–response relation observed
- Note: >50% in highest quartile of PA were in ‘food prep and serving’ or ‘health care practice and technical’ occs
Another potential take-away....

Population Attributable Risk: if high numbers are exposed...

RR of 1.2 for PTD, for example may be significant in populations with high baseline rates: PTD incidence in US 9.6% overall, 13% in AfricanAmer populations
MIGHT THERE BE SPECIFIC WORK WHERE LIFTING, PHYSICAL WORK IN PREGNANCY IS DELETERIOUS?
Table 4. Small-for-gestational-age (SGA) 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>0–14c</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>382</td>
<td>1.35</td>
</tr>
<tr>
<td>501–1000</td>
<td>93</td>
<td>1.55</td>
</tr>
</tbody>
</table>


Lifting: Increased risks in patient handling
Preterm delivery: Increased risk in food industry

## 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
Bottom line: Current Pregnancy Risks

- Many ‘traditional’ riskier occupations better controlled by larger employers:
  - 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
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 2-Minute Slide Test. The most accurate slide test for pregnancy, PREGNOSTICON is economical, too. It comes in handy kits of 10 tests at $1.00 or 50 tests at $5.00. 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.
ANY GUIDANCE FOR LIFTING, PHYSICAL WORK IN PREGNANCY?
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>
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<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>

- 30 years ago….
- Evidence base never quoted or detailed
- As with most others, untested for validity
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’ – distance 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

1. Infrequent lifting

2. Repetitive short duration lifting

3. Repetitive long duration lifting

A. Infrequent lifting

B. Repetitive short duration lifting

C. Repetitive long duration lifting

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.

1Repetitive 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.
Legal

- Recommended exposure limits **not** intended to be protective for fetus and do not consider reproductive effects
  - except DBCP, lead, ethylene oxide, glycol ethers

- Workers’ Compensation coverage does **not** extend to offspring of workers

- Most disability protection statutes have not protected pregnancy
  - Federal ADA, up until recently, for example (*why not?*)
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
My Obstetrician Got Me Fired
How Work Notes Can Harm Pregnant Patients and What to Do About It

Rebecca A. Jackson, MD, Sigrid Gardner, MD, MPH, Leah N. Torres, MD, Megan J. Huchko, MD, Marya G. Zlatnik, MD, and Joan C. Williams, JD

Prenatal care providers are frequently asked to provide employment notes for their patients requesting medical leave or changes to work duties. Writing employment notes correctly can help patients negotiate for and obtain medically indicated workplace accommodations, allowing them to continue to work and earn an income. However, a poorly written or poorly timed note can jeopardize a patient’s employment and salary. This commentary provides an overview of pregnancy-related employment laws and guidance in writing work accommodations letters that allow pregnant women to keep their jobs while maintaining a healthy pregnancy.

(Obstet Gynecol 2015;126:250–4)
DOI: 10.1097/AOG.0000000000000971

CASE VIGNETTE
Ms. Smith, a 28-year-old gravida 2 para 1 at 26 weeks of gestation, asks her prenatal care provider to write a letter to her employer to limit her lifting. She is not having any issues related to the lifting but is worried that it may cause problems in the future. As a stocker in a large retail store, lifting is a major part of her job.

Her health care provider writes the note as requested and at her next visit, Ms. Smith asks that her medical leave papers be signed because her employer told her she must go out on leave because she can no longer lift. The rest of her pregnancy is uneventful and she has a cesarean delivery. She returns postpartum and informs her health care provider that she was terminated from her job because her 3 months of leave was consumed before she was ready to return to work. Is this legal? Could this have been avoided?

PREGNANT EMPLOYEES AND THE LAW: AN INCOMPLETE SAFETY NET
The majority of pregnant women in the United States continue to work while pregnant with more than half working full-time.1 Prenatal care providers are commonly asked to write work restriction notes for their pregnant patients with little education about how to do so2 and no recent guidelines from U.S. medical organizations.3 Most women can continue to perform their usual job duties without difficulty until delivery, and many employers readily provide workplace accommodations for pregnant employees who need them.1 However, when work modifications are recommended for medical reasons and the employer declines to provide them, women can face untenable choices between their jobs and their health or the health of unborn babies.4

In a national survey of working pregnant...
Conversations with OB/GYN Providers: MSSM study

- Majority of providers do not appear to be engaging patients in conversations about work
  - 42% discussed work during prenatal care
  - 31% reported provider informed of potential job risks

- Among women who perceived work to be harmful, only 17% discussed accommodations with their provider, 10% discussed possible solutions, and 10% reported receiving a restriction or leave note.

<table>
<thead>
<tr>
<th></th>
<th>Total participants (N=291)</th>
<th>Participants who perceived harm from work (N=69)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider asked about work and current job duties</td>
<td>42% 58%</td>
<td>39% 61%</td>
</tr>
<tr>
<td>Provider informed about job risks</td>
<td>32% 68%</td>
<td>32% 68%</td>
</tr>
<tr>
<td>Provider discussed ways to work safely</td>
<td>25% 75%</td>
<td>21% 77%</td>
</tr>
<tr>
<td>Provider wrote restriction or leave notes this pregnancy</td>
<td>7% 93%</td>
<td>16% 84%</td>
</tr>
<tr>
<td>Provider discussed possibility of changing job duties</td>
<td>7% 93%</td>
<td>17% 83%</td>
</tr>
<tr>
<td>Provider discussed risk of going on leave too early</td>
<td>5% 95%</td>
<td>6% 94%</td>
</tr>
<tr>
<td>Provider proposed solutions/changes in job duties</td>
<td>7% 93%</td>
<td>10% 90%</td>
</tr>
</tbody>
</table>
Pregnancy Discrimination Act (1978)

Amendment to Civil Rights Act of 1964
Covers employers with ≥ 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
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

Left unanswered was risk of legal action on behalf of offspring

- Would have to demonstrate employer negligence

- 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
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.
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: 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.
Facility appropriately determined 5 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 did NOT violate the PDA
Light-Duty Access: Where might company have violated the PDA?

An employer made 5 light duty positions available to workers unable to perform job duties due to:
- on-the-job injury, pregnancy, or injury, illness, or other conditions that would be a disability under the ADA.

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 5 positions are currently filled.
Different Example: Light-Duty Access

The employer denies the request, claiming that all 5 positions are currently filled.

In the past, employer has provided light duty assignments to workers injured on the job even when all 5 assignments were filled.

In this case, the policy's restrictions were not applied equally to the pregnant worker's request for a light duty position.
Young v. UPS

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: Remanded 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 i.e. that the policy was not ‘pregnancy-blind’

- UPS changed its policy after SCOTUS opinion handed down
Bottom Line: Worker and Workplace

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: Worker and Workplace

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