Supplementary material 1

Questions used for the first definition of acute low back pain (“non-chronic”) from the Canadian adaptation of the NIH minimum dataset for chronic low back pain (Lacasse et al., 2017 – CMAJ Open).

1- How long has low-back pain been an ongoing problem for you?
   - Less than 1 month
   - 1-2 months
   - 3-5 months
   - 6-11 months
   - 1-5 years
   - More than 5 years

2- How often has low-back pain been an ongoing problem for you over the past 6 months?
   - Every day or nearly every day in the past 6 months
   - At least half the days in the past 6 months
   - Less than half the days in the past 6 months

Participants were considered as acute low back pain (“non-chronic”) if they meet one of these two options:

1- Less than 3 months (i.e. “Less than 1 month” or “1-2 months”) regardless of the answer to question 2.
2- 3 months and more (i.e. “3-5 months”, “6-11 months”, “1-5 years”, “More than 5 years”) only if low-back pain was an ongoing problem for “Less than half the days in the past 6 months”

Considering the dichotomic nature of this classification, participants were considered as chronic low back pain for any other combinations of answers (i.e. if pain was present for 3 months and more for at least half the days or nearly everyday or every day in the past 6 months).
Supplementary material 2

This Supplementary material provide information about comparisons of group’s characteristics between three subgroups derived from combining the three definitions.

Methods

Derived subgroups: Combining the three aLBP definitions, three subgroups were derived: 1) participants with aLBP according to all three definitions (“all aLBP”), 2) participants with aLBP only using the “non-chronic” (“only non-chronic”) and 3) participants with aLBP only with to acute definition (“only-acute”).

Statistical analysis: Characteristics of derived subgroups were compared using Kruskal-Wallis Test for continuous variables and Chi-squared / Fisher’s tests for categorical variables.

Results:

Comparisons between the derived subgroups

Supplementary Table 1 presents comparisons between the three derived subgroups (Figure 1). The “only acute” subgroup had higher scores for pain interference, emotional distress/depression, and pain impact and lower scores for physical function and health utility compared to the “all aLBP” and “only non-chronic” subgroups. Pain impact score was higher in “all aLBP” subgroup compared to “only non-chronic” subgroup. Pain intensity was higher in “only acute” compared to “only non-chronic” subgroup. More participants in the “only acute” subgroup had catastrophizing thoughts compared to “only non-chronic” and “all aLBP”. Less participants in the “only non-chronic” subgroup had kinesiophobia thoughts compared to “only acute” and “all aLBP” subgroups.

For demographics characteristics, more participants had pain for less than 3 months in “all aLBP” compared to the other subgroups, and less for more than 1 year. Less participants were 18-40 years old in the “only acute” compared to other subgroups, and less participants in the “only non-chronic” subgroup were 60 years and older compared to the “only acute”. More participants never smoked in “all aLBP” than in the “only acute” subgroup.
### Table 1. Characteristics of the three derived subgroups from the three aLBP definitions

| Variable                        | Category          | All aLBP  | Only non-chronic | Only acute | p-value |
|---------------------------------|-------------------|----------|-----------------|-----------|---------|
|                                 | n=327             | n=422    | n=255           |           |         |
| Age groups (years)              |                   |          |                 |           |         |
| 18 - 40                         | 156               | 208      | 83              |           | <0.0001|
| 41 - 60                         | 152               | 195      | 139             |           |         |
| >60                             | 19                | 19       | 33              |           |         |
| Sex at birth                    |                   |          |                 |           |         |
| Female                          | 176               | 211      | 149             |           | 0.1233 |
| Male                            | 146               | 201      | 102             |           |         |
| Obesity                         |                   |          |                 |           |         |
| <30 kg/m2                       | 191               | 246      | 144             |           | 0.9948 |
| >=30 kg/m2                      | 122               | 155      | 92              |           |         |
| Smoking status                  |                   |          |                 |           |         |
| Never smoked                    | 165               | 192      | 84              |           | 0.0005 |
| Current smoker                  | 58                | 71       | 66              |           |         |
| Ex-smoker                       | 96                | 144      | 91              |           |         |
| Pain duration                   |                   |          |                 |           |         |
| Less than a month               |                   |          |                 |           |         |
| 1-2 months                      | 132               | 14       | 0               |           |         |
| 3-5 months                      | 11                | 14       | 18              |           |         |
| 6-11 months                     | 8                 | 30       | 19              |           |         |
| 1-5 years                       | 38                | 152      | 95              |           |         |
| More than 5 years               | 74                | 205      | 122             |           |         |
| Kinesiophobia                   |                   |          |                 |           |         |
| Agree                           | 96                | 78       | 99              |           | <0.0001|
| Disagree                        | 228               | 338      | 155             |           |         |
| Catastrophizing                 |                   |          |                 |           |         |
| Agree                           | 72                | 89       | 171             |           | <0.0001|
| Disagree                        | 252               | 328      | 83              |           |         |
| Score allowed                   |                   |          |                 |           |         |
| 0-10                            | 327               | 421      | 254             |           | <0.0001|
| 4-20                            | 322               | 414      | 248             |           | <0.0001|
| 8-20                            | 319               | 408      | 249             |           | <0.0001|
| 12-20                           | 322               | 410      | 249             |           | <0.0001|

- aLBP = Acute low back pain. SD= Standard deviation. 95% CI=95% confidence interval. 95% CI comparisons: *Significant difference between the “all aLBP” and aLBP by “only non-chronic” subgroups. # Significant difference between the “all aLBP” and the “only acute” subgroups. + Significant difference between the “only non-chronic” and “only acute” subgroups. † Chi2 test. §Fisher’s exact test. KW=Kruskal–Wallis test. The Dunn test showed significant differences for all pairwise comparisons with the exception of the comparison between “all aLBP” and the “only non-chronic” subgroups. The subgroups are mutually exclusive.
eFigure 1: Derived subgroups from the combination of acute low back pain definitions and underlying answers to classification questions.