Package 'hidradenitis'

January 10, 2025

Title Calculate Clinical Scores for Hidradenitis Suppurativa (HS), a Dermatologic Disease

Version 1.0.1

Description Calculate clinical scores for hidradenitis suppurativa (HS), a dermatologic disease. The scores are typically used for evaluation of efficacy in clinical trials. The scores are not commonly used in clinical practice. The specific scores implemented are Hidradenitis Suppurativa Clinical Response (HiSCR) (Kimball, et al. (2015) <doi:10.1111/jdv.13216>), Hidradenitis Suppurativa Area and Severity Index Revised (HASI-R) (Goldfarb, et al. (2020) <doi:10.1111/bjd.19565>), hidradenitis suppurativa Physician Global Assessment (HS PGA) (Marzano, et al. (2020) <doi:10.1111/jdv.16328>), and the International Hidradenitis Suppurativa Severity Score System (IHS4) (Zouboulis, et al. (2017) <doi:10.1111/bjd.15748>).

License GPL (>= 3)

Encoding UTF-8

RoxygenNote 7.3.1

Suggests spelling, testthat (>= 3.0.0)

Config/testthat/edition 3

URL https://humanpred.github.io/hidradenitis/

BugReports https://github.com/humanpred/hidradenitis/issues

Language en-US

Imports checkmate

NeedsCompilation no

Author Bill Denney [aut, cre] (<https://orcid.org/0000-0002-5759-428X>), Devon Bartlett [aut]

Maintainer Bill Denney <wdenney@humanpredictions.com>

Repository CRAN

Date/Publication 2025-01-10 15:50:11 UTC

Contents

---

hasi_bsa_to_ordinal	*Converts BSA percentage to the ordinal scale for HASI-R scoring.*

Description

Converts BSA percentage to the ordinal scale for HASI-R scoring.

Usage

```
hasi_bsa_to_ordinal(
  bsa_percent_within_site = NULL,
  bsa_percent_total_body = NULL,
  bsa_ordinal = NULL,
  bodysite = NULL
)
```

Arguments

bsa_percent_within_site

                Numeric vector representing BSA percentages (0-100)

bsa_percent_total_body

                Numeric vector representing BSA percentages (0-15, depending on site)

bsa_ordinal   Numeric vector representing BSA values. (0-6)

bodysite   Optional character vector representing body sites

Value

Integer vector representing the ordinal scale values

References

Goldfarb N, Lowes MA, Butt M, King T, Alavi A, Kirby JS. Hidradenitis Suppurativa Area and Severity Index Revised (HASI-R): psychometric property assessment. Br J Dermatol. 2021 May;184(5):905-912. doi: 10.1111/bjd.19565. Epub 2020 Dec 30. PMID: 32969027; PMCID: PMC8573730.

See Also

Other HASI: `hasi_r_num()`

Examples

```
hasi_bsa_to_ordinal(c(0, 2, 5, 12, 25, 40, 75))
```

---

hasi_r_num   *Calculates the HASI-R score for each patient and visit.*

Description

Calculates the HASI-R score for each patient and visit.

Usage

```
hasi_r_num(
  bsa_percent_within_site = NULL,
  bsa_percent_total_body = NULL,
  bsa_ordinal = NULL,
  bodysite = NULL,
  inflam_color_chg,
  induration,
  open_skin_surface,
  tunnels
)
```

Arguments

bsa_percent_within_site

        Numeric vector representing BSA percentages (0-100)

bsa_percent_total_body

        Numeric vector representing BSA percentages (0-15, depending on site)

bsa_ordinal   Numeric vector representing BSA values. (0-6)

bodysite   Optional character vector representing body sites

inflam_color_chg

        Integer vector representing inflammatory color change scores (0-3).

induration   Integer vector representing induration scores (0-3).

open_skin_surface

        Integer vector representing open skin surface scores (0-3).

tunnels   Integer vector representing tunnels scores (0-3).

Value

A numeric vector of the calculated HASI-R score

References

Goldfarb N, Lowes MA, Butt M, King T, Alavi A, Kirby JS. Hidradenitis Suppurativa Area and Severity Index Revised (HASI-R): psychometric property assessment. Br J Dermatol. 2021 May;184(5):905-912. doi: 10.1111/bjd.19565. Epub 2020 Dec 30. PMID: 32969027; PMCID: PMC8573730.

See Also

Other HASI: `hasi_bsa_to_ordinal()`

Examples

```
hasi_r_num(
  bsa_percent_within_site = c(0, 0, 0, 0, 5, 1, 4.3, 1.2, 6.8, 7.2),
  bodysite =
    c("Right Axilla", "Buttocks including Intergluteal Cleft",
      "Back", "Left Thigh", "Head & Neck", "Left Axilla",
      "Chest", "Pubis & Genitals", "Abdomen", "Right Thigh"),
  inflam_color_chg = c(0, 0, 0, 0, 2, 3, 1, 3, 2, 0),
  induration = c(0, 0, 0, 0, 2, 3, 1, 3, 2, 0),
  open_skin_surface = c(0, 0, 0, 0, 2, 3, 1, 3, 2, 0),
  tunnels = c(0, 0, 0, 0, 2, 3, 1, 3, 2, 0)
)
```

---

hiscr   *Calculates HiSCR scores given a percentage parameter.*

Description

Calculates HiSCR scores given a percentage parameter.

Usage

```
hiscr(
  baseline_abscess,
  baseline_nodule,
  baseline_fistula,
  timepoint_abscess,
  timepoint_nodule,
  timepoint_fistula,
  percentage
)
```

Arguments

baseline_abscess

     Integer vector representing the abscess count at baseline.

baseline_nodule

     Integer vector representing the inflammatory nodule count at baseline.

baseline_fistula

> Integer vector representing the draining fistula count at baseline.

timepoint_abscess

> Integer vector representing the abscess count at the time point of interest.

timepoint_nodule

> Integer vector representing the inflammatory nodule count at the time point of interest.

timepoint_fistula

> Integer vector representing the draining fistula count at the time point of interest.

percentage   Numeric value specifying the percentage required for HiSCR (e.g., 50 for HiSCR50, 75 for HiSCR75, etc.).

Value

A logical vector indicating whether the HiSCR response is achieved for each set of input parameters.

References

Kimball, A B et al. "HiSCR (Hidradenitis Suppurativa Clinical Response): a novel clinical endpoint to evaluate therapeutic outcomes in patients with hidradenitis suppurativa from the placebo-controlled portion of a phase 2 adalimumab study." Journal of the European Academy of Dermatology and Venereology : JEADV vol. 30,6 (2016): 989-94. doi:10.1111/jdv.13216

Examples

```
hiscr(
  baseline_abscess = c(3, 2, 4),
  baseline_nodule = c(5, 4, 6),
  baseline_fistula = c(2, 1, 3),
  timepoint_abscess = c(1, 1, 2),
  timepoint_nodule = c(2, 3, 2),
  timepoint_fistula = c(2, 1, 3),
  percentage = 50
)
```

---

hs_pga_char   *Converts HS-PGA numerical scores to character values.*

Description

Converts HS-PGA numerical scores to character values.

Usage

```
hs_pga_char(hs_pga_scores)
```

Arguments

hs_pga_scores   Integer vector representing the HS-PGA scores (1: Clean, 2: Minimal, 3: Mild,
                  4: Moderate, 5: Severe, 6: Very Severe).

Value

A character vector representing the corresponding HS-PGA categories.

References

Marzano, A V et al. "Creation of a severity index for hidradenitis suppurativa that includes a vali-
dated quality-of-life measure: the HIDRAscore." Journal of the European Academy of Dermatology
and Venereology : JEADV vol. 34,8 (2020): 1815-1821. doi:10.1111/jdv.16328

See Also

Other HS-PGA: `hs_pga_num()`

Examples

```
hs_pga_char(c(1, 2, 3, 4, 5, 6))
```

---

hs_pga_num	*Calculates HS-PGA scores based on abscess, draining fistula, and in-flammatory nodule counts.*

Description

Calculates HS-PGA scores based on abscess, draining fistula, and inflammatory nodule counts.

Usage

```
hs_pga_num(abscess_fistula, inflammatory_nodule, non_inflammatory_nodule)
```

Arguments

abscess_fistula
                  Integer vector representing the sum of abscess and draining fistula counts.
inflammatory_nodule
                  Integer vector representing the inflammatory nodule count.
non_inflammatory_nodule
                  Integer vector representing the non-inflammatory nodule count.

Value

An integer vector representing the HS-PGA scores (1: Clean, 2: Minimal, 3: Mild, 4: Moderate, 5:
Severe, 6: Very Severe)

References

Marzano, A V et al. "Creation of a severity index for hidradenitis suppurativa that includes a validated quality-of-life measure: the HIDRAscore." Journal of the European Academy of Dermatology and Venereology : JEADV vol. 34,8 (2020): 1815-1821. doi:10.1111/jdv.16328

See Also

Other HS-PGA: `hs_pga_char()`

Examples

```
hs_pga_num(
  abscess_fistula = c(0, 0, 1, 0, 1, 2, 6),
  inflammatory_nodule = c(0, 0, 0, 3, 5, 8, 12),
  non_inflammatory_nodule = c(0, 1, 0, 0, 0, 0, 0)
)
```

---

ihs4_char   *Converts IHS4 numerical scores to character values.*

Description

Converts IHS4 numerical scores to character values.

Usage

```
ihs4_char(ihs4_scores)
```

Arguments

ihs4_scores   Integer vector representing the IHS4 scores (0-3: Mild, 4-10: Moderate, >=11: Severe).

Value

A character vector representing the corresponding IHS4 categories

References

Zouboulis, C C et al. "Development and validation of the International Hidradenitis Suppurativa Severity Score System (IHS4), a novel dynamic scoring system to assess HS severity." The British journal of dermatology vol. 177,5 (2017): 1401-1409. doi:10.1111/bjd.15748

See Also

Other IHS4: `ihs4_num()`

Examples

```
ihs4_char(c(2, 5, 12))
```

---

ihs4_num   *Calculates IHS4 scores based on abscess, draining fistula, and inflam-*
                                 matory nodule counts.

Description

Calculates IHS4 scores based on abscess, draining fistula, and inflammatory nodule counts.

Usage

```
ihs4_num(nodules, abscesses, draining_tunnels)
```

Arguments

nodules	Integer vector representing the nodule count
abscesses	Integer vector representing the abscess count
draining_tunnels	
	Integer vector representing the draining tunnel count

Value

An integer vector representing the IHS4 scores (0-3: Mild, 4-10: Moderate, 11- : Severe).

References

Zouboulis, C C et al. "Development and validation of the International Hidradenitis Suppurativa Severity Score System (IHS4), a novel dynamic scoring system to assess HS severity." The British journal of dermatology vol. 177,5 (2017): 1401-1409. doi:10.1111/bjd.15748

See Also

Other IHS4: `ihs4_char()`

Examples

```
ihs4_num(
  nodules = c(5, 3, 2),
  abscesses = c(2, 1, 0),
  draining_tunnels = c(1, 2, 3)
)
```

Index