

Chronic Pain in Adult Survivors of Childhood Abuse



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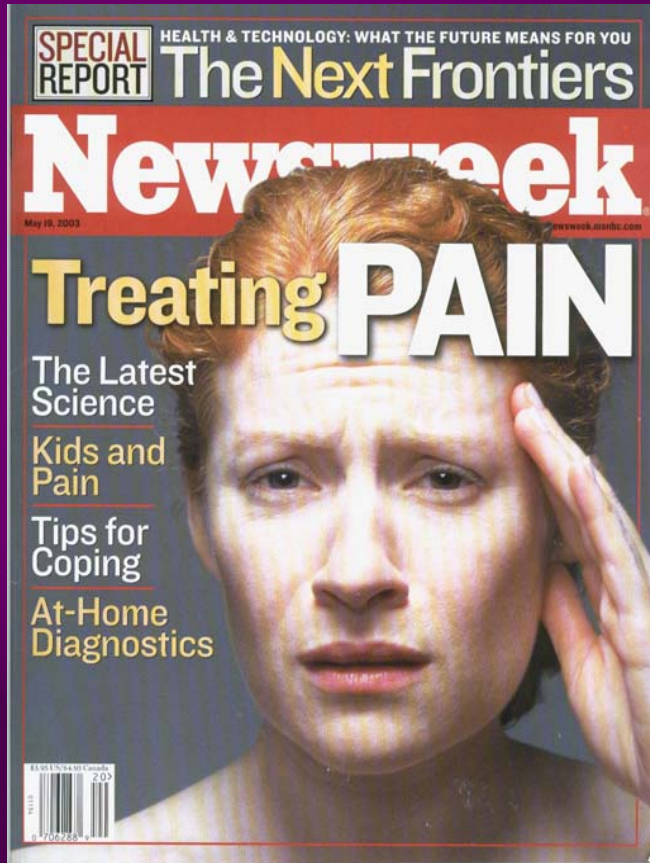
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**For further information about abuse and
chronic pain**

The Problem of Pain



- Common reason for visits to primary care, ED and specialists
- Annual U.S. costs: \$100 billion (treatment & lost work days)

Pain is Common in Abuse Survivors

- **Community sample of CSA survivors, pain was the most common symptom (Teegen, 1999)**
 - “Almost all” subjects reported it
- **69% of women in a support group for abuse survivors reported pain**
 - Compared with 43% of the comparison groups (nurse and psychiatric outpatients; Finestone et al., 2000)

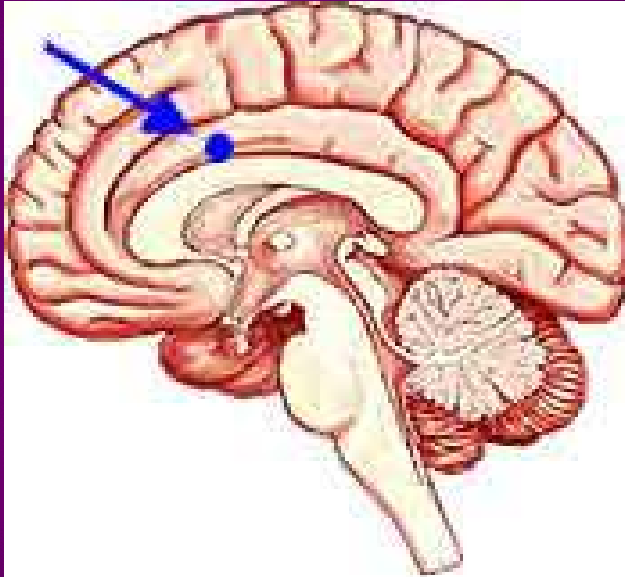


Why Identify Pain in Abuse Survivors?

- **Past abuse is often the missing piece in refractory pain**
 - **Without understanding the abuse connection, patients are vulnerable to unnecessary procedures**
 - **Surgery rates are twice as high in abuse survivors**



Brain Structures Involved in Pain



- Hypothalamus
- Amygdala
- Thalamus
- Hippocampus
- Prefrontal cortex

Anterior Cingulate Cortex

Pain Associated with Past Abuse

- **Childhood abuse is associated with five types of pain**
 - **Back Pain**
 - **Headaches**
 - **Pelvic Pain**
 - **Irritable Bowel Syndrome**
 - **Fibromyalgia**
- **Many of these types co-occur**



Abuse and Back Pain

(Schofferman et al., 1992)

- **In a study of spine surgery, patients were asked about five types of childhood trauma:**
 - **sexual, physical and emotional abuse, parental substance abuse, and abandonment**
- **Those reporting three or more types of abuse had a surgery failure rate of 85%, compared with a 5% failure rate among those with no history of trauma**



Headaches and Sexual Assault

(Golding, 1999)



- **Meta-analysis from five studies with community samples (N=7,502)**
- **Past sexual assault was related to headaches**
- **The odds of chronic headaches were higher for sexual assault that occurred in childhood**

Sexual Abuse and Pelvic Pain

(Harrop-Griffiths et al., 1988)

- **Patients with pelvic pain were significantly more likely to have been victims of either:**
 - **Childhood (64% vs. 7%) or**
 - **Adult sexual abuse (48% vs. 13%) than the comparison group**
- **There was a high incidence of depression in the abused group**



Diagnosis of Fibromyalgia



- **American College of Rheumatology criteria**
- **11 of 18 tender points**
- **Must be in all four quadrants of body**

Fibromyalgia and ACE



- **Childhood adversity was associated with a significantly higher tender point count**
 - **Child abuse, parental loss, illness of a family member, and parental drug overdose**
- **Childhood abuse was the best independent predictor of high tender-point count (OR=6.9)**
(McBeth et al., 1999)

FMS/CFS and Abuse

- **Compared three groups: CFS/FM, Chronic disease (RA and MS), and healthy controls**
- **In CFS/FM group:**
 - 48% emotionally abused or neglected
 - 23% physically abused
 - 39% victimized as adults
 - 10% sexually abused (not different than other two groups)
- **Emotional and physical abuse significantly more common in FM/CFS patients (van Houdenhove et al. 2001)**



Pathophysiology of FMS

- **Lower levels of serotonin and serotonin metabolite 5-HIAA in cerebral spinal fluid of FM patients (Wolfe et al., 1997)**
- **Higher levels of Substance P (three times) in CSF (Russell et al., 1994)**
- **By CT scan, impaired blood flow to the left and right hemithalami, and the right and left heads of the caudate nucleus (Mountz et al., 1995)**



Pathophysiology of FMS (cont'd)

- **HPA disturbances including lower levels of cortisol and diurnal disturbances in cortisol levels (Crofford et al., 1994)**
- **Sleep disturbances**
 - **Alpha wave disturbances during delta sleep**
 - **Phasic pattern of alpha disturbance more common in FMS (Roizenblatt et al., 2001)**



Diagnosis of IBS



- **“Rome Criteria”**
 - **Ab pain, cramping**
 - **Diarrhea or constipation**
 - **Passage of mucus**
 - **Bloating**
- **Diagnosis of exclusion**
- **Symptoms must be present for 3 months**

Sexual Victimization and IBS

- **28 IBS and 19 IBD patients**
- **Patients with IBS had higher rates of:**
 - **Severe lifetime sexual trauma (32% vs. 0%)**
 - **Severe child sexual abuse (11% vs. 0%)**
 - **Any lifetime sexual victimization (54% vs. 5%)**

(Walker et al., 1993)



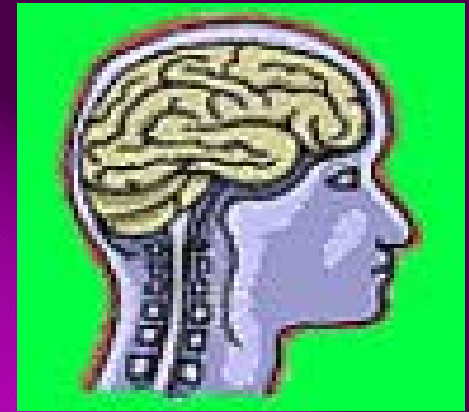
Functional vs. Organic GI Illness

- **Study compared health of women with functional vs. organic GI illnesses**
 - **60% of the total sample reported physical or sexual abuse**
 - **67% for functional diagnoses**
 - **56% for organic conditions (cirrhosis, hepatitis B & C)**
- (Drossman et al., 1996; Leserman et al., 1996)**



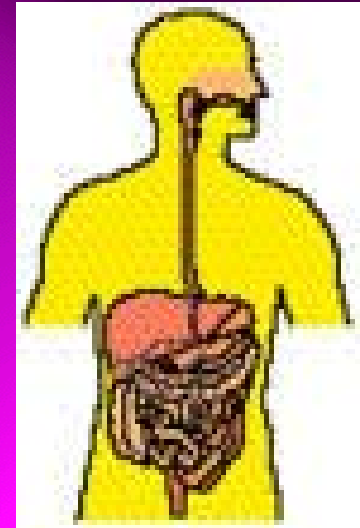
Pathophysiology of IBS

- **Hyperalgesia more common in IBS patients after exposure to painful stimuli (Munakata et al., 1997)**
- **Abnormal pattern of activation of anterior cingulate cortex in IBS patients (all cortex, no ACC) (Toner et al, 2000)**
- **ACC responsibility for release of endorphins**
 - **Without this release, more pain**



Pathophysiology of IBS (cont'd)

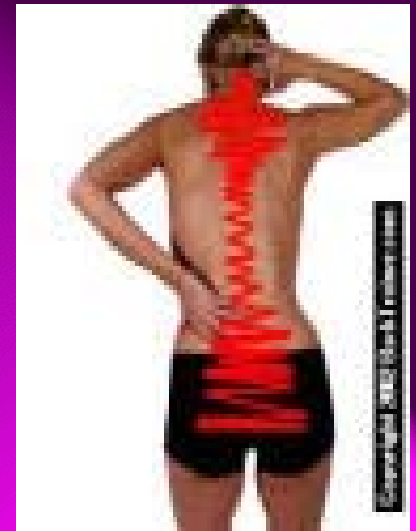
- **Enteric Nervous System**
- **Small intestine has the same number of nerve cells as spinal cord (100 million)**
- **More nerve cells in the rest of the gut (esophagus, stomach, and large intestine) than in the spinal cord**
- **Serotonin manufactured in the gut, and serotonin receptors in enteric nerves (Gerson, 1998)**



VAW and Chronic Pain

- **Sample from primary care (N=110)**
- **Women who had been abused as children or adults were more likely to report two or more symptoms of chronic pain**
 - **Abdominal pain**
 - **Pain or stiffness in joints or muscles**
 - **Pain during urination**
 - **Arthritis**
 - **Back pain**
 - **Severe headaches**

(Kendall-Tackett et al., 2003)



Failure to Find a Connection

- **Raphael et al. (2001) compared prospective and retrospective findings**
 - **Subjects identified prospectively all had documented histories of maltreatment during childhood. Matched to a non-abused control group**
 - **Retrospective findings were based on questionnaire data when the subjects were adults, 20 years later**
- **Retrospective findings showed a strong connection between abuse and pain. Prospective findings did not**



A Limitation of Prospective Findings

- **When interviewed retrospectively, some adults in the non-abused control group were reporting abuse experiences as well**
 - **There were 96 subjects with documented cases of sexual abuse, but 291 who self-reported sexual abuse**
 - **Similarly, there were 100 subjects with documented physical abuse, and 610 with self-reported physical abuse**
- **Retrospective findings may have been more accurate (Kendall-Tackett & Becker-Blease, 2004)**



Pain & Psychiatric Co-Morbidity

- **11 studies of pain and childhood abuse**
(Kendall-Tackett, 2003)
 - **91% reported co-occurring major depression**
 - **36% reported co-occurring generalized anxiety disorder**
 - **36% reported co-occurring substance abuse**
 - **Other problems included PTSD, phobia and panic disorder**



Psychiatric Symptoms

- Scarinci and colleagues drew a sample of 50 patients with one of three pain syndromes (GERD, IBS, NCCP)
- Abused patients (PA or CSA) had significantly lower pain threshold levels and significantly lower cognitive standards for judging stimuli as noxious
- Even after controlling for psychiatric disturbance (Scarinci et al., 1994)



Pain, Abuse and Depression in NCS

- **Community sample of 1727 men and women with serious health problems (Nat'l Co-morbidity Study)**
- **Subjects with a history of physical or sexual abuse had more pain in relation to their health problem than non-abused subjects**
 - **Even after controlling for family of origin variables**
- **Depression did not mediate the relationship between abuse and pain (Sachs-Ericsson, Kendall-Tackett & Hernandez, under review)**



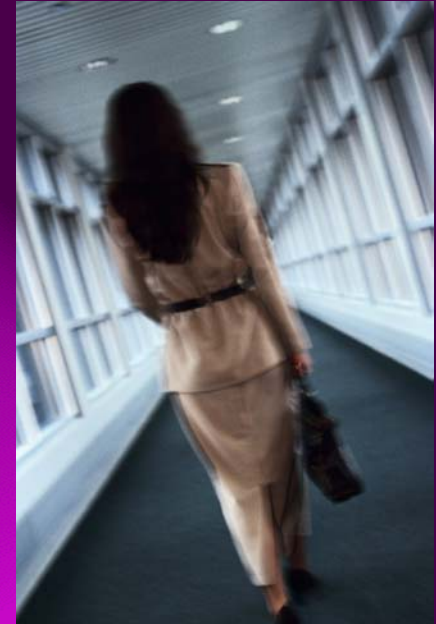
Some Theories of Trauma and Pain

- **Dysregulation of the SNS and HPA axis**
 - Can be either hyper or hypoactive
- **Impaired serotonin manufacture and receptor function**
 - Impaired regulation of Substance P
- **Pain and PTSD as mutually maintaining conditions**
- **Lowered pain threshold**
 - Neuronal plasticity
 - Chronic hyperarousal
- **Sleep difficulties related to trauma cause daytime pain**



Trauma, Pain and Allostatic Load

- **Continual overburdening of the stress system causes hyperactivity of the stress response**
- **Associated with functional, possibly structural changes**
- **Chronic overload “flips a switch” that turns hyperactivity to hypoactivity**
- **Causes disturbance of immune, neurotransmitter and central pain processing mechanisms (Van Houdenhove et al., 2005; Van Houdenhove, 2005)**



Severity of Abuse Influences Disability and Healthcare Use

- **When all abuse was considered, the amount of variance accounted for was small (1% to 10%)**
- **Severe abuse, in contrast, accounted for:**
 - **63% of variance for days in bed**
 - **74% for number of doctor visits**
 - **231% for lifetime surgeries**

(Drossman et al., 1996)



What We Know about Abuse and Pain

- Abuse survivors have higher rates of functional and organic pain
- Pain syndromes co-occur
- Pain syndromes have commonalities
 - Lower pain thresholds, possible smooth muscle disorder
- We still can't prove abuse *causes pain*

