Mechanisms Through Which Dietary And Nutritional Factors May Influence Estrogen Metabolism (keeps estrogen safe!)

**Focus on Nutrients in Bold**

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<th>Mechanism of Action</th>
<th>Nutrients : Focus on Nutrients in Bold</th>
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| Promote C-2 hydroxylation over C-4 and/or C-16α hydroxylation of estrogens | • Cruciferous vegetables (Kale, collards, radishes, turnips, mustard, cabbage, broccoli, cauliflower, bok choy, horseradish, watercress, Brussels sprouts)  
  • **Indole-3-carbinol & DIM** (see supplements: I3C Plus by Health Products, Indole-3-Carbinol by Thorne, DIM Avail by Designs for Health)  
  • Rosemary (herb)  
  • Isoflavones (soy, kudzu (a thickening agent), clover) |
| Reduce the oxidation of catechol estrogens (2-OH and 4-OH)    | • Vitamins A (Carrot Juice, Kale and Multi Vitamin)  
  • Vitamin E  
  • Vitamin C  
  • N-acetylcysteine (Cysteplus by Thorne)  
  • **Turmeric** (Tumeric powder bulk by Frontier - add teaspoon in your carrot juice 2x per day)  
  • **Green tea** (Green Tea Extract by Olympian Labs and or Organic Green Tea by Choice Teas)  
  • Lycopene (Tomatoes)  
  • A-lipoic acid (Lipoic Acid Supreme by Designs for Health, Detox Formula by Vital Nutrients)  
  • Flavonoids (Berries and fruits) |
| Promote the methylation of catechol estrogens (2-OH and 4-OH) | • Folate (B-Complex or Multi-Vitamin)  
  • Vitamins B3 (Multi-Vitamin)  
  • Vitamin B6 (Multi-Vitamin)  
  • Vitamin B12 (Multi-Vitamin)  
  • Trimethylglycine (Methyl Guard Plus by Thorne or Methyl CpG by Ortho Molecular)  
  • Magnesium (Magnesium Buffered Chelate by Designs for Health) |
| Increase circulating concentrations of SHBG, thus reducing levels of unbound, active estrogens | • Fiber (Whole food Diet)  
  • Lignans (flaxseed)  
  • Flavonoids (chrysin is an herb) |
| Inhibit the activity of aromatase, which converts into estrogens | • Lignans (flaxseed)  
  • Flavonoids (chrysin is an herb) |
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| Promote the detoxification of estrogens by upregulating Phase I and Phase II enzymes | - **Turmeric** (Turmeric powder bulk by Frontier - add teaspoon in your carrot juice 2x per day)  
- Curcumin (Curcumin by Protocol for Life Balance)  
- D-limonene (from citrus fruit)  
- Magnesium (Magnesium Buffered Chelate by Designs for Health)  
- Vitamins B₂ (Multi-Vitamin)  
- Vitamin B₆ (Multi-Vitamin)  
- Vitamin B₁₂ (Multi-Vitamin)  
- Flavonoids                                                                 |
| Inhibit the activity of β-glucuronidase, which deconjugates estrogens in the large intestine, allowing them to be reabsorbed and re-metabolized | - Fiber (Whole Foods Diet)  
- Probiotics: acidophilus, bifidobacteria (OrthoBiotic by Ortho Molecular)  
- Calcium D-Glucarate (Calcium D-Glucarate by Thorne) |
| Modify estrogen receptor activity                                                | - Isoflavones (soy, kudzu)  
- Lignans (flaxseed)  
- Indole-3-carbinol (I3C Plus by Health Products, Indole-3-Carbinol by Thorne)  
- Resveratrol (Resveratrol by Protocol for Life Balance) |