OPEN CAVITY / CANAL WALL DOWN
MASTOIDECTOMY
Plan of an open cavity (CWD: canal wall down surgery). The middle ear is essentially gutted/amputated to eliminate cholesteatoma.

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Plan of classic CWD (radical mastoidectomy): exenteration of the mastoid without repair of a damaged drum and chain. Undertaken in pars tensa or combined attic-tensa cases.
Classic radical mastoidectomy after removal of the mastoid contents and EAC wall. A meatoplasty is performed for postoperative access for regular cavity toilet.
Plan of CWD with retention of the tympanic membrane (modified radical mastoidectomy), undertaken to retain hearing function in attic cholesteatoma cases.
CWD: Overall result of the modified radical mastoidectomy, Retention of the drum and some chain elements. The line between modified/radical is ill-defined: e.g. what severity of drum perforation/collapse decides the type?
Steps frequently undertaken to achieve an optimal CWD result. SC: meatoplasty; AW: ant. wall drill-back; FR: VII ridge reduction; B: cavity edge bevelling (also mastoid tip amputation).
CWD: The drum and chain have been preserved (Bondy/Heath, 1908). These tend to fuse to the cavity wall and disease removal medial to the chain is problematic.
CWD: Classic modified radical mastoidectomy. The drum is sealed off and the cavity well healed and self-cleaning.

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A well-healed CWD cavity, albeit somewhat large.
A large modified radical mastoidectomy. The cavity size is a concern: the larger the size, the greater the area at risk of degeneration.
A well healed CWD site, some drum destruction (radical or modified?). The small ridge posteriorly may impede epithelial flow causing debris accumulation.
A dry open cavity with some evident failure of migration. Debris accumulation which may incur infection and myringitic changes.
CWD with a significant drum collapse. A clean cavity bowl, but debris around the drum damage site.
CWD, Drum intact but gross collapse and loss of ossicles, demonstrating the problem of the modified / radical descriptors: is this a modified or a radical?
CWD: disease free site, again with an intact, albeit poor quality drum, that blurs the modified/radical designation.
ATTICOTOMY

Limited CWD
On-Demand CWD
Front-to Back CWD

Open cavity surgery undertaken to minimise the resultant mastoid defect.
Atticotomy with autograft cartilage EAC wall repair, undertaken for limited attic cholesteatoma in a well aerated ear indicating evident good tubal function.
Atticotomy. Limited attic removal has been undertaken, followed by bone pate obliteration of the site. Gradual resorption is occurring, with a risk of recurrent disease.
Atticotomy site repaired with homograft cartilage. Some resorption 4 yrs after surgery. Presence of residual cholesteatoma uncertain, less likely after this time period.

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Atticotomy, repaired with an autograft cartilage onlay technique. Without a re-inspection the presence of residual cholesteatoma remains uncertain.
A small atticotomy repaired with an autograft cartilage inlay graft, combined with a posterior drum composite graft. A small retraction pocket is evident anteriorly.
Common sites of residual cholesteatoma. If an atticotomy is performed, obliteration of the attic site may retain disease against the VII or dura.
Front-to-back atticotomy surgery. Concerns: extent of cholesteatoma; underlying mastoid infection; residual or recurrent disease; OR time allocation.