



# Hyperhidrosis

# What is Hyperhidrosis?

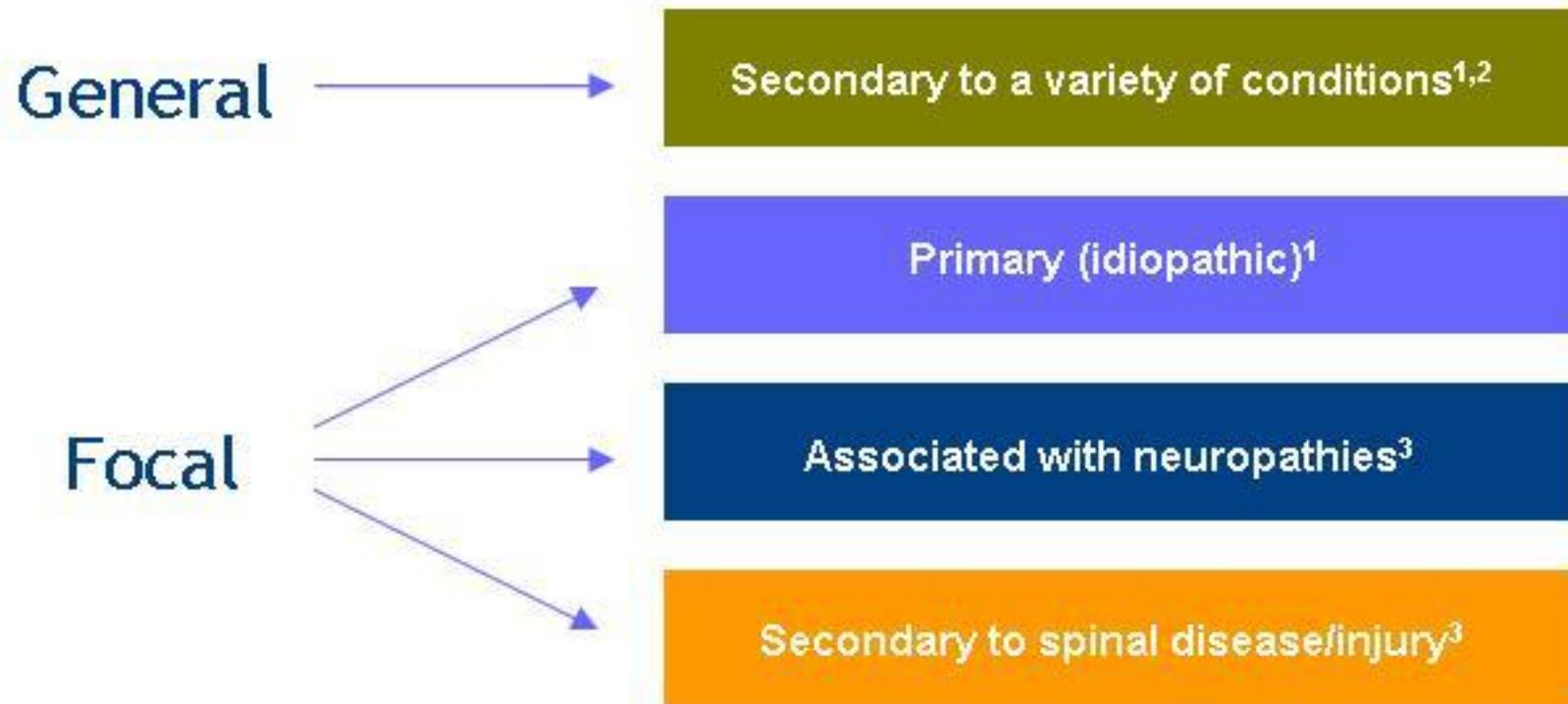


- ◆ Sweating that is more than required to maintain normal thermal regulation

# Sweating Nomenclature

- ◆ Areas: Focal, regional, generalized
- ◆ Symmetry: Symmetric or asymmetric
- ◆ Classification: Primary vs. secondary
- ◆ Type of sweating: Anhidrosis, euhydrosis, hyperhidrosis

# Hyperhidrosis



# Causes of Generalized Hyperhidrosis

Usually secondary in nature

- ◆ Drugs, toxins, substance abuse
- ◆ Cardiovascular disorders
- ◆ Respiratory failure
- ◆ Infections
- ◆ Malignancies
  - ◆ Hodgkin's, myeloproliferative disorders, cancers with increased catabolism
- ◆ Endocrine/metabolic disorders
  - ◆ Thyrotoxicosis, pheochromocytoma, acromegaly, carcinoid tumor, hypoglycemia, menopause
- ◆ Rarely Idiopathic / Primary HH

# Causes of Localized Hyperhidrosis

- ◆ Usually Idiopathic / Primary
- ◆ Social anxiety disorder
- ◆ Eccrine nevus
- ◆ Gustatory sweating
- ◆ Frey syndrome
- ◆ Impaired evaporation
- ◆ Stump hyperhidrosis after amputation

# Idiopathic (Primary) Focal Hyperhidrosis

- ◆ Onset mostly at puberty or early adulthood
- ◆ Predilection sites: axillae, palms, soles, face
- ◆ Pathogenesis



Palmar disease: thenar eminence

# US Prevalence

Survey mailed to a representative sample of 150,000 US households in January 2002



64% response rate



Approximately 6,800 respondents with hyperhidrosis



Projected to the US population



Prevalence of hyperhidrosis in the US is 2.8% (7.8 million individuals)

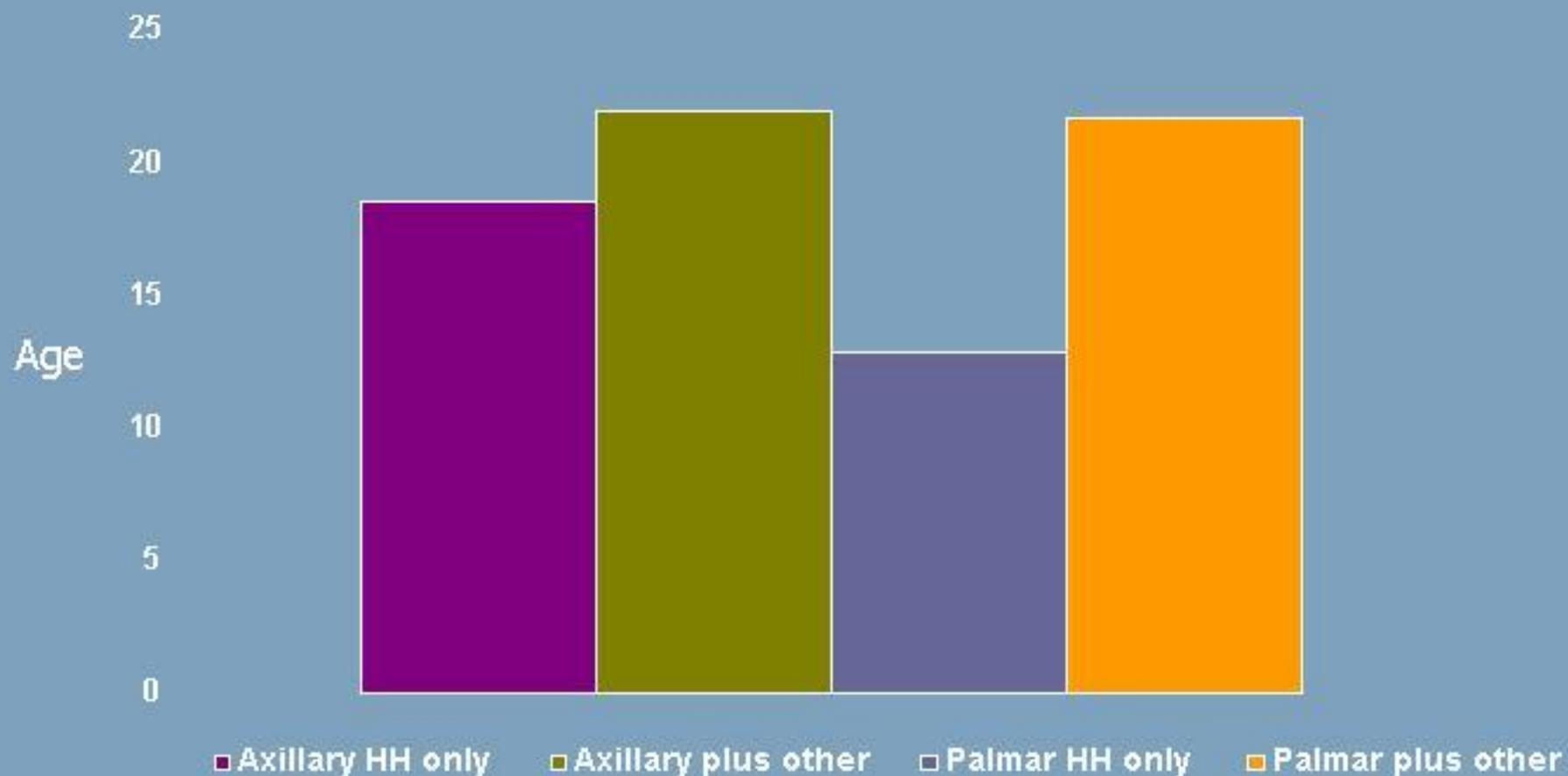


50.8% have axillary hyperhidrosis: US prevalence is 1.4% (4 million individuals)



32.4% of individuals with axillary hyperhidrosis (**0.5% of the US population** or 1.3 million people) have sweating that is barely tolerable and frequently interferes with their daily activities, or is intolerable and always interferes with their daily activities (based on the HDSS).

## Mean Age of Onset



Strutton DR, Kowalski JW, Glaser DA, Stang PE. American Academy of Dermatology 61<sup>st</sup> Annual Meeting; March 21-26, 2003; San Francisco, Calif. Abstract P362.

# Diagnosis of Primary Focal Hyperhidrosis

- ◆ Focal, visible, excessive sweating of at least 6 months duration without apparent cause with at least 2 of the following characteristics:
  - Bilateral and relatively symmetric
  - Impairs daily activities
  - Frequency of at least one episode per week
  - Age of onset less than 25 years
  - Positive family history
  - Cessation of focal sweating during sleep

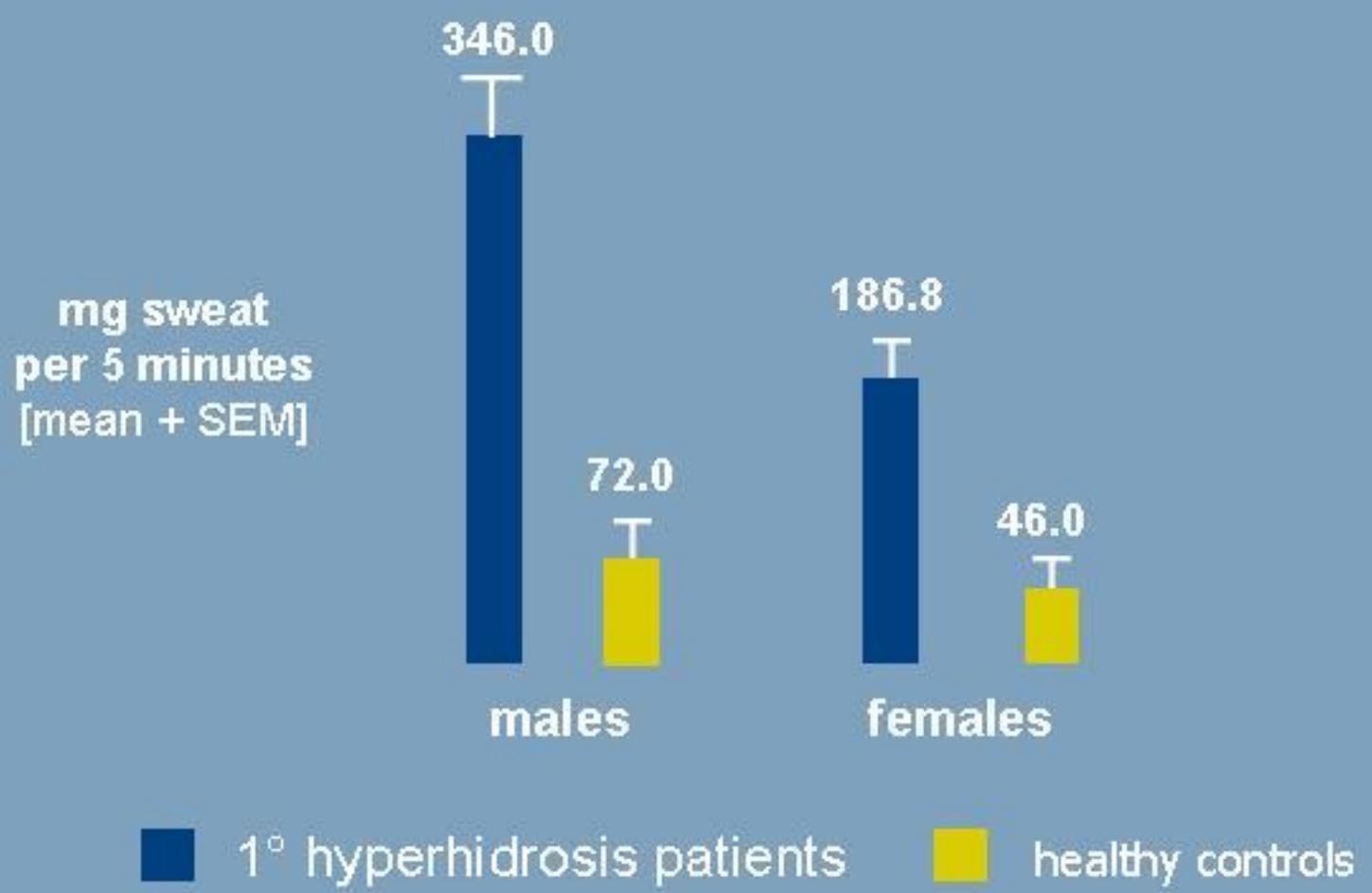
# Diagnostic Work-up

- ◆ **History**
  - Age of onset
  - Location
  - Trigger factors
  - Review of symptoms
- ◆ **Physical exam**
- ◆ **Laboratory evaluation**
  - Gravimetric -  
1° research tool
  - Starch iodine - defines area of disease



Starch iodine test, with the darkened area showing location of excessive sweating

# Axillary Sweat Production



# DLQI Total Scores and Ranges by Dermatological Disease/Condition

*Diseases with DLQI Scores 10 or Greater*

Disease	DLQI Score (baseline)
Hyperhidrosis palms	18-8.8
Hyperhidrosis axillary	17-10
Eczema (inpatient)	16.2
Focal hyperhidrosis (general)	15.5-9.2
Psoriasis (inpatient)	13.9
Hyperhidrosis forehead	12.5
Atopic eczema	12.5-5.8
Psoriasis (outpatient)	11.9-4.51
Contact dermatitis	10.8
Pruritus	10.5-10

Scores range from 0 to 30, with 30 indicating the worst quality of life.

# Quality of life: Primary Axillary Hyperhidrosis

- ❑ Less confident 72%
- ❑ Unhappy/depressed 49%
- ❑ Change type of leisure activities 45%
- ❑ Frustrated with daily activities 30%
- ❑ Miss outings/events 25%
- ❑ Decrease time in leisure activities 19%

# Quality of Life: Primary Palmar Hyperhidrosis

- Interference with daily tasks 95%
- Social embarrassment 90%
- Psychological difficulties 40%

100 patients, palmar, presenting for sympathectomy

# Available Treatments

- ◆ Topical agents
- ◆ Iontophoresis
- ◆ Systemic agents
- ◆ Botulinum toxin
- ◆ Surgery
  - Sweat gland resection
  - ETS

# Treatment Response



**Before treatment**



**Placebo**



**After treatment**



**Placebo**

Starch iodine test, with the darkened area showing location of excessive sweating

# Summary

## Primary Focal Hyperhidrosis is a separate and unique disease

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- Bilateral & symmetric
- Axilla, palms, soles, craniofacial
- Onset in childhood and adolescence
- Significant impact on quality of life
- Effective therapies