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Physiologic Signs of Stress

Fight or Flight Response

- saliva flow decreases
- eyes pupils dilate
- skin blood vessels constrict; chills & sweating
- lungs quick, deep breathing occurs
- heart beats faster & harder
- stomach output of digestive enzymes decreases
- bowel food movement slows down
- muscles become more tense; trembling can occur
- blood vessels blood pressure increases as major vessels dilate

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Acute vs. Chronic Stress

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Types of Stress Response

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    graph LR
      A[Attacked by a dog (Stressor)] --> B[More cautious interaction with dogs]
      A --> C[Distance increasing behaviors (e.g., growl)]
      A --> D[Panics and attempts to flee every time he sees other dog]
      A --> E[Attacks other dogs]
      B --> F[Recovery/Adaptive response]
      C --> F
      D --> G[Worsening stress and Maladaptive response]
      E --> G
  
```




What Happens When They Can't Recover?


Stressors that don't go away




Stress, Shelters, Personality



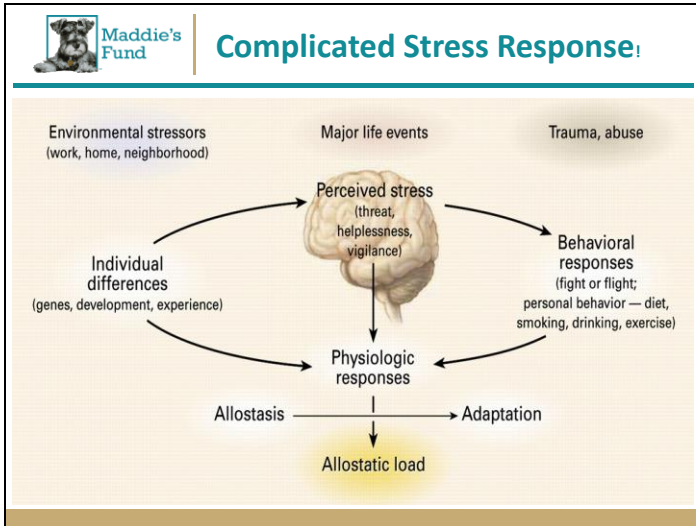


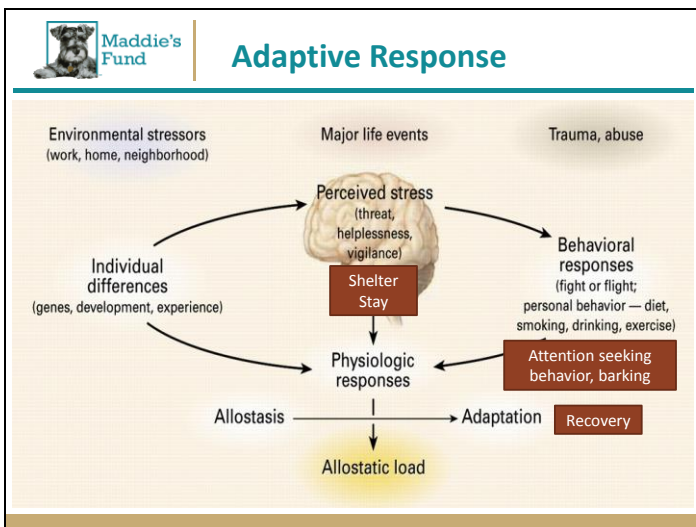
Why Are They So Stressed?

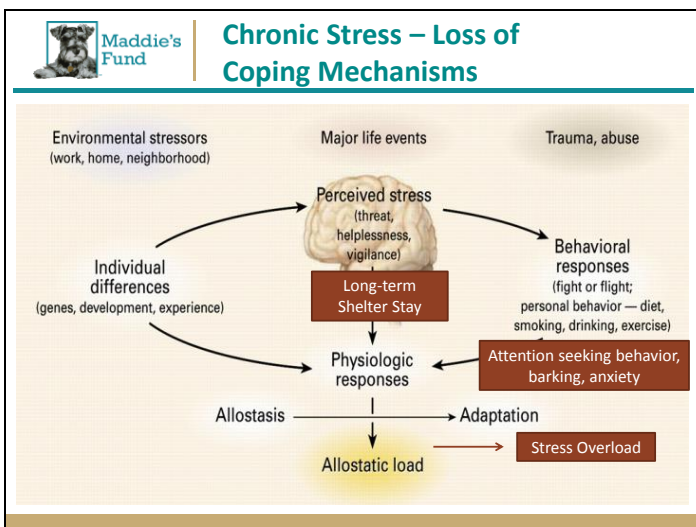
Lack of Control



- Separation from family
- Disruption of routine
- Bad smells
- Loud noises
- Confined living conditions
- Inconsistent and/or poorly controlled temperatures
- Separation from home
- Inability to maintain normal sleep/wake cycles
- Aggressive dogs
- Diet change
- Lack of social contact
- Inability to maintain housetraining
- Uncomfortable living conditions
- Other stressed pets







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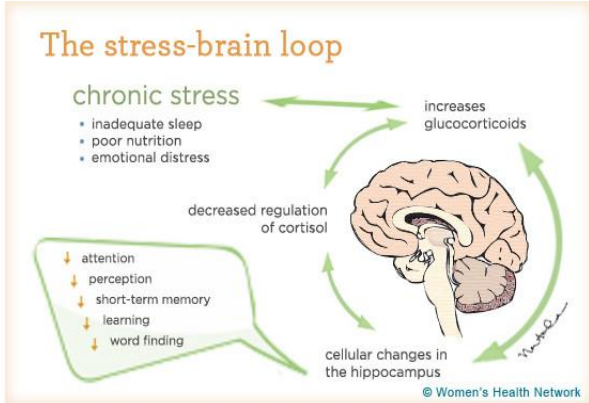
Stress and Welfare



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It's Stressful to Learn About Stress!

The stress-brain loop



chronic stress

- inadequate sleep
- poor nutrition
- emotional distress

increases glucocorticoids

decreased regulation of cortisol

cellular changes in the hippocampus

attention
↓
perception
↓
short-term memory
↓
learning
↓
word finding

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Behavior Problems are Exacerbated by Stress

Aggression (all types)	Inappropriate elimination
Separation anxiety	Urine marking
Destructive behavior	Compulsive behavior
Barking	Sociability
Fear	Excitability

Maddie's Fund | **Length of Stay and Quality of Life***

Stress → **Poor Quality of Life** → **Unappealing Behavior** → **Increased Time Spent in Shelter** → **Stress**

*Shelter Medicine for Veterinarians. Second Edition. Chapter 7; Quality of Life, Stress, and Emotional Pain in Shelter Animals, Dr. Frank D. McMillan


Maddie's Fund | **Welfare**

Balance between positive and negative experiences

Bad (left side of seesaw) | **Good** (right side of seesaw)


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Roo's Story

 Maddie's Fund | **Welfare Assessment**

Evaluating a Population of Dogs

Welfare Assessment Protocol for Shelter Dogs <http://www.carodog.eu/wp-content/uploads/2014/02/Shelter-Quality-Protocol-2014.pdf>

 Maddie's Fund | **Is experiencing stress worthwhile, if it results in saving a life?**


 Maddie's Fund | **What Can We Do to Help?**


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What Can We Do to Help?



- Basic care
- Structured environment/routine
- Reduce noise
- Enrichment
- Foster care
- Adoption!!!
- Medication

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