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## MetaMap's Strict and Relaxed Models

For efficiency, MetaMap partitions its UMLS data into Strict and Relaxed Models. MetaMap by default uses the Strict Data Model; the Relaxed Model is a proper superset of the Strict Model, and typically contains strings containing internal syntactic structure, such as conjunction. Each data model includes the [Base](#), [USAbase](#), and [NLM Data Versions](#).

The following strings are just a few that appear in the relaxed model only:

- not fasting (C2585491)
- arms and legs (C0015385)
- asks questions (C0566217)
- abdomen not distended (C0424826)
- reaction time reduced (C0542189)
- has difficulty with speech (C0233715)
- disease or syndrome of heart (C0018799)

In order to map text to such concepts, use the `--relaxed_model (-C)` command-line option.

We recommend using the Relaxed Model in conjunction with [Term Processing](#).

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Both MetaMap data models (Strict and Relaxed) include only the English strings from the UMLS sources (i.e., `LAT == "ENG"`). Users needing to include sources in languages other than English in order to process non-English text should create their own UMLS-like database using our Data File Builder suite, available [here](#).