

```

%_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_pkconc.sas;
%put NOTE: Purpose              : table of plasma nicotine
concentrations;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADPC ADAM.ADSL;
%put NOTE: Output               : t_15_2_4_6(conc);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_aobyrne;
%put NOTE: Creation Date        : 2014-08-11;
%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: ;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

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

%let tflno=T_15_02_04_06(conc);

%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));

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 ;
*****;

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/*Use ADSL to get N values for column headers*/
data adsl;
    set adam.adsl(where=(pprotfl='Y'));
    if analgrln=1 then do;
        if index(trt01a,'THS 2.2') or index(trt02a,'THS 2.2') then
trtord=4;
        output;
        if index(trt01a,'mCC') or index(trt02a,'mCC') then trtord=5;
        output;
    end;
    else if analgrln=2 then do;
        if index(trt01a,'THS 2.2') or index(trt02a,'THS 2.2') then
trtord=10;
        output;
        if index(trt01a,'NRT') or index(trt02a,'NRT') then trtord=7;
        output;
    end;
    else if missing(analgrln) then delete;
run;

proc sort data=adsl nodupkey out=adsl1;
    by analgrln analgr1 trtord subjid;
run;

proc freq data=adsl1(where=(not missing(trtord))) noprint;
    table analgrln*analgr1*trtord/ out =tot(drop=percent
rename=(count=total));
run;

data tot2;
    set tot;
    call symput('trt' || compress(put(trtord,best.)), compress(total));
run;

/*Bring in appropriate data from adpc*/
data adpc;
    set adam.adpc(where=(paramcd='NIC' and anl01fl='Y' and
pprotfl='Y'));

    if analgrln=2 and trtan=4 then trtord=10;
    else trtord=trtan;
run;

data adpc_orig;
    set adpc;

    statval=aval;
run;

proc sort data=adpc_orig;
    by analgrln analgr1 trtord trta atptn atpt;
run;

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proc means data=adpc_orig noprint;
  var statval;
  by analgrln analgrl trtord trta atptn atpt;
  output out=results02 n=n1 mean=mean1 std=std1 median=median1 min=min1
max=max1 q1=q11 q3=q31 lclm=lcil uclm=ucil;
run;

data results03;
  set results02;
  attrib meansd minmax n median quart length=$20.;
  n = left(compress(put(n1,8.)));
if n1 ge 4 then do;
  if not missing(median1) then median =
left(compress(put(round(median1,0.01),8.2)));
  if not missing(mean1) and not missing(std1) then meansd =
left(compress(put(round(mean1,0.01),8.2))) || ' (' ||
left(compress(put(0.001*ceil(std1/0.001),8.3))) || ')';
  if not missing(min1) and not missing(max1) then minmax =
left(compress(put(round(min1,0.1),8.1))) || ', ' ||
left(compress(put(round(max1,0.1),8.1)));
  if not missing(q11) and not missing(q31) then quart =
strip(strip(put(0.01*floor(q11/0.01),8.2)) || ', ' ||
strip(put(0.01*ceil(q31/0.01),8.2)));
end;
else do;
  median='NC';
  meansd='NC';
  minmax='NC';
  quart='NC';
end;

  drop n1 mean1 std1 median1 min1 max1 q11 q31;
run;

%macro outrtf(blankn=, halfblnk=);

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

/*Obtain subjects with values BLOQ*/
data adpc_blq;
  set adpc;
  where bloqfl='Y';
  statval=aval;
run;

proc freq data=adpc_blq noprint;
  table analgrln*analgrl*trtord*trta*atptn*atpt/ out
=blq(drop=percent);
run;

%let dsid=%sysfunc(open(blq));

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%let nsum=%sysfunc(attrn(&dsid.,nobs));
%let rc=%sysfunc(close(&dsid.));

%put "Check " &nsum.;

%if &nsum. lt 1 %then %do;
    proc sort data=adpc nodupkey out=tpts(keep=analgrln analgrl
trtord trta atptn atpt);
        by analgrln analgrl trtord trta atptn atpt;
    run;

    data blq1;
        set tpts;
        attrib blq length=$50.;
        blq='0';
    run;

%end;

%else %do;
    data blq1;
        attrib blq length=$50.;
        merge blq(in=a) tot;
        by analgrln analgrl trtord;
        if not a then do;
            count=0;
        end;

        percent=count/total*100;

        if count=0 then blq='0';
        else if percent=100 then blq= put(count,3.)||' (100%>';
        else blq=put(count,3.)||'
('||left(strip(put(round(percent,0.1),5.1))||'%');
    run;

%end;

data gmean;
    set adpc_orig;
    statvall=statval;
    if aval>0 then ln_statvall=log(statvall);
    else if statval=0 then gflag=1;
run;

proc means data=gmean noprint;
    output out=gmean1a n=n1 mean=mean std=std1 lclm=lci1 uclm=uci1
nmiss=miss;
    var ln_statvall;
    by analgrln analgrl trtord trta atptn atpt;
run;

proc means data=gmean(where=(gflag=1)) noprint;
    output out=gmean1b(keep=analgrln analgrl trtord trta atptn atpt gflag)
mean=mean;
    var ln_statvall;

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    by analgrln analgrl trtord trta atptn atpt gflag;
run;

data gmean1c;
    merge gmean1a gmean1b;
    by analgrln analgrl trtord trta atptn atpt;
run;

data gmean2;
    set gmean1c;
    if gflag ne 1 and n1 ge 4 then do;
        gmean1=exp(mean);
        gmean=left(compress(put(round(gmean1,0.01),8.2)));
        gcv=compress(put(0.01*ceil((sqrt(exp(std1*std1)-
1)*100)/0.01),8.2));
        gcv1=sqrt(exp(std1*std1)-1)*100;
        glci=exp(lci1);
        guci=exp(uci1);
        end;
    keep analgrln analgrl trtord trta atptn atpt gcv glci guci std1 miss
gmean gflag n1;
run;

data results04;
    merge results03 gmean2 blq1(in=c);
    attrib gmeancv length=$20.;
    by analgrln analgrl trtord trta atptn atpt;

    if not c then blq='0';

    if analgrln=2 and trtord=4 then trtord=10;

    if gflag ne 1 and n1 ge 4 then do;
        if not missing(gcv) then gmeancv=left(trim(gmean)) || ' (' ||
left(trim(gcv))||'%)';
        else gmeancv=left(trim(gmean));
        if not missing(glci) and not missing(guci) then ci =
strip(strip(put(0.01*floor(glci/0.01),8.2)) || ', ' ||
strip(put(0.01*ceil(guci/0.01),8.2))); /* 16) jmh 24jun2014 */
        end;
    else if gflag=1 or n1 lt 4 then do;
        gmeancv='NC';
        ci='NC';
    end;
run;

proc sort data=results04;
    by atptn atpt;
run;

proc transpose data=results04 out=results05 prefix=_ name=varname;
    by atptn atpt;
    var n meansd median minmax ci quart gmeancv blq;
    id trtord;

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        idlabel trta;
run;

data results06;
    set results05;
    attrib stat length = $100.;

        varname=upcase(varname);

    if varname='N' then do;
        statord=1;
        stat='n';
    end;
        else if varname='BLQ' then do;
            statord=2;
            stat='BLOQ - n (%)';
            end;
            else if varname='GMEANCV' then do;
                statord=3;
                stat='Geometric Mean (CV%)';
                end;
    else if varname='CI' then do;
        statord=4;
        stat='95% CI';
    end;
    else if varname='MEDIAN' then do;
        statord=5;
        stat='Median';
    end;
    else if varname='QUART' then do;
        statord=6;
        stat='Q25, Q75';
    end;
    else if varname='MINMAX' then do;
        statord=7;
        stat='Min, Max';
    end;
    else if varname='MEANSD' then do;
        statord=8;
        stat='Mean (SD)';
    end;
    drop varname;
run;

data results07;
    set results06;
        if stat='n' then do;
            if missing(_4) then _4='0';
            if missing(_5) then _5='0';
            if missing(_10) then _10='0';
            if missing(_7) then _7='0';
        end;
run;

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data labels;
set results07;
  attrib _4 label = "THS 2.2 Menthol$(N=&trt4)"
        _5 label = "mCC$(N=&trt5)"
        _10 label = "THS 2.2 Menthol$(N=&trt10)"
        _7 label = "NRT gum$(N=&trt7)"
            atpt label= "Formatted timepoint"
            atpt1 label= "Unformatted timepoint";

      atpt1=atpt;

      flag=1;

      if index(atpt,'T0') then atpt=tranwrd(atpt,'T0',"T${sub 0}");
run;

proc sql noprint;
  create table table.T_15_02_04_06 as
  select atpt, atpt1, stat, _4, _5, _10, _7
  from labels
  order by atptn, statord;
quit;

proc sort data=labels;
  by atptn statord;
run;

data paging;
  set labels;
  by atptn statord;
  if first.atptn then ln=1; /*Amend to look presentable, and avoid
page overflows*/
  else ln+1;
  if ln=1 then page+1;
  call symput("page",compress(put(page,best.)));
run;

options number 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;

ods path stdlib.t106326 (read) ;
ods results off;
ods rtf toc_data
file="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part./&tflno..rtf"
style=t106326 startpage=yes headery=1440 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;

title ;

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footnote;
%let wd=0;
%let nc=0;

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

    /* Amend title as needed */
    _firtitl="Table 15.2.4.6 Descriptive Statistics of the Plasma
Nicotine Concentrations (ng/mL) - PK Population";
    _upcas=(length("Path: &TFLpath.")-
length(compress("Path:&TFLpath.",'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
    len=&blankn.-length("(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;

    if index(_4,'NC') or index(_5,'NC') or index(_10,'NC') or
index(_7,'NC') then call symput('NC',1);
run;

ods listing close;
ods proclabel = ' ';
* 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;
proc report data = comp missing headline headskip missing nowd split =
'$' %if &i=1 %then %do; contents=' ' %end; %else %do; contents='' %end;;
    column flag page atptn atpt statord stat ("Group-1 PK &linebot" _4
_5) ("Group-2 PK &linebot" _10 _7);

    define flag          / order order = internal noprint;
        define page      / order order = internal noprint;
    define atptn         / order order=internal noprint;
    define atpt          / group style={just=left cellwidth=2cm}
style(header)={just=center} "Timepoint";
    define statord       / order order = internal noprint;
    define stat          / display style={just=left cellwidth=2cm}
style(header)={just=center} "Statistic";
    define _4            / display style={just=c cellwidth=1.5cm}
style(header)={just=center};
    define _5            / display style={just=c cellwidth=1.5cm}
style(header)={just=center};
    define _10           / display style={just=c cellwidth=1.5cm}
style(header)={just=center};

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define _7 / display style={just=c cellwidth=1.5cm}
style(header)={just=center};

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

break after page / page;

compute after atptn;
line " ";
endcomp;

compute before page / style={protectspecialchars=off};
line "&linetop";
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 "&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: Geometric: mean, CV% and 95% confidence interval (CI)
are reported.';
%if &nc=1 %then %do;
line "Note: NC = Not calculated.";
%end;
line 'Note: T${sub 0} = Time of first product use at single
use day.';
line 'Note: BLOQ values before T${sub 0} are treated as zero.
BLOQ values after the last quantifiable value are treated as missing. Any
other BLOQ values are imputed by LLOQ/2.';
%if &nsum. ge 1 %then %do;
line 'Note: LLOQ = 0.2 ng/mL.';
%end;
line ' ';
line 'Appendix 15.3.3.2';
line "Path: &TFLpath." &_blankn.*"\~\~" "(Page &i of &page)";
line "Program Run: &sysdate &sysuserid Program Status:
&status";
endcomp;

run;
%end;
ods rtf close;
ods results on;
ods path sashelp.tmplmst (read);

%mend ;

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```
%outrtf(blankn=70, halfblnk=N);
ods listing;
proc printto print = "&table./T_15_02_04_06.lst" new;
run;

proc contents data = table.T_15_02_04_06 varnum;
run;
ods listing close;
proc printto ; run;
*=====;
* END OF PROGRAM CODE ;
*=====;
```