Stress and the Pharmacy Technician

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Stress and the Pharmacy Technician

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Speaker Disclosure: Ms. Mastron has no actual or potential conflicts of interest in relation to this program.

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Stress and the Pharmacy Technician

Accreditation:
Pharmacy Technicians : 798-000-08-055-L04-T

CE Credits:
1.0 Credit hour or 0.1 CEU for Technicians

Target Audience: Pharmacy Technicians

Expiration Date: 8/15/2011

Program Overview: Feeling like there are too many pressures and demands on you? Losing sleep worrying about work? Eating on the run because your schedule is just too busy? This program will help you understand stress and its various symptoms, list the physical changes to the body which can directly lead to long term illness, compare and contrast the various ways that stress can be avoided and managed, and identify at least 10 techniques to prevent and avoid stress.

Objectives:
• Define stress and list the symptoms of stress.
• Describe the physical changes in the body caused by stress which can lead to long term illness.
• Compare and contrast stress that can be prevented, avoided, and managed.
• Identify at least 10 techniques to prevent, avoid, or manage with stress.

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Objectives

• Define stress and list the symptoms of stress.

• Describe the physical changes in the body caused by stress which can lead to long term illness.

• Compare and contrast stress that can be prevented, avoided and managed.

• Identify at least 10 techniques or strategies used to prevent, avoid or manage with stress.
You're not alone if...

- Feeling like there are **too many pressures and demands on you**?
- **Eating on the run** due to busy schedule?
- **Concerned** because the ‘line won’t move’ and you got to ‘get across town in 5 minutes’?
- **Speeding across** town to get some where on time?
- Feeling like it **just doesn’t stop**?
- Feeling like you **NEED a vacation more than 2 times a year**?
You're not alone if...
You're not alone if...
On the Job Stress as a Pharmacy Technician has you

Losing sleep worrying about
- The last fill you did
- The last IV you made
- Competency work exams
- Having less time to perform more duties
- Being rushed to pay attention to details
- Fear of losing your job
You know you are under stress if......
You're not alone if...
What is Stress?

• Stress is a feeling that is created when we react to particular events.

• Defined as a state of threatened homeostasis (body’s steady state).

• It is the body’s way to rise to a challenge and prepare to meet a tough situation with:
  – Focus
  – Strength
  – Stamina
  – Heightened alertness
## Early Symptoms of Stress

### Physical, Feelings & Behavior

<table>
<thead>
<tr>
<th>Physical changes</th>
<th>Feeling</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>- H/A</td>
<td>- Nervous</td>
<td>- Confused</td>
</tr>
<tr>
<td>- Tense muscles</td>
<td>- Fearful</td>
<td>- Irritable</td>
</tr>
<tr>
<td>- Shaking hands</td>
<td>- Worried</td>
<td>- Hostile</td>
</tr>
<tr>
<td>- Fatigue</td>
<td>- Overwhelmed</td>
<td>- Unable to concentrate</td>
</tr>
<tr>
<td>- Insomnia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Heartburn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Nausea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Unusual hunger</td>
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</tbody>
</table>
Events that Provoke Stress Are called “STRESSORS”
These events range from Physical Danger to the Happiest Moments in our lives!

- **Positive Stressors**
  - Making a class or work presentation
  - Taking the PTCB exam
  - Interviewing for a job
  - Answering JACHO inspector’s survey questions
  - Making a Stat IV to save a life
  - Saying ‘yes’ or ‘I do’
- **Short term**
- **Body recovers**

- **Negative Stressors**
  - Unhappy marriage
  - Unstable job
  - Poor relationships with co-worker, family member or friend
  - Accumulating debt
  - Repetitive daily routine
  - Continual time constraints
- **Chronic – reoccurring**
- **Leads to Serious Diseases**
The Nervous System and the Endocrine System form Hypothalamic-Pituitary-Adrenal Axis

The Hypothalamus

- Hypothalamic Gland: The Reactor

- Cerebellum: For Balance Coordination

- Brain Stem: The three vital centers B1, B2, A1/2, T, H, P and MO

The Adrenal Gland

- Adrenal Glands: Maintains fluid & salt levels; Mediates stress responses.

- Kidney: Excretory Organs Filter Waste & Balance Water
Human Body “Stress Response”
Hypothalamic-Pituitary-Adrenal Axis

<table>
<thead>
<tr>
<th>Nervous System</th>
<th>Endocrine System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothalamus</td>
<td>Pituitary gland</td>
</tr>
<tr>
<td>Signals pituitary gland</td>
<td>Signals adrenal gland cortex by:</td>
</tr>
<tr>
<td>gland by:</td>
<td>↑ACTH</td>
</tr>
<tr>
<td>↑ Releasing Hormone Factor</td>
<td>Adrenal gland Responds</td>
</tr>
<tr>
<td>Signals the adrenal gland - medulla respond:</td>
<td></td>
</tr>
<tr>
<td>↑ Adrenaline (aka epinephrine)</td>
<td>↑ Cortisol</td>
</tr>
</tbody>
</table>
The Abdominal Fat and Stress Connection
Cortisol will “Hide” in Abdominal Fat

Is there a link between storage of abdominal fat (visceral fat), high cortisol and high stress.

– Truth: Visceral Fat is a risk factor for heart disease and diabetes.
– Myth: Cortisol will make you fat
– Truth:
  • Cortisol does not make you fat.
  • Stress does not make you fat.
  • Stress may lead to increased appetite…
  • Increased appetite may lead to eating too much…
  • Eating too much makes you gain fat.
**Health Effects of Stress**

- Increased metabolism; e.g., faster heart beat.
- Faster respiration.
- Increased cholesterol and fatty acids in blood for energy production systems.
- Increased blood pressure.
- Increased stomach acids.
- Localized inflammation (redness, swelling, heat and pain).
- Decreased protein synthesis.
- Intestinal movement (digestion).
- Immune and allergic response systems.
- Increased production of blood sugar for energy.
- Faster blood clotting.
Cortisol: Good Guy or Bad Guy?

- Elevates blood sugar
- Allows metabolism to react more “slowly”
  - Gastric emptying time can be decreased or increased
    - Gastric Peristalsis Slows Down
    - Increased acids lead to increased peristalsis
      - Increased Gastric emptying time.
      - May lead to ulcers
  - Colonic Motility Speeds Up
    - Defecation speeds up.
    - Urination may speed up.
HPA Axis

Hypothalamic – Pituitary – Adrenal Axis

Major part of the **neuroendocrine system** that controls:

- **Reaction** to stress
- **Regulates** various body processes including:
  - Digestion
  - Immune system
  - Mood
  - Sexuality
  - Energy usage
Body’s Physiological Response to Stress

• During stress the **Sympathetic Nervous System** kicks in to **high gear**

• **Fight or Flight Response**
  – ↑ Heart Rate
  – ↑ Breathing rate
  – ↑ Blood vessel constriction
  – ↑ Blood pressure
  – ↑ Muscle tension
After Short-term or Quick onset of Stress

Body’s Sympathetic Nervous System Returns to Normal:

– Normal heart rate
– Normal breathing rate
– Normal blood pressure
– Blood vessel lumen returns to normal diameter
– Normal muscle tension
Normal Recovery After Stress

• The body is given a chance to **RECOVER** and feel **rewarded** for **overcoming the challenge**!
• ↓**Cortisol** and ↓**Epinephrine**
• ↑**Serotonin**, ↑**Endorphins** and ↑**Dopamine**
• Recovery is **When & Why** we feel good when we
  – **Win** a game
  – Do that **extra** push up or sit up
  – **Find** a parking space in a crowded parking lot
  – **Help** that patient who’s insurance company would not adjudicate the claim
  – **Finish** filling the ADM ahead of schedule.
  – **Deliver** a STAT med in time
Chronic Sustained Stress leads to No Recovery

Leads to: Nonspecific Stress Syndrome

- There is no recovery process!
- No Shut off!
- Continual release of
  - ↑ Cortisol
  - ↑ Epinephrine
- With sustained
  - ↑ Bp
Risks of Sustained Chronic Negative Stress

- Migraine H/A
- Depression, Anxiety
- Back Pain
- Ulcers
- Obesity
- HTN, Diabetes
- MI and other Cardiac diseases
- Weakened Immune System
- Cancers
- Desire to relieve stress with illicit drugs or abuse of prescribed drugs
Common Workplace Stressors for the Pharmacy Technician

- Customers/Patients or Nurses waiting for meds
- Customers screaming about lack of insurance coverage
- Nurses, doctors or pharmacists yelling for STAT meds
- Babies crying, nagging bosses, complaining co-workers
- Co-workers being tardy or absent
- Working on an empty stomach
- Not meeting deadlines, unable to finish a script before closing, unable to deliver a med stat
- Increased workloads or responsibilities, sometimes without pay increase
- No career ladder, No place to move up on the job
What can we do?

Realize **which** stress we **CAN**

– **Avoid**
– **Prevent**
– **Manage** the stress that's unavoidable or not preventable.
  – **Minimize**
  – **Handle**
  – **Adapt**
Tips for Preventable Stress
Key: Avoid the Stressor

- PLAN major life events
- Prioritize
- Realize your limitations
- Increase communication at home or work
- Share your thoughts with family and friends who may be able to advise you
- Develop a positive attitude
- Reward yourself with relaxation, vacation, treats, clothes, music or movie etc.
Tips to Prevent & Manage Stress

• **↑ Exercise** prevents and manages stress by increasing **endorphins** our feel good hormones

• **Eat well**
  – Less stress with a healthier lifestyle and also good nutrition **fights stress and illnesses**

• **↑ Sleep**
  – Produce less cortisol, more serotonin
  – Less weight gain
Manageable Stress

Stress that can not be eliminated or avoided must be managed before major health problems occur.

– Minimize
– Handle
– Adapt
Things that Take a Little Longer
Plan some Dietary Changes:

• Increase water intake
  • ↓Fatigue

• Eat a breakfast
  – Skipping → slow metabolism → ↓Reduces energy
  – ↑H/A and Migraines
  – ↑Moodiness and irritability

• Eat Oatmeal
  • ↑serotonin ↓chances of depression
    • Oats (Avena sativa) are a nerve tonic that has been used for centuries for sleeplessness, nervous exhaustion.

• ↑Vitamin C as stress uses more Vitamin C
  – Citrus fruit, tomatoes, strawberries
Things that Take a Little Longer

Plan some Dietary Changes:

↑ Eat almonds

↑ zinc = immune booster

↑ Vitamin E and ↑ Vitamin B12 → ↑ energy

↑ Fiber

• helps absorb toxins and bacteria
• less chance of getting sick while under stress
• also stabilizes blood sugar
• >>>> ↓ mood swings
Things that Take a Little Longer
Plan some life changes:

• **Get Good Sleep > \( \uparrow \) REM sleep**
  – Reduces cortisol and epinephrine
  – Have a cup of caffeine free tea, do relaxation exercises.

• **Get Exercise**
  – 20-30 minutes three to five times a week
    • **Join a Gym**
    – \( \uparrow \) endorphins \( \downarrow \) cortisol
    – Post workout yields more energy
    – \( \uparrow \) epinephrine \( \uparrow \) heart rate
      • Refrain from exercise at least 4 hours before bedtime

• **Stretch**
  – Increases circulations increasing oxygen, decreases muscle tension and pain
  – Improves Flexibility and Mobility
Things that Take a Little Longer
Plan some life changes:

- **Yoga** - employs deep breathing, stretching and exercise with a mental vacation.

- **Hobby** - Quilt or handiwork (knitting), miniature model painting

- **Create and plan a career ladder:**
  - New role for a tech at your place of employment
  - A project for you and your pharmacist.
  - Make the a proposal to your employer
Controversial, New Research or Unfounded Things you can do to Deal with Stress

1. Drink Black Tea
2. Have Sex!
3. Increase Flavenols
   Dark Chocolate
   Wine
4. Use of Herbs
Controversial, New Research or Unfounded Things you can do to Deal with Stress

✔ Drink Black Tea
  – University College of London 2006 study shows as much as 4 cups can has positive effects on neurotransmitters in brain
  – helps to recover from stress ↓ cortisol
    • contains catechins: polyphenols, flavonoids and amino acids

✔ Have Sex!
  – While Stress puts a hamper on libido
    • Benefits include physical and emotional release, bonding, and release of endorphins.
    • Post orgasm increases ACH increasing relaxation and sleep
  – Getting back in the Mood
    • Go slow
    • Set the mood with music, candles/lighting and aromatherapy
Controversial, New Research or Unfounded Things you can do to Deal with Stress

✔ Increase Flavanols
  – Dark Chocolate - theobromine
  – Wine – flavanol

The Chocolate Factor

• The initial randomized, double-blind, cross-over study gave volunteers a specially prepared cocoa drink containing either high or low concentrations of specific cocoa flavanols.
• Only the group that consumed the flavanol rich drink showed blood vessel relaxation.
• Flavonols are found naturally in chocolate, fruit, red wine, blueberries and green teas, and have previously been linked to improvements in heart health.
The Wine Factor

- Flavenol antioxidant family, particularly procyanidins or proanthrocyanidins.

- Stress reliever and good for heart health

- Has anti-platelet effect.

Herbs

• **Passion Flower extract (Passiflora incarnate)** - for relief of mild anxiety, aid in getting a good night’s sleep and lower some types of hypertension.

• **Skullcap (Scutellaria lateriflora)** is a nerve tonic and sedative. Historically used for epilepsy, insomnia, anxiety, and nervous tension.

• **Kava Kava (Piper methysticum)** - sedative and an anti-anxiety herb. It is non-addictive, so it might be a better choice than benzodiazepines or tranquilizers.

• **Hawthorn (Crataegus oxyacantha)** is a tonic for the circulatory system for mild high blood pressure.

• **Chamomile (Matricaria chamomilla)** - mild sedative properties used as sleeping aid and can also calm the overactive digestive tract of some who are under stress.
More Herbs

- **Mugwort (Artemisia vulgaris)** has been thought to be a tonic for the circulatory and nervous systems for a thousand years.
- **Hops (Humulus lupulus)** is a sedative that can be used for restlessness and insomnia.
- **St. John's Wort Or Hypericum Perforatum**
  - $\uparrow$ melatonin and therefore serotonin and sleep
  - $\downarrow$ cortisol
  - $\downarrow$ mild depression, comparable to imipramine after 3-4 weeks
  - Caution: allergies and drug interactions, check with physician first.
Summary

• We all experience stress in our lives and it is a healthy normal reaction to events.
• But if it is continuous stress we can become ill from diseases such as HTN, immune deficiencies and even cancers.
• Stress, as a distractor, may cause us as pharmacy technicians to make medication errors.
• We need to learn how to avoid stressors, prevent stress or manage stress.
Thank You!

Glad you could Grin and Bear it!

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