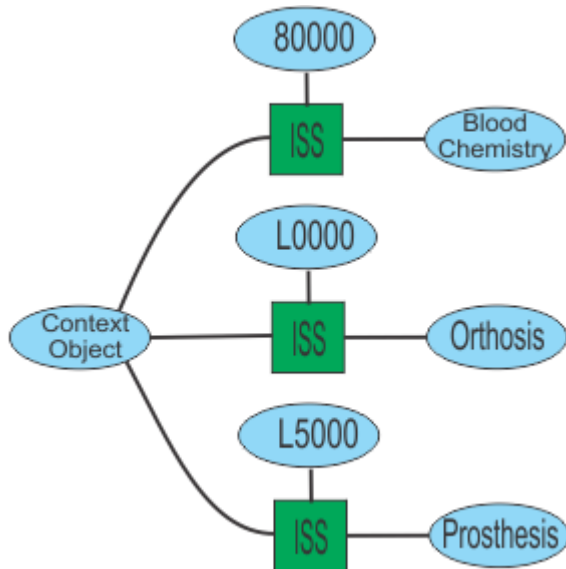


## Context Object

A code may have no reference to the base object –

Below elbow, molded double wall split socket, stump activated locking hinge, half cuff

In the range L5000-L9999, “below elbow” means “below elbow prosthesis”.



We can logically switch the ContextObject, but how does it become the default? The best example is

83655	Lead
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This is a blood test for a heavy metal.

If we parse the code, and the base object is not within range of the ContextObject (as an instance, or a member, or a component, or an accessory), then we attach the ContextObject, so

Lead

Becomes

Lead Blood Chemistry

And

Above elbow

Becomes

Above elbow prosthesis

This is a simpler alternative to having switching wordgroups.

Sometimes the ContextObject will act as a modifier.

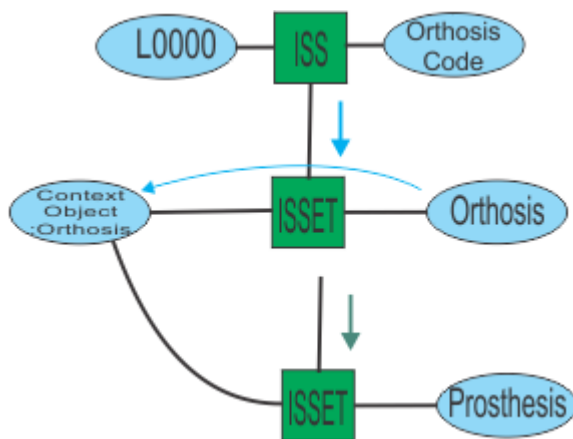
Code 10000-69999 – ContextObject Surgery

Insertion of neurostimulator

Becomes

Surgical insertion of neurostimulator.

The use of an ISS or an ASNA operator is probably wrong – we want to know the actual object, not the object and all its parentage.



The logical pin on ISSET going true causes the object on Pin2 to be set to the object on Pin 3 – losing True unsets it back to being set as Self (it might be easier to have a procedure which runs around looking for one that is True).

## Context Location

We probably need a generalised context location – if a code, then a location, such as

Dental Code -> ContextLocation := Oral Region

But also – any reference to location is used to provide context, such as

Arthrodesis, pre-sacral interbody technique, including disc space preparation, discectomy, with posterior instrumentation, with image guidance, includes bone graft, when performed

The “pre-sacral” indicates spine. We should grab an indication of location early in the analysis, as this allows us to anchor arthrodesis, and discectomy (there is a TMJ discectomy).

How Early? Should we look for a location at the tokenising stage, pin the procedures that could be in multiple locations to one location (that is – discectomy- if we find spine then it is spinal discectomy, or for oral region, it is TMJ discectomy).

It also allows us to anchor “instrumentation” in

Arthrodesis, pre-sacral interbody technique, including instrumentation, imaging (when performed), and discectomy to prepare interspace, lumbar; single interspace

Without the reference to spine, “instrumentation” could mean anything – with the reference, it means anterior or posterior instrumentation typically required for spinal fusion (one kind of arthrodesis).

Sometimes the ContextRegion will need to be a group –

Endovascular repair of infrarenal abdominal aortic aneurysm or dissection; using aorto-uniiliac or aorto-unifemoral prosthesis

We would have infrarenal, abdominal, aortic, iliac, femoral.

This wouldn't be perfect – we might have a region where a graft is coming from, and a region where it is going to, and get the locations mixed up.

## Floating Word

After reverse wordgroups have been resolved (an example of a reverse wordgroup is “endoscopy, surgical”), “floating” words are handled.

Generator, neurostimulator (implantable), nonrechargeable

While there is only one object to which “nonrechargeable” could refer, the connection is confirmed by finding that an implantable neurostimulator generator has a battery as a component, and a battery can be nonrechargeable.

We end up with

Implantable neurostimulator generator COMPONENT nonrechargeable battery

That is, when a “floating” word (or wordgroup) is found in a code (a word between commas, or bounded on the left by a comma and on the right by a semicolon or EndSentence), then a search is made of the objects to its left, to determine whether it is a member, or a component, or a property of one of those objects.

To do this successfully requires a considerable expansion of the semantic connections (particularly components), but it also removes considerable vagueness.