

## Introduction

The authors of the *Basle Nomina Anatomica* (BNA, 1895) declared that “The names must be in Latin and be grammatically correct”. Subsequent revisions of the anatomical nomenclature have followed this rule. The grammatical rules are those of Classical Latin, even though many words are Neo-Latin or have Greek origins (transliterated borrowed words and naturalized words with Latin endings).

Latin is an inflected language, so clarity of meaning is often ensured by declension of nouns and adjectives, and by conjugation of verbs. But ambiguity still occurs, even in the anatomical terminology, because Latin is a natural language. This is particularly problematic for students, translators of the terminology into other languages, and computer programmers. A set of rules known as Regular Anatomical Terminology (RAT) has been proposed as a means of simplifying and clarifying the anatomical nomenclature without loss of expressiveness. In brief, the rules restrict use of words to nouns and adjectives, and require adjectives to follow the nouns they modify. In the online version of TA98, changes to terms required by these rules

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were only implemented when the original Latin term was ambiguous, or contained prepositions, conjunctions or punctuation.

These Latin pages were generated by Latin analysis software written by Robert Baud (Switzerland). Each page presents grammatical analyses of the preferred Latin term (the TA98 Precursor) for a single anatomical entity. The term *anatomical entity*, adopted from the FMA ([sig.biostr.washington.edu/projects/fm/index.html](http://sig.biostr.washington.edu/projects/fm/index.html)), includes physical and non-physical entities related to the structure of the bodies of humans and other organisms. In addition to aiding students, translators and computer programmers, these pages are a tool in the revision of *Terminologia Anatomica* because they provide a systematic check that the Latin terms are well formed.

SECTION		Item or Ref ID	Value or text
IDENTIFICATION			
	TA code	A09.5.04.001	
	Entity ID number	THA:3438	
LANGUAGE			
	TA98 Latin preferred term	<a href="#">fossa ischioanalis</a>	
ANALYSIS OF WORDS			
	fossa	noun, declension 1, nominative, feminine, singular	
	ischio	morpheme	
	analis	adjective, declension 3, nominative, feminine, singular	
SYNTAX ANALYSIS OF TERM			
	1	[ cl_fossa ]	
	2	-> ( Morpho ) ->[ cl_ischium ]	
	2	-> ( Adj ) ->[ cl_anus ]	
DECLENSION OF WORDS			
	fossa	fossa - fossae - fossae - fossarum	
	ischio	ischio	
	analis	analis - analis - anaes - analium	
			Date: 23.10.2012
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Figure 1: View on the Latin Page.

On this figure one can see the word analysis, the syntax graph and the declension of all used words.

**Page format**

The *header* contains:

- Page type: "TA98 Latin Page".
- Page title: The preferred Latin term of the entity that is the subject of the page.
- Help icon: The image of a light bulb is a button link to a help document; in the case of this type of page, this help document.

The *body* of the page consists of five sections:

- Identification: TA code and the new Entity ID number.
- Language: The TA98 Precursor, the preferred Latin term.
- Analysis of words: grammatical analysis of the form of the words of the term
- Syntax analysis of term: grammatical analysis of the relationships of the words of the term
- Declension of words: The forms of the words of the term in nominative singular, genitive singular, nominative plural and genitive plural cases, in that order.

The *footer* contains:

- Statistics line: This line states the date of generation of the page.
- Signature: This line is the standard IFAA/FIPAT signature.

## **Features of Page**

### ***Identification***

In the first section of the body, the Entity is identified by its TA code, Entity ID number, and Type of entity. The TA code is the identifier used in the printed book. Several new TA codes were generated for the online version to separate entries that were erroneously identified as representing the same entity, and to separate non-synonymous terms that appeared together in a single entry. The Entity ID number is a new identifier that unlike the TA code is a single number and independent of the hierarchy of the terminology.

### ***Language***

The preferred Latin term (precursor) is presented here with a link to the relevant Entity Page. The TA98 Precursor is the first Latin term for the entity in *Terminologia Anatomica* (1998), or a corrected or RAT-compliant form of this term, and is the basis for creating equivalent terms in other languages.

### ***Analysis of words***

In this section, the form of each word in the term is analyzed on separate lines, with the exception of adjectives that are compound or prefixed words, which may be decomposed so that each morphosemantem appears on a different line. In this analysis, the last morphosemantem

of these adjectives is considered an adjective and preceding parts (prefixes and combining forms) are called morphemes. By rule, nouns, and adjectives and morphemes derived from these nouns, are not decomposed in this analysis.

Each line provides five characteristics of a word in the Latin term, except for morphemes, whose forms display little variation.

*Part of speech:* noun, adjective, participial adjective, comparative adjective, morpheme

*Declension:* 1st, 2nd, 3rd, 4th, 5th, undeclined, or irregular

1	[ cl_corpus ]
2	-> ( Adj ) ->[ cl_adiposus ]
2	-> ( Cpl ) ->[ cl_fossa ]
3	-> ( Morpho ) ->[ cl_ischium ]
3	-> ( Adj ) ->[ cl_anus ]

*Case:* Nominative or genitive

*Gender:* Masculine, feminine or neuter

*Number:* Singular or plural

### **Syntax analysis of term**

This section is under development. It displays a diagram of a dependent grammar analysis of the Latin term. It consists of the same number of lines as the previous section

Figure 2: Syntax diagram for *A09.5.04.002 corpus adiposum fossae ischioanal*

This figure shows the result of analysis of the term according to the syntax constraints. The morphosemantem *ischioanal* is in fact considered as two separate entries.

on analysis of the words because this analysis also has a line for each noun, adjective and morpheme. The purpose of this analysis is to graph the relationships of the head word (noun) and its dependents (qualifiers or modifiers).

### ***Declension of words***

A partial declension of each word of the term is displayed in this section. Each whole word appears on a single line. For nouns, the line shows, in order, the nominative and genitive singular, and nominative and genitive plural forms of the word. For adjectives, the line shows the same four forms for the gender appropriate to the term. In the few terms that are just an adjective, the declension is shown for the masculine gender form.

With removal of prepositions, as per the rules of RAT, the Latin terminology is simplified by removing two cases in the declension of nouns and adjectives, as well as removing a part of speech. The accusative case is used with the preposition *ad* (to), and the ablative case, with *cum* (with).