

```

%_mprintto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 000000106326;
%put NOTE: Client Protocol ID   : ZRHM-PK-05-JP;
%put NOTE: Program Name        : t_adv5.sas;
%put NOTE: Purpose              : table of adverse events which lead to
discontinuation by organ class and preferred term;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADAE;
%put NOTE: Output               : t_15_2_6_4(ae);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_jhardman;
%put NOTE: Creation Date        : 2014-08-06;
%put NOTE: SAS Version          : 9.3;
%put NOTE: ;
%put NOTE: == Latest Run
=====;
%put NOTE: Run by                : &sysuserid;
%put NOTE: Date/Time             :
%sysfunc(putn(%sysfunc(date()),e8601da.))T%sysfunc(putn(%sysfunc(time()),
e86011z.));
%put NOTE: ;
%put NOTE: == Modification History
=====;
%put NOTE: Date          Initials    No. Reason;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

*=====;
* START OF PROGRAM CODE                                     ;
*=====;

/* Standard - just change the number to match the listing you're working
on. Also change the letters in the*/
/* bracket, eg ccb = current cigarette brands. Make sure to do this at
the top of the code too. */

      %let tflno=T_15_02_06_04(ae);

/* Standard - leave this */
%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));

/* Standard - leave this */
data _null_;
    tmp="%TFL_Part";
    if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");

```

```

        call symput('TFLpath', compress("&_SASPROGRAMFILE",""));
run;

*****;
* read in data ;
*****;
data adsl;
    set adam.adsl;
    where saffl = 'Y';
    if missing(trtseqan) then delete;
    if index(trtseqa,'Enroll') then do;
        trtseqan=6;
        trtseqa='Exposed not randomized';
    end;
    headorder1=trtseqan;
    headtext1=trtseqa;
    output;
    trtseqan=99;
    headorder1=99;
    trtseqa='Overall Safety';
    headtext1='Overall Safety';
    output;
run;

data dumtrts; /*Use this to output any columns for which N=0*/
    attrib headtext1 length =$200.
            headorder1 length=8.;
    headorder1=1;
    headtext1='THS 2.2 Menthol - mCC';
    output;
    headorder1=2;
    headtext1='mCC - THS 2.2 Menthol';
    output;
    headorder1=3;
    headtext1='THS 2.2 Menthol - NRT gum';
    output;
    headorder1=4;
    headtext1='NRT gum - THS 2.2 Menthol';
    output;
    headorder1=6;
    headtext1='Exposed not randomized';
    output;
run;

proc freq data=adsl noprint;
    table headorder1*headtext1/ out =tot(drop=percent);
run;

data tot2;
    merge tot(in=a) dumtrts(in=b);
    by headorder1 headtext1;
    if b and not a then count=0;

```

```

        call symput('trt' || compress(put(headorder1,best.)),
compress(count));
run;

```

```

/*Now bring in AE data*/

```

```

data ae;
    attrib aebodsys length=$200.;
    set adam.adae;
    where saffl='Y' and anyae1='Y' and anl02fl='Y';
    if missing(trtseqan) then delete;
    if missing(aebodsys) then aebodsys='Missing';
    if index(trtsega,'Enroll') then do;
        trtseqan=6;
        trtsega='Exposed not randomized';
    end;
    headorder1=trtseqan;
    headtext1=trtsega;
    output;
    headorder1=99;
    headtext1='Overall Safety';
    output;
run;

```

```

proc sort data=ae;
    by headorder1 headtext1;
run;

```

```

data adverse02;
    set ae;
run;

```

```

proc sort data=adverse02; by headorder1 headtext1; run;

```

```

* Create an additional observation with missing VOL value for each table
section;
* This is used to ensure that all table rows are output, even for rows
with no adverse events;

```

```

data adverse03;
    set adverse02;
        headorder1=trtseqan;
        headtext1=trtsega;
    output;
        aebodsys='Any Adverse events leading to discontinuation';
    output;
run;

```

```

/** Number of Ae's overall **/
proc freq data=adverse03 noprint;
    tables headorder1*headtext1*aebodsys / out=ovall(rename=(count=tot)
drop=percent);
run;

```

```

    /*** getting number of subjects studied ***/
proc sort data=adverse03 out=nae3 nodupkey;
    by headorder1 headtext1 aebodsys subjidn;
run;

proc freq data=nae3 noprint;
    tables headorder1*headtext1*aebodsys / out=novall(rename=(count=ntot)
drop=percent);
run;

data otot;
    merge oval1 novall;
    by headorder1 headtext1 aebodsys;
run;

/*** number of subjects and aes in overall **/
data overall;
    set otot;
        if aebodsys='Any Adverse events leading to discontinuation'
then sort2=1;
        else sort2=2;
    sort3=0;
run;

/*** bodsys ordered ***/
proc freq data=adverse03 noprint;
    tables headorder1*headtext1*aebodsys / out=taebod(rename=(count=tot)
drop=percent);
run;

/*** getting number of subjects studied ***/
proc sort data=adverse03 out=nae2 nodupkey;
    by headorder1 headtext1 aebodsys subjidn;
run;

proc freq data=nae2 noprint;
    tables headorder1*headtext1*aebodsys / out=aebod(rename=(count=ntot)
drop=percent);
run;

data body;
    merge taebod aebod;
    by headorder1 headtext1 aebodsys;
run;

data body2;
    set body;
        if aebodsys='Any Adverse events leading to discontinuation'
then do; sort2=1; sort3=0; end;
        else do; sort2=2; sort3=0; end;
run;

/** bodsystem by preterm **/

```

```

proc freq data=adverse03 noprint;
  tables headorder1*headtext1*aebodsys*aedecod /
out=preft(rename=(count=tot) drop=percent);
run;

/** getting number of subjects studied ***/
proc sort data=adverse03 out=npae2 nodupkey;
  by headorder1 headtext1 aebodsys aedecod subjidn;
run;

proc freq data=npae2 noprint;
  tables headorder1*headtext1*aebodsys*aedecod /
out=nprefit(rename=(count=ntot) drop=percent);
run;

data prefterm;
  merge preft nprefit;
  by headorder1 headtext1 aebodsys aedecod;
run;

data aedecod;
  set prefterm;
  if aebodsys='Any Adverse events leading to discontinuation'
then do; sort2=1; sort3=0; end;
  else do; sort2=2; sort3=1; end;
run;

data all;
  set overall body2 aedecod;
run;

proc sort data=all out=all2;
  by headorder1 headtext1 sort2 aebodsys aedecod;
run;

data format;
  merge all2(in=a) dumtrts tot;
  by headorder1 headtext1;
  if not a then do;
    sort2=1;
    sort3=0;
    aebodsys='Any Adverse events leading to
discontinuation';
    ntot=0;
  end;
run;

data format2;
  set format;
  attrib text text2 text3 format=$20.;
  /* Percentage of subjects*/
  if not missing(count) then percent=put((ntot/count)*100,8.1);
  else percent='0';

```

```

/*n value*/
if missing(ntot) then text='';
else text=put(ntot,3.);

/*% value*/
if missing(percent) or percent=0 then text3='';
else text3='('||compress(put(percent,8.1))||')';

/*events value*/
if missing(tot) then text2='';
else text2=compress(put(tot,3.));

drop percent;

run;

proc sort data=format2 nodupkey; by headorder1 headtext1 aebodsys
tot ntot sort2 sort3 aeDecod count text text2 text3; run;

proc sort data=format2; by headorder1 headtext1 sort2 aebodsys sort3
aeDecod; run;

proc sort data=format2 out=format3; by sort2 aebodsys sort3 aeDecod;
run;

/*Transpose n values*/
proc transpose data=format3 out=nformat prefix=n;
by sort2 aebodsys sort3 aeDecod;
var text;
id headorder1;
idlabel headtext1;
run;

/*Transpose % values*/
proc transpose data=format3 out=performat prefix=p;
by sort2 aebodsys sort3 aeDecod;
var text3;
id headorder1;
idlabel headtext1;
run;

/*Transpose events values*/
proc transpose data=format3 out=eformat prefix=e;
by sort2 aebodsys sort3 aeDecod;
var text2;
id headorder1;
idlabel headtext1;
run;

data tformat;
merge nformat eformat performat;
by sort2 aebodsys sort3 aeDecod;
run;

```

```

        data sformat3;
        set format3;
        col=headorder1;
run;

proc sort data=sformat3;
    by sort2 aebodsys sort3 aeDecod;
run;

proc transpose data=sformat3(where=(sort3=0)) out=tsort prefix=n;
    by sort2 aebodsys sort3 aeDecod;
    var ntot;
    id col;
run;

proc transpose data=sformat3(where=(sort3=0)) out=tsort_a prefix=t;
    by sort2 aebodsys sort3 aeDecod;
    var tot;
    id col;
run;

data tsort1;
    merge tsort tsort_a;
    by sort2 aebodsys sort3 aeDecod;
run;

data tsort2;
    set tsort1;
        num=t99;
run;

proc sort data=tsort2;
    by sort2 sort3 descending num;
run;

/** unique sorting numbers for bodsystems by total number of aes**/
data sorting;
    set tsort2;
    by sort2 sort3 descending num;
    if first.sort3 then odd=1;
    else odd+1;
    keep sort2 aebodsys odd;
run;

proc sort data=sorting;
    by sort2 aebodsys;
run;

data final;
    merge tformat sorting;
    by sort2 aebodsys;
run;

```

```

proc transpose data=sformat3(where=(sort3=1)) out=psort prefix=n;
  by sort2 aebodsys sort3 aeecod;
  var ntot;
  id col;
run;

proc transpose data=sformat3(where=(sort3=1)) out=psort_a prefix=t;
  by sort2 aebodsys sort3 aeecod;
  var tot;
  id col;
run;

data psort1;
  merge psort psort_a;
  by sort2 aebodsys sort3 aeecod;
run;

data psort2;
  set psort1;
  num=0;
run;

proc sort data=psort2;
  by sort2 sort3 descending num;
run;

/** unique sorting numbers for preterm by total number of aes**/
data psorting;
  set psort2;
  by sort2 sort3 descending num;
  if first.sort3 then odd2=1;
  else odd2+1;
  keep sort2 aebodsys aeecod odd2;
run;

proc sort data=psorting;
  by sort2 aebodsys aeecod;
run;

proc sort data=final;
  by sort2 aebodsys aeecod;
run;

data final2;
  merge final psorting;
  by sort2 aebodsys aeecod;
run;

proc sort data=final2;
  by sort2 odd aebodsys odd2 aeecod;
run;

%macro empty();

```



```

%let dsid=%sysfunc(open(ae));
%let nsum1=%sysfunc(attrn(&dsid.,nobs));
%let rc=%sysfunc(close(&dsid.));

%if &nsum1. lt 1 %then %do;
data final3;
    flag=1; page=1; aeDecod=''; aeBodsys=.; sort2=.; sort3=.; odd=.;
odd2=.; column=.; n1=.; n2=.; n3=.; n4=.; n6=.; n99=.; p1=.; p2=.; p3=.;
p4=.; p6=.; p99=.;
    e1=.; e2=.; e3=.; e4=.; e6=.; e99=.; ln=1; noobs=1;
    output;
run;
%end;
%else %do;
    data final3;
        set final2;
        attrib column format=$70.;
        if sort3=1 then column="|S={foreground=white} . |S={}
"|trim(aeDecod);

        if sort2=2 and sort3=0 then column=trim(aeBodsys);
        if sort2=1 then do; column='Any adverse events leading to
discontinuation'; odd2=0; end;

        if missing(sort2) and missing(sort3) then delete;

        noobs=0;
run;

proc sort data=final3;
    by sort2 odd aeBodsys sort3 odd2 column;
run;
%end;
%mend;
%empty();

```

```

data labels;
    set final3;
    attrib n1 label = "n"
           n2 label = "n"
           n3 label = "n"
           n4 label = "n"
           n6 label = "n"
           n99 label = "n"
           p1 label = '(%)'
           p2 label = '(%)'
           p3 label = '(%)'
           p4 label = '(%)'
           p6 label = '(%)'
           p99 label = '(%)'
           e1 label = "Events"
           e2 label = "Events"
           e3 label = "Events"

```

```

                                e4 label = "Events"
                                e6 label = "Events"
                                e99 label = "Events";
run;

```

```

data final4;
    set labels;

    if noobs=0 then do;
        array a [3] n1 n2 n4;
        array b [3] e1 e2 e4;
        do i=1 to 3;
            if missing(a[i]) then a[i] ='0';
        end;

        if missing(n99) then n99='0';

        flag=1;
    end;

run;

```

```

proc sql noprint;
    create table table.T_15_02_06_04 as
        select column, aebodsys, aedecod, n1, p1, e1, n2, p2, e2, n3, p3,
e3, n4, p4, e4, n6, p6, e6, n99, p99, e99
        from final4
        order by sort2, odd, aebodsys, sort3, odd2, column;
quit;

```

```

data paging;
    set final4;
    by sort2 odd aebodsys sort3 odd2 column;
    if (ln gt 6 and first.aebodsys) then ln=1;
    else ln+1;

    if ln=1 then page+1;
    call symput("page",compress(put(page,best.)));
run;

```

```

/* Standard - leave this */
options nonumber nodate orientation=landscape papersize=&p_pgsz
missing=' ';
ods escapechar='|';
%let linetop = \brdrt\brdrs\brdrw30; * needs to be 1.5pt so calculated
in twips (1/20 pt) ;
%let linebot = \brdrb\brdrs\brdrw30;

```

```

/* Standard - macro for paging */
%macro outrtf(blankn=70, halfblnk=N);

%if &halfblnk=N %then %let halfblnk=;
%else %if &halfblnk=Y %then %let halfblnk=\~;

ods path stdlib.tl06326 (read) ;
ods results off;
ods rtf toc_data/* contents*/
file="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part./&tflno..rtf"
style=tl06326 startpage=yes headery=1440 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;

title ;
footnote;
%let wd=0;
%let noobs=0;
ods proclabel = ' ';

data comp;
    set paging end=eof;
    where page=&i;

    call symput('noobs',compress(noobs));

    /* Amend title as needed */
    _firtitl="Table 15.2.6.4 Summary of Adverse Events Leading
to Study Discontinuation by System Organ";
    _upcas=(length("Path: &TFLpath.")-
length(compress("Path:&TFLpath.",'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
    len=&blankn.-lengthH("(Page &i of &page)");
    if eof then do;
        call symput('_FSRTITL', trim(left(_firtitl)));
        call symput('_blankn', compress(put(len,best.)));
    end;
    drop _firtitl _upcas len;
run;

* most set up in template others below;
* title arial 12pt bold with 12pt paragraph space below;
* all headers to be arial 11pt bold;
* data arial 10pt;
* headers to be central, text values left aligned and numeric centered
around decimal point;
/* Update with your variables as needed */
proc report data = comp headline headskip missing nowd split = '$' %if
&i=1 %then %do; contents=' ' %end; %else %do; contents='' %end;;
    column flag page sort2 odd sort3 aebodsys odd2 ("System Organ
Class" column) ("Sequence &linebot" ("THS 2.2 Menthol$- mCC $(N=&trt1)
&linebot" n1 p1 e1)

```

```

("mCC -$THS 2.2 Menthol$(N=&trt2) &linebot" n2 p2 e2)

("THS 2.2 Menthol$- NRT gum $(N=&trt3) &linebot" n3 p3 e3)

("NRT gum -$THS 2.2 Menthol$(N=&trt4) &linebot" n4 p4 e4)

("Exposed Not$Randomized$(N=&trt6) &linebot" n6 p6 e6))

("Overall$Safety$(N=&trt99) &linebot" n99 p99 e99); ;
    define flag      / order order = internal noprint;
    define page      / order order = internal noprint;
    define sort2     / order order=internal noprint;
define odd          / order order=internal noprint;
define sort3        / order order=internal noprint;
define aebodsys     / order order=internal noprint;
define odd2          / order order=internal noprint;

    define column    / group style={just=left cellwidth=3.5cm} "| \~
{Preferred Term}" style(header)={just=center};
        define n1      / display style={just=d cellwidth=0.3cm}
style(header)={just=right};
        define p1      / display style={just=d cellwidth=1.2cm}
style(header)={just=center};
        define n2      / display style={just=d cellwidth=0.3cm}
style(header)={just=right};
        define p2      / display style={just=d cellwidth=1.2cm}
style(header)={just=center};
        define n3      / display style={just=d cellwidth=0.3cm}
style(header)={just=right};
        define p3      / display style={just=d cellwidth=1.2cm}
style(header)={just=center};
        define n4      / display style={just=d cellwidth=0.3cm}
style(header)={just=right};
        define p4      / display style={just=d cellwidth=1.2cm}
style(header)={just=center};
        define n6      / display style={just=d cellwidth=0.2cm}
style(header)={just=right};
        define p6      / display style={just=d cellwidth=1cm}
style(header)={just=center};
        define n99     / display style={just=d cellwidth=0.3cm}
style(header)={just=right};
        define p99     / display style={just=d cellwidth=1.2cm}
style(header)={just=center};
        define e1      / display
style={cellwidth=1.2cm} style(header)={just=center};
        define e2      / display
style={cellwidth=1.2cm} style(header)={just=center};

```

```

        define e3                                / display
style={cellwidth=1.2cm} style(header)={just=center};
        define e4                                / display
style={cellwidth=1.2cm} style(header)={just=center};
        define e6                                / display
style={cellwidth=1.2cm} style(header)={just=center};
        define e99                               / display
style={cellwidth=1.2cm} style(header)={just=center};

        break before flag / page %if &i=1 %then %do;
        contents="&_fsrtitl" %end; %else %do; contents='' %end;;

        break after page / page;

%if &noobs. ne 1 %then %do;
        compute after sort2;
        line " ";
        endcomp;
%end;

        compute before page / style={protectspecialchars=off};
        line "&linetop";
        endcomp;

        compute after page/style={just=CENTER cellwidth=5cm
protectspecialchars=off};
        %if &noobs. = 1 %then %do;
        line "No adverse events leading to study discontinuation were
reported";
        line " ";
        %end;
        endcomp;

        compute before _page_ / style={just=left protectspecialchars=off};
        line "\b\fs24\sa24&_FSRTITL." ; * \b = bold, \fs24 is font
size 12pt, \sa24 is space after 12pt;
        line "\b\fs24\sa24Class and Preferred Term - Safety Population";
        line "&linebot";
        endcomp;

        compute after _page_/ style={just=left protectspecialchars=off
pretext="&linetop."};
        line 'Note: mCC = menthol conventional cigarettes; NRT gum =
Nicotine Replacement Therapy gum; THS = Tobacco Heating System';
        line 'Note: Exposed Not Randomized refers to all subjects
exposed to THS 2.2 Menthol or NRT gum but not randomized. Overall Safety
refers to all subjects exposed to THS 2.2 Menthol or NRT gum.';
        line 'Note: Percentages are based on the number of subjects
indicated in the column header (N).';
        line ' ';
        line 'Appendix 15.3.6.1.3';
        line "Path: &TFLpath." &_blankn.*"\~\~" "(Page &i of &page)";
;

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```

        line "Program Run: &sysdate   &sysuserid   Program Status:
&status";
        endcomp;
run;
%end;
ods rtf close;
ods results on;
ods path sashelp.tmplmst (read);

%mend ;

%outrtf(blankn=70, halfblnk=N);

ods listing;
proc printto print = "&table./T_15_02_06_04.lst" new;
run;

proc contents data = table.T_15_02_06_04 varnum;
run;
ods listing close;

proc printto ; run;
*=====;
* END OF PROGRAM CODE                               ;
*=====;
```